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## Laptop Compute

AMD Ryzen 5 5500U testing with a LENOVO LNVNB161216 (GLCN22WW BIOS) and AMD Lucienne 2GB on Ubuntu 21.04 via the Phoronix Test Suite.

### Automated Executive Summary

*Core i7 1165G7 had the most wins, coming in first place for 60% of the tests.*

*Based on the geometric mean of all complete results, the fastest (Core i7 1165G7) was 1.058x the speed of the slowest (Ryzen 5 5500U).*

*The results with the greatest spread from best to worst included:*

*Zstd Compression (Compression Level: 8 - Compression Speed) at 4.338x*

*Ngspice (Circuit: C7552) at 2.524x*

*Zstd Compression (Compression Level: 3 - Compression Speed) at 2.381x*

*srsRAN (Test: 5G PHY\_DL\_NR Test 52 PRB SISO 64-QAM) at 2.147x*

*Darktable (Test: Server Room - Acceleration: CPU-only) at 2.144x*

*KTX-Software toktx (Settings: Zstd Compression 9) at 2.065x*

*OSPray (Demo: Magnetic Reconnection - Renderer: Path Tracer) at 1.919x*

*Coremark (CoreMark Size 666 - Iterations Per Second) at 1.89x*

*C-Blosc (Compressor: blosclz) at 1.887x*

KTX-Software toktx (*Settings: UASTC 3*) at 1.807x.

## Test Systems:

### Core i7 1165G7

Processor: Intel Core i7-1165G7 @ 4.70GHz (4 Cores / 8 Threads), Motherboard: Dell 0GG9PT (1.2.5 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 16GB, Disk: Kioxia KBG40ZNS256G NVMe 256GB, Graphics: Intel Xe TGL GT2 3GB (1300MHz), Audio: Realtek ALC289, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 21.04, Kernel: 5.13.0-051300-generic (x86\_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.2.0-devel (git-25ad699 2021-07-02 hirsute-oibaf-ppa), Vulkan: 1.2.182, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1200

Kernel Notes: Transparent Huge Pages: madvise  
Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v  
Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0x88 - Thermald 2.4.3  
Python Notes: Python 3.9.5  
Security Notes: itlb\_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbs: Not affected + tsx\_async\_abort: Not affected

### Ryzen 5 5500U

Processor: AMD Ryzen 5 5500U @ 2.10GHz (6 Cores / 12 Threads), Motherboard: LENOVO LNVNB161216 (GLCN22WW BIOS), Chipset: AMD Renoir Root Complex, Memory: 6GB, Disk: 256GB SAMSUNG MZALQ256HBJD-00BL2, Graphics: AMD Lucienne 2GB (1800/400MHz), Audio: AMD Device 1637, Network: Qualcomm Atheros QCA6174 802.11ac

OS: Ubuntu 21.04, Kernel: 5.13.0-051300-generic (x86\_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server 1.20.11 + Wayland, OpenGL: 4.6 Mesa 21.2.0-devel (git-4698755 2021-07-03 hirsute-oibaf-ppa) (LLVM 12.0.0), Vulkan: 1.2.182, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise  
Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v  
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8608102  
Python Notes: Python 3.9.5  
Security Notes: itlb\_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full AMD retroline IBRS IBPB: conditional RSB filling + STIBP: conditional RSB filling + srbs: Not affected + tsx\_async\_abort: Not affected

	Core i7 1165G7	Ryzen 5 5500U
WireGuard + Linux Networking Stack Stress Test	253.360	217.846
Normalized	85.98%	100%
Standard Deviation	8%	1%
C-Blosc - blosclz (MB/s)	14228	7541
Normalized	100%	53%
Standard Deviation	2.6%	0.2%
EtcPak - DXT1 (Mpx/s)	1501	1270
Normalized	100%	84.57%
Standard Deviation	0%	1.9%
EtcPak - ETC1 (Mpx/s)	357.935	292.893
Normalized	100%	81.83%
Standard Deviation	0.7%	0.4%
EtcPak - ETC2 (Mpx/s)	207.191	171.016
Normalized	100%	82.54%
Standard Deviation	0.7%	0.5%
EtcPak - ETC1 + Dithering (Mpx/s)	339.794	269.505
Normalized	100%	79.31%
Standard Deviation	1%	0%
WebP Image Encode - Default (Encode Time - sec)	1.334	1.434
Normalized	100%	93.03%
Standard Deviation	0.7%	0.2%
WebP Image Encode - Quality 100 (Encode Time - sec)	2.073	2.370
Normalized	100%	87.47%
Standard Deviation	0.9%	5.6%
WebP Image Encode - Q.1.L (Encode Time - sec)	15.756	21.477
Normalized	100%	73.36%
Standard Deviation	4.2%	1.3%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	6.284	7.690
Normalized	100%	81.72%
Standard Deviation	0.1%	0.1%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	36.681	47.030
Normalized	100%	77.99%
Standard Deviation	4.9%	0.1%
LZ4 Compression - 3 - Compression Speed (MB/s)	61.70	55.55
Normalized	100%	90.03%
Standard Deviation	1.1%	0.6%
LZ4 Compression - 3 - D.S (MB/s)	9552	6693
Normalized	100%	70.07%
Standard Deviation	0.3%	2.3%
LZ4 Compression - 9 - Compression Speed (MB/s)	59.12	54.45
Normalized	100%	92.1%
Standard Deviation	5.7%	3.1%
LZ4 Compression - 9 - D.S (MB/s)	9563	6795
Normalized	100%	71.06%
Standard Deviation	0.2%	0.5%
Zstd Compression - 3 - Compression Speed (MB/s)	2703	1135
Normalized	100%	42%
Standard Deviation	0.8%	0.6%
Zstd Compression - 3 - D.S (MB/s)	4159	3001
Normalized	100%	72.16%
Standard Deviation	2.2%	0.1%
Zstd Compression - 8 - Compression Speed (MB/s)	441.6	101.8
Normalized	100%	23.05%
Standard Deviation	1.5%	0.4%

Zstd Compression - 8 - D.S (MB/s)	<b>4327</b>	<b>3078</b>
Normalized	100%	71.12%
Standard Deviation	0.4%	0.3%
Zstd Compression - 19 - Compression Speed (MB/s)	<b>19.3</b>	<b>18.0</b>
Normalized	100%	93.26%
Standard Deviation	2%	0.3%
Zstd Compression - 19 - D.S (MB/s)	<b>3589</b>	<b>2431</b>
Normalized	100%	67.74%
Standard Deviation	3.5%	0.5%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	<b>16.3</b>	<b>15.5</b>
Normalized	100%	95.09%
Standard Deviation	1.2%	0.4%
Zstd Compression - 19, Long Mode - D.S (MB/s)	<b>3658</b>	<b>2570</b>
Normalized	100%	70.25%
Standard Deviation	2.3%	0.1%
srsRAN - OFDM_Test (Samples / Second)	<b>147800000</b>	<b>120433333</b>
Normalized	100%	81.48%
Standard Deviation	4.7%	1.7%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	<b>385.4</b>	<b>277.2</b>
Normalized	100%	71.93%
Standard Deviation	0.1%	1.1%
srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	<b>158.7</b>	<b>107.6</b>
Normalized	100%	67.8%
Standard Deviation	1.6%	0.2%
srsRAN - 4.P.1.P.S.6.Q (eNb Mb/s)	<b>390.4</b>	<b>329.2</b>
Normalized	100%	84.32%
Standard Deviation	1.1%	1.1%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	<b>232.0</b>	<b>207.0</b>
Normalized	100%	89.22%
Standard Deviation	0.8%	1.3%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	<b>414.4</b>	<b>303.9</b>
Normalized	100%	73.33%
Standard Deviation	1.1%	2.3%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	<b>170.1</b>	<b>115.9</b>
Normalized	100%	68.14%
Standard Deviation	2.1%	0.8%
srsRAN - 4.P.1.P.S.2.Q (eNb Mb/s)	<b>427.3</b>	<b>358.7</b>
Normalized	100%	83.95%
Standard Deviation	0.1%	0.6%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	<b>278.1</b>	<b>249.9</b>
Normalized	100%	89.86%
Standard Deviation	1.1%	0.8%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	<b>156.2</b>	<b>89.7</b>
Normalized	100%	57.43%
Standard Deviation	0.3%	2.4%
srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	<b>99.2</b>	<b>46.2</b>
Normalized	100%	46.57%
Standard Deviation	0.4%	0.8%
srsRAN - 5.P.T.2.P.S.2.Q (eNb Mb/s)	<b>159.2</b>	<b>103.0</b>
Normalized	100%	64.7%
Standard Deviation	15.9%	0.4%
srsRAN - 5.P.T.2.P.S.2.Q (UE Mb/s)	<b>113.9</b>	<b>64.2</b>
Normalized	100%	56.37%
Standard Deviation	18.9%	0.6%

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<b>LuaRadio - F.B.t.B.F.F (MiB/s)</b>	<b>573.7</b>	<b>410.6</b>
Normalized	100%	71.57%
Standard Deviation	0.4%	0.4%
<b>LuaRadio - F.D.F (MiB/s)</b>	<b>443.1</b>	<b>340.9</b>
Normalized	100%	76.94%
Standard Deviation	0.2%	2.7%
<b>LuaRadio - Hilbert Transform (MiB/s)</b>	<b>104.2</b>	<b>96.7</b>
Normalized	100%	92.8%
Standard Deviation	0.3%	0.4%
<b>LuaRadio - Complex Phase (MiB/s)</b>	<b>489.3</b>	<b>537.3</b>
Normalized	91.07%	100%
Standard Deviation	4.2%	0.7%
<b>GNU Radio - F.B.t.B.F.F (MiB/s)</b>	<b>568.1</b>	<b>595.2</b>
Normalized	95.45%	100%
Standard Deviation	2%	4.5%
<b>GNU Radio - S.S.C (MiB/s)</b>	<b>2507</b>	<b>3776</b>
Normalized	66.39%	100%
Standard Deviation	0.3%	2.8%
<b>GNU Radio - FIR Filter (MiB/s)</b>	<b>689.7</b>	<b>723.8</b>
Normalized	95.29%	100%
Standard Deviation	1.3%	0.5%
<b>GNU Radio - IIR Filter (MiB/s)</b>	<b>643.9</b>	<b>598.6</b>
Normalized	100%	92.96%
Standard Deviation	0.3%	6.4%
<b>GNU Radio - F.D.F (MiB/s)</b>	<b>782.5</b>	<b>899.1</b>
Normalized	87.03%	100%
Standard Deviation	0.7%	4.7%
<b>GNU Radio - Hilbert Transform (MiB/s)</b>	<b>439.5</b>	<b>242.7</b>
Normalized	100%	55.22%
Standard Deviation	1.9%	12.6%
<b>TSCP - A.C.P (Nodes/s)</b>	<b>1672123</b>	<b>1206965</b>
Normalized	100%	72.18%
Standard Deviation	0.7%	1.3%
<b>dav1d - Summer Nature 4K (FPS)</b>	<b>82.77</b>	<b>91.99</b>
Normalized	89.98%	100%
Standard Deviation	9%	0.5%
<b>OSpray - San Miguel - SciVis (FPS)</b>	<b>5.81</b>	<b>7.96</b>
Normalized	72.99%	100%
Standard Deviation	0.6%	0.5%
<b>OSpray - XFrog Forest - SciVis (FPS)</b>	<b>0.89</b>	<b>1.27</b>
Normalized	70.08%	100%
Standard Deviation	0.1%	0.1%
<b>OSpray - San Miguel - Path Tracer (FPS)</b>	<b>0.50</b>	<b>0.54</b>
Normalized	92.59%	100%
Standard Deviation	0.2%	0.1%
<b>OSpray - NASA Streamlines - SciVis (FPS)</b>	<b>6.80</b>	<b>10.16</b>
Normalized	66.93%	100%
Standard Deviation	0%	2.4%
<b>OSpray - XFrog Forest - Path Tracer (FPS)</b>	<b>0.49</b>	<b>0.67</b>
Normalized	73.13%	100%
Standard Deviation	0.1%	0%
<b>OSpray - M.R - SciVis (FPS)</b>	<b>7.52</b>	<b>5.24</b>
Normalized	100%	69.68%
Standard Deviation	0%	0.3%
<b>OSpray - NASA Streamlines - Path Tracer (FPS)</b>	<b>1.26</b>	<b>1.96</b>

	Normalized	64.29%	100%
	Standard Deviation	0%	0.3%
<b>OSPray - M.R - Path Tracer (FPS)</b>	<b>166.67</b>	<b>86.87</b>	
	Normalized	100%	52.12%
	Standard Deviation	0%	4.5%
<b>AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)</b>	<b>5.97</b>	<b>8.60</b>	
	Normalized	69.42%	100%
	Standard Deviation	2.5%	0.8%
<b>AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)</b>	<b>21.57</b>	<b>26.96</b>	
	Normalized	80.01%	100%
	Standard Deviation	2.3%	1.3%
<b>AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)</b>	<b>34.92</b>	<b>37.84</b>	
	Normalized	92.28%	100%
	Standard Deviation	2.5%	0.5%
<b>AOM AV1 - Speed 6 Realtime - Bosphorus 1080p</b>	<b>11.11</b>	<b>15.80</b>	
	Normalized	70.32%	100%
	Standard Deviation	2.3%	1.7%
<b>AOM AV1 - Speed 8 Realtime - Bosphorus 1080p</b>	<b>83.42</b>	<b>76.93</b>	
	Normalized	100%	92.22%
	Standard Deviation	6.5%	0.8%
<b>AOM AV1 - Speed 9 Realtime - Bosphorus 1080p</b>	<b>113.49</b>	<b>90.13</b>	
	Normalized	100%	79.42%
	Standard Deviation	4.4%	0.4%
<b>Embree - Pathtracer - Asian Dragon (FPS)</b>	<b>3.8799</b>	<b>6.7736</b>	
	Normalized	57.28%	100%
	Standard Deviation	0.1%	0.5%
<b>Embree - Pathtracer ISPC - Asian Dragon (FPS)</b>	<b>4.9309</b>	<b>6.1703</b>	
	Normalized	79.91%	100%
	Standard Deviation	0.9%	1.1%
<b>SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)</b>	<b>0.600</b>	<b>0.872</b>	
	Normalized	68.81%	100%
	Standard Deviation	0.2%	0.3%
<b>SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)</b>	<b>6.461</b>	<b>9.168</b>	
	Normalized	70.47%	100%
	Standard Deviation	0.7%	0.7%
<b>SVT-HEVC - 1 - Bosphorus 1080p (FPS)</b>	<b>2.39</b>	<b>4.13</b>	
	Normalized	57.87%	100%
	Standard Deviation	0.2%	0.4%
<b>SVT-HEVC - 7 - Bosphorus 1080p (FPS)</b>	<b>41.41</b>	<b>59.54</b>	
	Normalized	69.55%	100%
	Standard Deviation	3%	0.8%
<b>SVT-HEVC - 10 - Bosphorus 1080p (FPS)</b>	<b>101.60</b>	<b>118.88</b>	
	Normalized	85.46%	100%
	Standard Deviation	9.1%	0.2%
<b>SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)</b>	<b>84.78</b>	<b>85.23</b>	
	Normalized	99.47%	100%
	Standard Deviation	5.2%	1.3%
<b>SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)</b>	<b>84.39</b>	<b>89.89</b>	
	Normalized	93.88%	100%
	Standard Deviation	7%	0.5%
<b>SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)</b>	<b>62.12</b>	<b>75.15</b>	
	Normalized	82.66%	100%
	Standard Deviation	4.7%	0.1%
<b>VP9 libvpx Encoding - Speed 5 - Bosphorus 4K (FPS)</b>	<b>7.70</b>	<b>8.36</b>	
	Normalized	92.11%	100%

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	Standard Deviation	1.9%	0.4%
<b>VP9 libvpx Encoding - Speed 5 - Bosphorus 1080p</b>	<b>Normalized</b>	<b>20.78</b>	<b>23.22</b>
	Standard Deviation	2.4%	1.5%
<b>x265 - Bosphorus 4K (FPS)</b>	<b>Normalized</b>	<b>5.80</b>	<b>8.29</b>
	Standard Deviation	0.4%	0.7%
<b>x265 - Bosphorus 1080p (FPS)</b>	<b>Normalized</b>	<b>27.19</b>	<b>36.52</b>
	Standard Deviation	2.4%	1.5%
<b>Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)</b>	<b>Normalized</b>	<b>0.15</b>	<b>0.20</b>
	Standard Deviation	3.8%	0.8%
<b>Intel Open Image Denoise - RT.Idr_alb_nrm.3840x2160 (Images / Sec)</b>	<b>Normalized</b>	<b>0.15</b>	<b>0.20</b>
	Standard Deviation	0.4%	0.3%
<b>Intel Open Image Denoise - RTLightmap.hdr.4096x4096 (Images / Sec)</b>	<b>Normalized</b>	<b>0.07</b>	<b>0.10</b>
	Standard Deviation	0.9%	0.2%
<b>OpenVKL - vklBenchmark (Items / Sec)</b>	<b>Normalized</b>	<b>102</b>	<b>68</b>
	Standard Deviation	3.5%	2.2%
<b>Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)</b>	<b>Normalized</b>	<b>125732</b>	<b>237679</b>
	Standard Deviation	2.4%	2.5%
<b>Stockfish - Total Time (Nodes/s)</b>	<b>Normalized</b>	<b>7801495</b>	<b>13568744</b>
	Standard Deviation	1.7%	2.1%
<b>asmFish - 1.H.M.2.D (Nodes/s)</b>	<b>Normalized</b>	<b>8791768</b>	<b>15193386</b>
	Standard Deviation	0.8%	1.6%
<b>Timed GDB GNU Debugger Compilation - Time To Compile (sec)</b>	<b>Normalized</b>	<b>130.413</b>	<b>97.610</b>
	Standard Deviation	0.2%	0.5%
<b>Timed Godot Game Engine Compilation - Time To Compile (sec)</b>	<b>Normalized</b>	<b>340.809</b>	<b>237.093</b>
	Standard Deviation	0.1%	0.1%
<b>Timed Linux Kernel Compilation - Time To Compile</b>	<b>Normalized</b>	<b>233.841</b>	<b>152.016</b>
	Standard Deviation	0.3%	0.7%
<b>Timed Mesa Compilation - Time To Compile (sec)</b>	<b>Normalized</b>	<b>126.324</b>	<b>95.083</b>
	Standard Deviation	0.5%	0.1%
<b>YafaRay - T.T.F.S.S (sec)</b>	<b>Normalized</b>	<b>445.089</b>	<b>251.469</b>
	Standard Deviation	0.4%	0.4%
<b>Numpy Benchmark (Score)</b>	<b>Normalized</b>	<b>423.20</b>	<b>289.42</b>
	Standard Deviation	0.6%	0.1%

<b>Timed Wasmer Compilation - Time To Compile (sec)</b>	<b>152.082</b>	<b>116.340</b>
Normalized	76.5%	100%
Standard Deviation	0.1%	0%
<b>Gzip Compression - L.S.T.A.T.t.g (sec)</b>	<b>30.341</b>	<b>38.937</b>
Normalized	100%	77.92%
Standard Deviation	0.5%	0.2%
<b>DeepSpeech - CPU (sec)</b>	<b>61.26352</b>	<b>92.60444</b>
Normalized	100%	66.16%
Standard Deviation	1.2%	0.4%
<b>Ngspice - C2670 (sec)</b>	<b>135.214</b>	<b>183.821</b>
Normalized	100%	73.56%
Standard Deviation	11.6%	1.1%
<b>Ngspice - C7552 (sec)</b>	<b>122.449</b>	<b>309.121</b>
Normalized	100%	39.61%
Standard Deviation	5.6%	0.7%
<b>RNNoise (sec)</b>	<b>21.312</b>	<b>19.363</b>
Normalized	90.85%	100%
Standard Deviation	2.2%	1.3%
<b>WebP2 Image Encode - Default (sec)</b>	<b>8.571</b>	<b>6.109</b>
Normalized	71.28%	100%
Standard Deviation	14.7%	0.8%
<b>WebP2 Image Encode - Q.7.C.E.7 (sec)</b>	<b>707.908</b>	<b>404.018</b>
Normalized	57.07%	100%
Standard Deviation	0.1%	0.3%
<b>WebP2 Image Encode - Q.9.C.E.7 (sec)</b>	<b>1268</b>	<b>731.204</b>
Normalized	57.67%	100%
Standard Deviation	0.3%	0.4%
<b>SecureMark - SecureMark-TLS (marks)</b>	<b>294187</b>	<b>211166</b>
Normalized	100%	71.78%
Standard Deviation	0.8%	0.8%
<b>Liquid-DSP - 4 - 256 - 57 (samples/s)</b>	<b>179944000</b>	<b>228430000</b>
Normalized	78.77%	100%
Standard Deviation	2.5%	2.3%
<b>Liquid-DSP - 8 - 256 - 57 (samples/s)</b>	<b>191862857</b>	<b>306173333</b>
Normalized	62.66%	100%
Standard Deviation	2.5%	2.2%
<b>SQLite Speedtest - Timed Time - Size 1,000 (sec)</b>	<b>50.851</b>	<b>73.425</b>
Normalized	100%	69.26%
Standard Deviation	1.3%	2.4%
<b>KTX-Software toktx - UASTC 3 (sec)</b>	<b>32.064</b>	<b>17.749</b>
Normalized	55.35%	100%
Standard Deviation	2.4%	1.8%
<b>KTX-Software toktx - Zstd Compression 9 (sec)</b>	<b>2.383</b>	<b>4.922</b>
Normalized	100%	48.42%
Standard Deviation	0.8%	1.6%
<b>KTX-Software toktx - Z.C.1 (sec)</b>	<b>21.421</b>	<b>28.087</b>
Normalized	100%	76.27%
Standard Deviation	1%	1.1%
<b>KTX-Software toktx - U.3.Z.C.1 (sec)</b>	<b>37.539</b>	<b>25.978</b>
Normalized	69.2%	100%
Standard Deviation	6.5%	1%
<b>KTX-Software toktx - U.4.Z.C.1 (sec)</b>	<b>996.778</b>	<b>566.298</b>
Normalized	56.81%	100%
Standard Deviation	0.1%	0.1%
<b>Darktable - Boat - CPU-only (sec)</b>	<b>11.507</b>	<b>11.328</b>

	Normalized	98.44%	100%
	Standard Deviation	5.2%	0.2%
<b>Darktable - Masskrug - CPU-only (sec)</b>	<b>8.461</b>	<b>12.671</b>	
	Normalized	100%	66.77%
	Standard Deviation	4.5%	0.7%
<b>Darktable - Server Rack - CPU-only (sec)</b>	<b>0.207</b>	<b>0.265</b>	
	Normalized	100%	78.11%
	Standard Deviation	0.3%	0.4%
<b>Darktable - Server Room - CPU-only (sec)</b>	<b>5.218</b>	<b>11.188</b>	
	Normalized	100%	46.64%
	Standard Deviation	0.5%	2.3%
<b>GEGL - Crop (sec)</b>	<b>7.646</b>	<b>9.044</b>	
	Normalized	100%	84.54%
	Standard Deviation	1.4%	1.4%
<b>GEGL - Scale (sec)</b>	<b>5.639</b>	<b>6.535</b>	
	Normalized	100%	86.29%
	Standard Deviation	0.2%	0.3%
<b>GEGL - Reflect (sec)</b>	<b>26.579</b>	<b>30.764</b>	
	Normalized	100%	86.4%
	Standard Deviation	0.1%	0.9%
<b>GEGL - Rotate 90 Degrees (sec)</b>	<b>37.428</b>	<b>40.882</b>	
	Normalized	100%	91.55%
	Standard Deviation	0.7%	0.6%
<b>GIMP - resize (sec)</b>	<b>9.115</b>	<b>9.308</b>	
	Normalized	100%	97.93%
	Standard Deviation	2.3%	1.5%
<b>GIMP - rotate (sec)</b>	<b>10.031</b>	<b>12.677</b>	
	Normalized	100%	79.13%
	Standard Deviation	0.4%	0.5%
<b>GIMP - auto-levels (sec)</b>	<b>11.065</b>	<b>13.155</b>	
	Normalized	100%	84.11%
	Standard Deviation	0.3%	0.2%
<b>GIMP - unsharp-mask (sec)</b>	<b>12.899</b>	<b>16.099</b>	
	Normalized	100%	80.12%
	Standard Deviation	2.4%	1.3%
<b>Hugin - P.P.A.S.T (sec)</b>	<b>67.527</b>	<b>58.871</b>	
	Normalized	87.18%	100%
	Standard Deviation	1.3%	1.2%
<b>LibreOffice - 2.D.T.P (sec)</b>	<b>5.605</b>	<b>7.796</b>	
	Normalized	100%	71.9%
	Standard Deviation	2.4%	2.9%
<b>OCRMyPDF - P.6.P.P.D (sec)</b>	<b>40.362</b>	<b>28.637</b>	
	Normalized	70.95%	100%
	Standard Deviation	9.2%	1%
<b>OpenSCAD - Pistol (sec)</b>	<b>85.557</b>	<b>118.194</b>	
	Normalized	100%	72.39%
	Standard Deviation	1.2%	1.2%
<b>OpenSCAD - Retro Car (sec)</b>	<b>3.853</b>	<b>5.437</b>	
	Normalized	100%	70.87%
	Standard Deviation	1.2%	0.4%
<b>OpenSCAD - Mini-ITX Case (sec)</b>	<b>37.792</b>	<b>53.369</b>	
	Normalized	100%	70.81%
	Standard Deviation	1.2%	0.7%
<b>OpenSCAD - P.M.S (sec)</b>	<b>7.408</b>	<b>10.264</b>	
	Normalized	100%	72.17%

	Standard Deviation	2.4%	0.1%
<b>OpenSCAD - L.P.C.S (sec)</b>	<b>15.595</b>	<b>21.471</b>	
Normalized	100%	72.63%	
	Standard Deviation	6.3%	1.3%
<b>RawTherapee - T.B.T (sec)</b>	<b>93.257</b>	<b>84.657</b>	
Normalized	90.78%	100%	
	Standard Deviation	4.8%	0.7%
<b>Google Draco - Lion (ms)</b>	<b>4928</b>	<b>6260</b>	
Normalized	100%	78.72%	
	Standard Deviation	0.5%	2.5%
<b>Google Draco - Church Facade (ms)</b>	<b>7741</b>	<b>9702</b>	
Normalized	100%	79.79%	
	Standard Deviation	0.6%	0.3%
<b>Mobile Neural Network - mobilenetV3 (ms)</b>	<b>2.549</b>	<b>2.911</b>	
Normalized	100%	87.56%	
	Standard Deviation	2.5%	1.8%
<b>Mobile Neural Network - squeezenetv1.1 (ms)</b>	<b>4.914</b>	<b>5.176</b>	
Normalized	100%	94.94%	
	Standard Deviation	5.2%	0.7%
<b>Mobile Neural Network - resnet-v2-50 (ms)</b>	<b>42.291</b>	<b>42.226</b>	
Normalized	99.85%	100%	
	Standard Deviation	1.1%	0.1%
<b>Mobile Neural Network - SqueezeNetV1.0 (ms)</b>	<b>7.325</b>	<b>7.985</b>	
Normalized	100%	91.73%	
	Standard Deviation	7.8%	2.7%
<b>Mobile Neural Network - MobileNetV2_224 (ms)</b>	<b>4.645</b>	<b>4.826</b>	
Normalized	100%	96.25%	
	Standard Deviation	6.9%	3.7%
<b>Mobile Neural Network - mobilenet-v1-1.0 (ms)</b>	<b>5.051</b>	<b>5.489</b>	
Normalized	100%	92.02%	
	Standard Deviation	7.8%	1.4%
<b>Mobile Neural Network - inception-v3 (ms)</b>	<b>53.897</b>	<b>46.785</b>	
Normalized	86.8%	100%	
	Standard Deviation	10.2%	0.7%
<b>NCNN - CPU - mobilenet (ms)</b>	<b>24.96</b>	<b>27.93</b>	
Normalized	100%	89.37%	
	Standard Deviation	1.5%	0.4%
<b>NCNN - CPU-v2-v2 - mobilenet-v2 (ms)</b>	<b>5.09</b>	<b>7.85</b>	
Normalized	100%	64.84%	
	Standard Deviation	0.3%	0.6%
<b>NCNN - CPU-v3-v3 - mobilenet-v3 (ms)</b>	<b>5.16</b>	<b>6.44</b>	
Normalized	100%	80.12%	
	Standard Deviation	16.5%	0.7%
<b>NCNN - CPU - shufflenet-v2 (ms)</b>	<b>5.38</b>	<b>5.09</b>	
Normalized	94.61%	100%	
	Standard Deviation	14.9%	2.6%
<b>NCNN - CPU - efficientnet-b0 (ms)</b>	<b>9.70</b>	<b>10.35</b>	
Normalized	100%	93.72%	
	Standard Deviation	1%	2.2%
<b>NCNN - CPU - blazeface (ms)</b>	<b>2.14</b>	<b>1.95</b>	
Normalized	91.12%	100%	
	Standard Deviation	0.9%	3.3%
<b>NCNN - CPU - googlenet (ms)</b>	<b>21.17</b>	<b>23.05</b>	
Normalized	100%	91.84%	
	Standard Deviation	0.2%	2.3%

## Laptop Compute

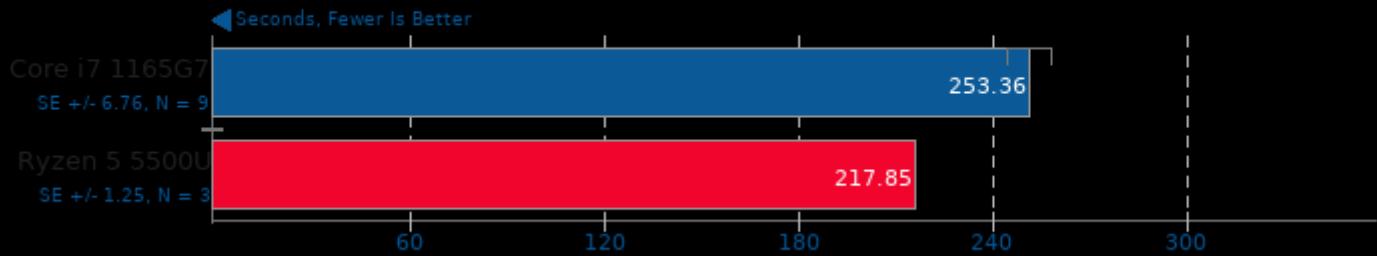
<b>NCNN - CPU - vgg16 (ms)</b>	<b>68.75</b>	<b>108.25</b>
Normalized	100%	63.51%
Standard Deviation	0.7%	0.9%
<b>NCNN - CPU - resnet18 (ms)</b>	<b>19.98</b>	<b>22.89</b>
Normalized	100%	87.29%
Standard Deviation	0.2%	1.7%
<b>NCNN - CPU - alexnet (ms)</b>	<b>17.06</b>	<b>17.62</b>
Normalized	100%	96.82%
Standard Deviation	0.3%	1.9%
<b>NCNN - CPU - resnet50 (ms)</b>	<b>39.44</b>	<b>43.02</b>
Normalized	100%	91.68%
Standard Deviation	0.1%	0.7%
<b>NCNN - CPU - yolov4-tiny (ms)</b>	<b>35.83</b>	<b>42.70</b>
Normalized	100%	83.91%
Standard Deviation	1.1%	0.8%
<b>NCNN - CPU - squeezenet_ssd (ms)</b>	<b>31.50</b>	<b>31.97</b>
Normalized	100%	98.53%
Standard Deviation	0.3%	4.3%
<b>NCNN - CPU - regnety_400m (ms)</b>	<b>12.10</b>	<b>11.43</b>
Normalized	94.46%	100%
Standard Deviation	0.6%	1.6%
<b>NCNN - CPU - mnasnet (ms)</b>	<b>6.44</b>	<b>6.55</b>
Normalized	100%	98.32%
Standard Deviation	0.4%	20.9%
<b>TNN - CPU - DenseNet (ms)</b>	<b>4271</b>	<b>3441</b>
Normalized	80.57%	100%
Standard Deviation	0.1%	0.2%
<b>TNN - CPU - MobileNet v2 (ms)</b>	<b>297.490</b>	<b>278.866</b>
Normalized	93.74%	100%
Standard Deviation	0.3%	1%
<b>TNN - CPU - SqueezeNet v2 (ms)</b>	<b>56.794</b>	<b>71.700</b>
Normalized	100%	79.21%
Standard Deviation	1.7%	0.6%
<b>TNN - CPU - SqueezeNet v1.1 (ms)</b>	<b>267.255</b>	<b>252.368</b>
Normalized	94.43%	100%
Standard Deviation	0.1%	1.1%
<b>IndigoBench - CPU - Bedroom (M samples/s)</b>	<b>0.563</b>	<b>0.994</b>
Normalized	56.64%	100%
Standard Deviation	8%	1.4%
<b>IndigoBench - CPU - Supercar (M samples/s)</b>	<b>1.262</b>	<b>2.150</b>
Normalized	58.7%	100%
Standard Deviation	0.3%	0.1%
<b>Blender - BMW27 - CPU-Only (sec)</b>	<b>500.21</b>	<b>296.52</b>
Normalized	59.28%	100%
Standard Deviation	0.1%	0.3%
<b>PyBench - T.F.A.T.T (Milliseconds)</b>	<b>751</b>	<b>977</b>
Normalized	100%	76.87%
Standard Deviation	0.3%	0.2%
<b>PyPerformance - float (Milliseconds)</b>	<b>92.6</b>	<b>121</b>
Normalized	100%	76.53%
Standard Deviation	1.1%	
<b>PyPerformance - pathlib (Milliseconds)</b>	<b>13.9</b>	<b>18.4</b>
Normalized	100%	75.54%
Standard Deviation	0.7%	0.3%
<b>PyPerformance - regex_compile (Milliseconds)</b>	<b>128</b>	<b>167</b>

## Laptop Compute

	Normalized	100%	76.65%
	Standard Deviation		0.7%
<b>PyPerformance - python_startup (Milliseconds)</b>	<b>6.48</b>	<b>9.22</b>	
	Normalized	100%	70.28%
	Standard Deviation	0.3%	0.5%
<b>PyPerformance - django_template (Milliseconds)</b>	<b>37.5</b>	<b>45.1</b>	
	Normalized	100%	83.15%
	Standard Deviation	1.2%	0.2%
<b>Appleseed - Emily (sec)</b>	<b>1165</b>	<b>712.491862</b>	
	Normalized	61.18%	100%
<b>Appleseed - Disney Material (sec)</b>	<b>686.767826</b>	<b>417.567618</b>	
	Normalized	60.8%	100%
<b>Appleseed - Material Tester (sec)</b>	<b>644.503526</b>	<b>377.207643</b>	
	Normalized	58.53%	100%
<b>Selenium - ARES-6 - Firefox (ms)</b>	<b>40.74</b>	<b>51.78</b>	
	Normalized	100%	78.68%
	Standard Deviation	0.7%	0.7%
<b>Selenium - Octane - Firefox (Geometric Mean)</b>	<b>23766</b>	<b>18555</b>	
	Normalized	100%	78.07%
	Standard Deviation	0.2%	0.7%
<b>Selenium - StyleBench - Firefox (Runs / Minute)</b>	<b>109</b>	<b>73.1</b>	
	Normalized	100%	67.06%
	Standard Deviation	1.1%	0.5%
<b>Selenium - Jetstream 2 - Firefox (Score)</b>	<b>92.366</b>	<b>72.809</b>	
	Normalized	100%	78.83%
	Standard Deviation	1.9%	1.1%
<b>Selenium - Speedometer - Firefox (Runs/min)</b>	<b>133.9</b>	<b>77.2</b>	
	Normalized	100%	57.65%
	Standard Deviation	0.6%	1%
<b>Selenium - ARES-6 - Google Chrome (ms)</b>	<b>16.17</b>	<b>21.46</b>	
	Normalized	100%	75.35%
	Standard Deviation	1.7%	0.7%
<b>Selenium - Octane - Google Chrome (Geometric)</b>	<b>65931</b>	<b>48778</b>	
	Normalized	100%	73.98%
	Standard Deviation	0.8%	1.4%
<b>Selenium - PSPDFKit WASM - Firefox (Score)</b>	<b>2945</b>	<b>3705</b>	
	Normalized	100%	79.49%
	Standard Deviation	0.5%	0.6%
<b>Selenium - StyleBench - Google Chrome (Runs /</b>	<b>49.24</b>	<b>36.9</b>	
	Normalized	100%	74.94%
	Standard Deviation	0.5%	0.5%
<b>Selenium - Jetstream 2 - Google Chrome (Score)</b>	<b>166.104</b>	<b>128.312</b>	
	Normalized	100%	77.25%
	Standard Deviation	0.4%	0.8%
<b>Selenium - Speedometer - Google Chrome (Runs/min)</b>	<b>189.4</b>	<b>134</b>	
	Normalized	100%	70.75%
	Standard Deviation	0.3%	0.9%
<b>Selenium - PSPDFKit WASM - Google Chrome (Score)</b>	<b>2817</b>	<b>3656</b>	
	Normalized	100%	77.05%
	Standard Deviation	0.8%	0.5%
<b>Selenium - W.i - Firefox (ms)</b>	<b>28.0</b>	<b>28.6</b>	
	Normalized	100%	97.9%
	Standard Deviation	2.2%	0.6%
<b>Selenium - W.c - Firefox (ms)</b>	<b>339.5</b>	<b>392.8</b>	
	Normalized	100%	86.43%

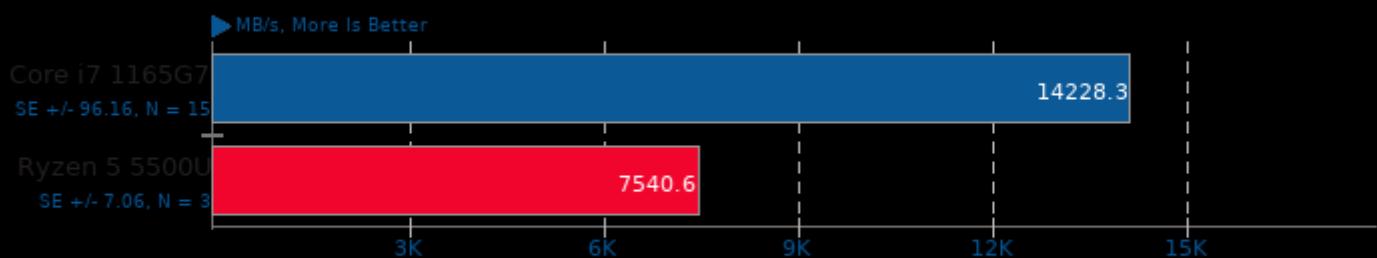
	Standard Deviation	1.6%	2.1%
<b>Selenium - W.i - Google Chrome (ms)</b>	<b>28.53</b>	<b>30.28</b>	
Normalized	100%	94.22%	
	Standard Deviation	2.2%	2.1%
<b>Selenium - W.c - Google Chrome (ms)</b>	<b>281.18</b>	<b>301.85</b>	
Normalized	100%	93.15%	
	Standard Deviation	0.1%	0.4%
<b>ONNX Runtime - yolov4 - OpenMP CPU</b>	<b>193</b>	<b>199</b>	
Normalized	96.98%	100%	
	Standard Deviation	8.5%	0.1%
<b>ONNX Runtime - bertsquad-10 - OpenMP CPU</b>	<b>293</b>	<b>344</b>	
(Inferences/min)			
	Normalized	85.17%	100%
	Standard Deviation	0.3%	0.2%
<b>ONNX Runtime - fcn-resnet101-11 - OpenMP CPU</b>	<b>31</b>	<b>37</b>	
(Inferences/min)			
	Normalized	83.78%	100%
	Standard Deviation	0%	
<b>ONNX Runtime - shufflenet-v2-10 - OpenMP CPU</b>	<b>10943</b>	<b>12209</b>	
(Inferences/min)			
	Normalized	89.63%	100%
	Standard Deviation	1.2%	1.1%
<b>ONNX Runtime - super-resolution-10 - OpenMP CPU</b>	<b>2271</b>	<b>3150</b>	
(Inferences/min)			
	Normalized	72.1%	100%
	Standard Deviation	0.7%	0.7%

## WireGuard + Linux Networking Stack Stress Test



## C-Blosc 2.0

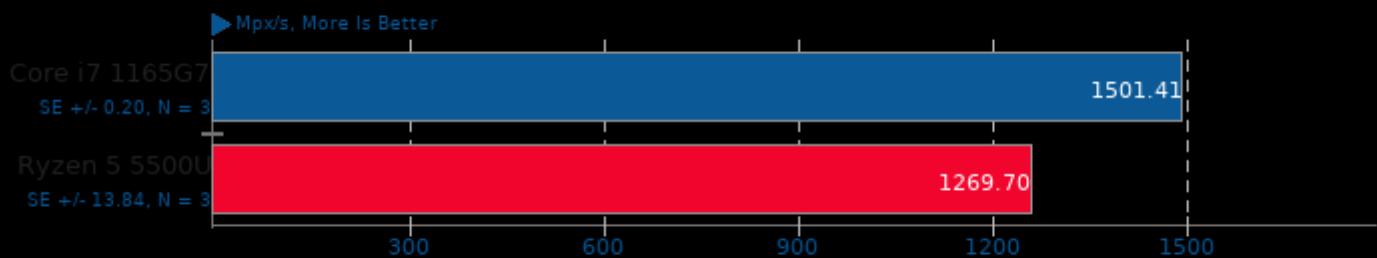
Compressor: blosclz



1. (CC) gcc options: -std=gnu99 -O3 -pthread -fPIR -fPIC

## EtcPak 0.7

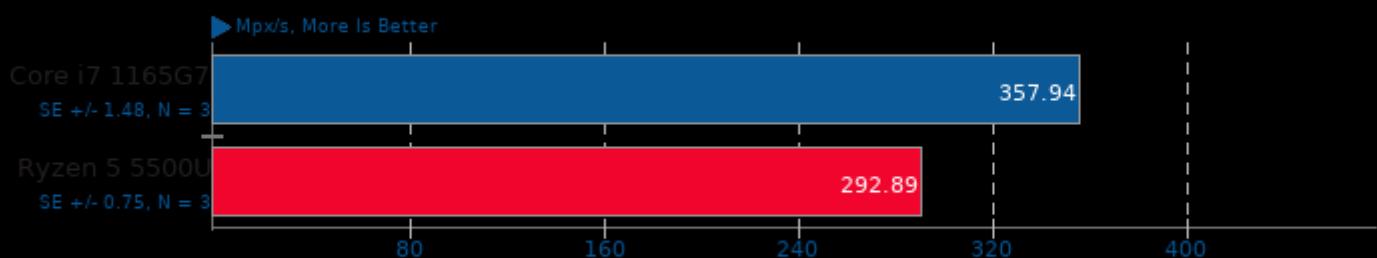
Configuration: DXT1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

## EtcPak 0.7

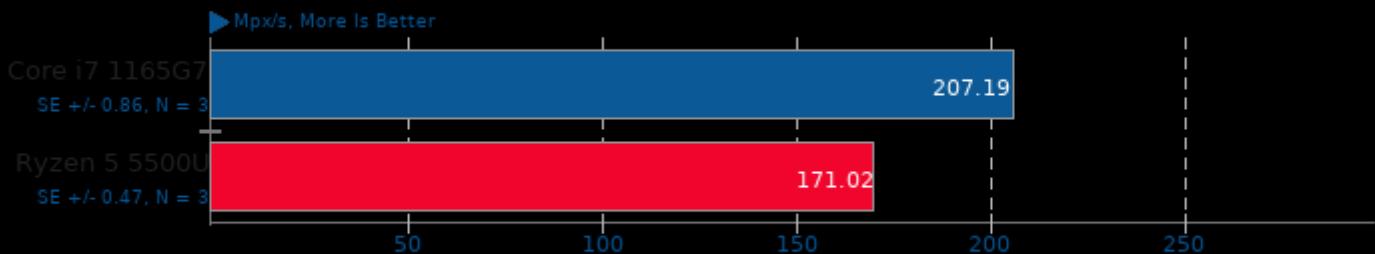
Configuration: ETC1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

## EtcPak 0.7

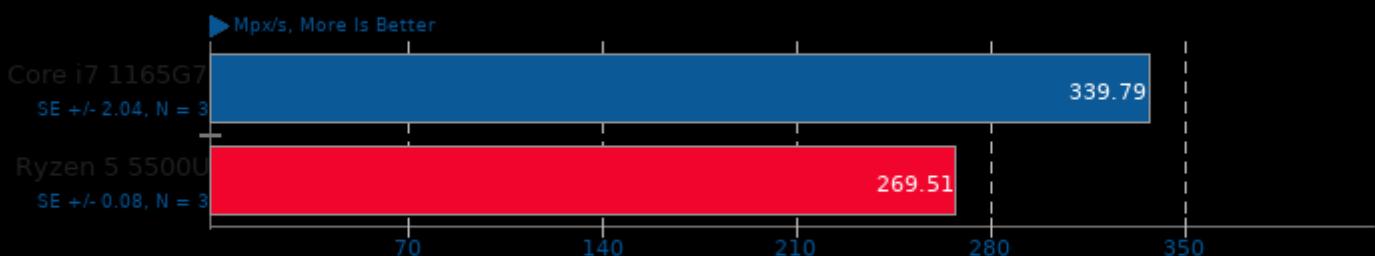
Configuration: ETC2



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

## EtcPak 0.7

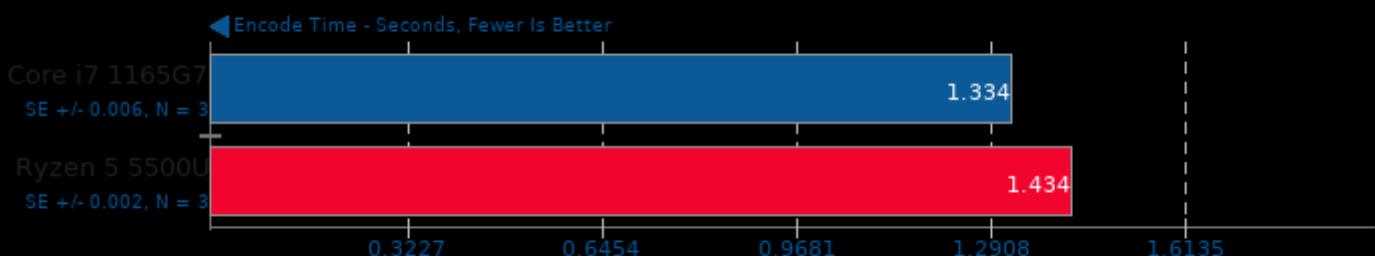
Configuration: ETC1 + Dithering



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

## WebP Image Encode 1.1

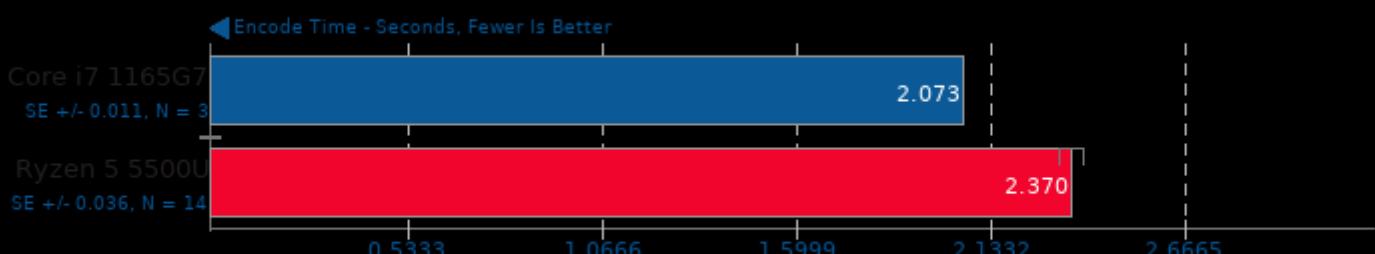
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

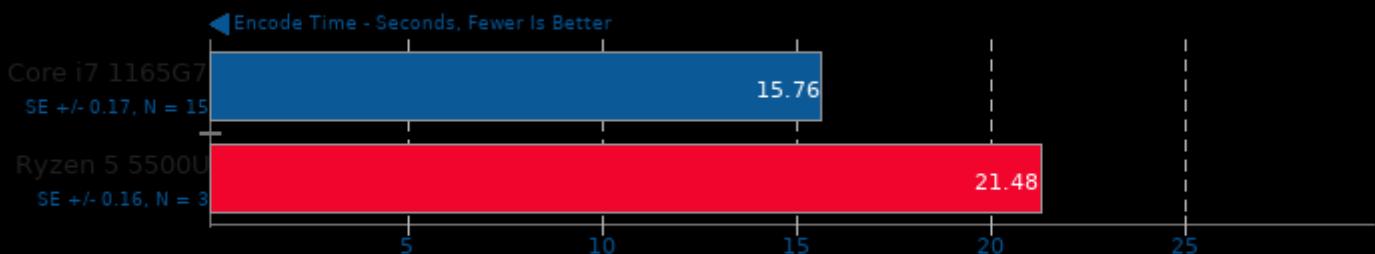
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

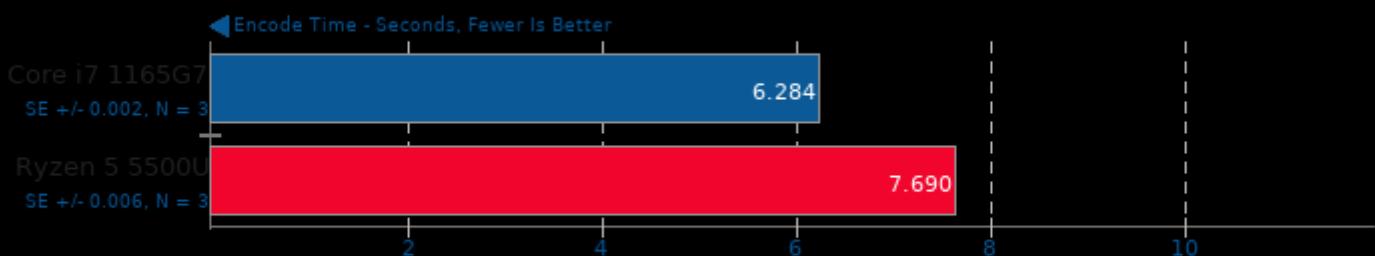
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

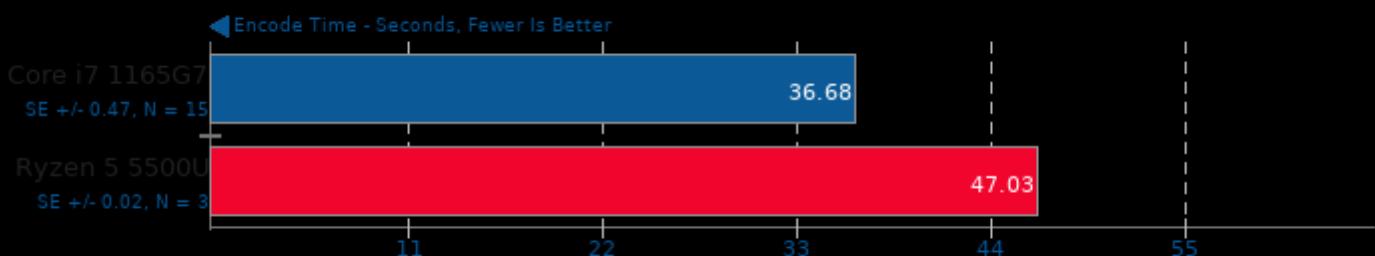
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

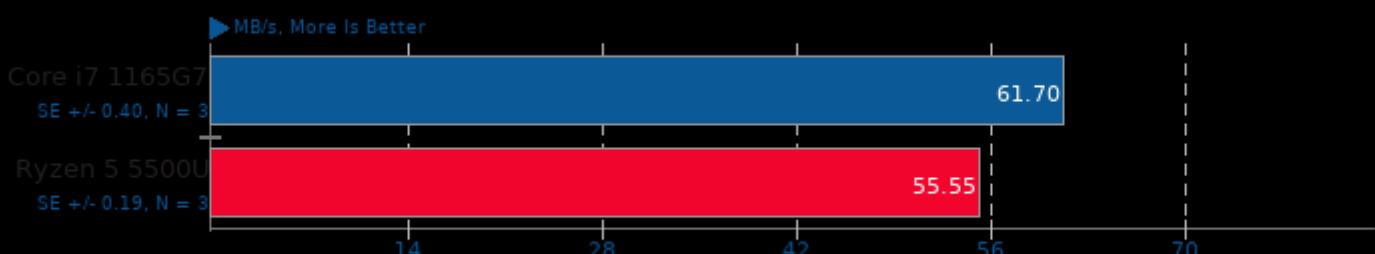
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## LZ4 Compression 1.9.3

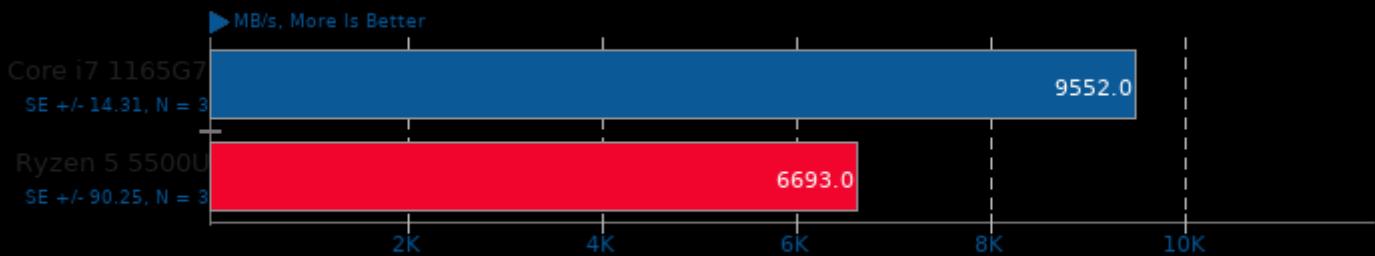
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

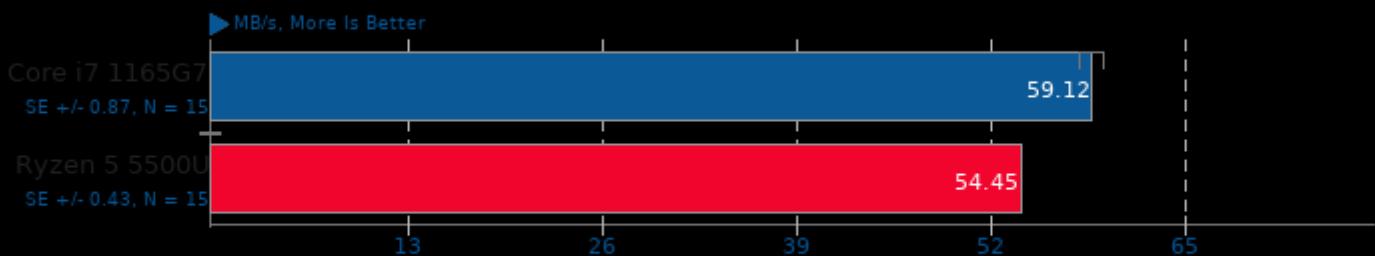
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

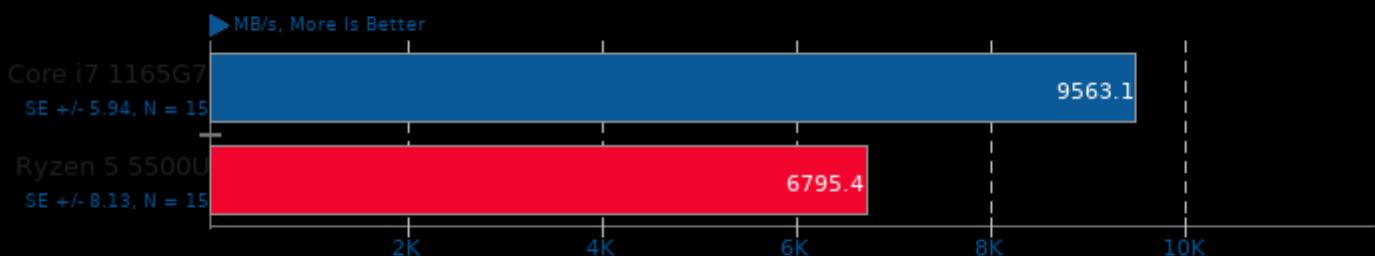
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

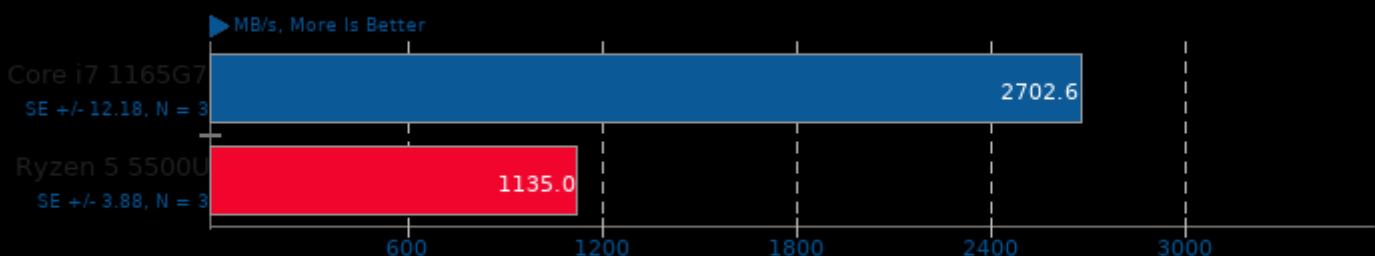
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

## Zstd Compression 1.5.0

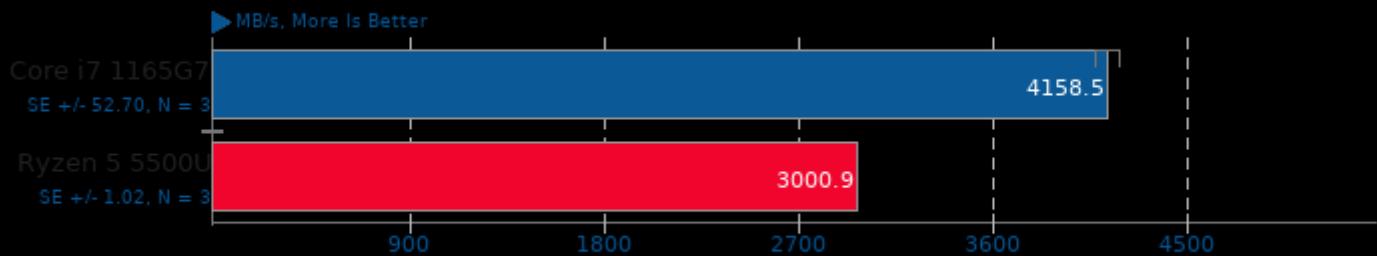
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

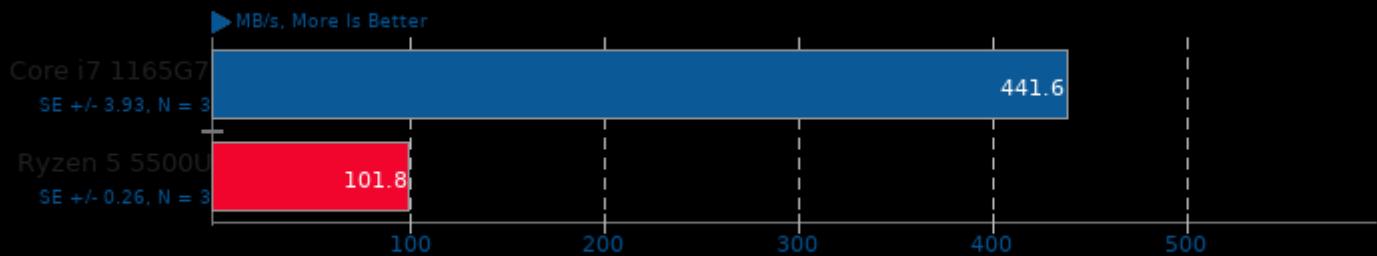
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

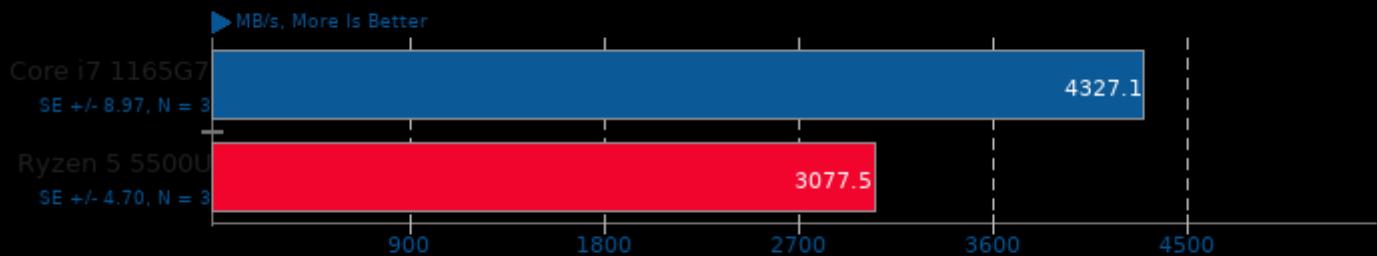
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

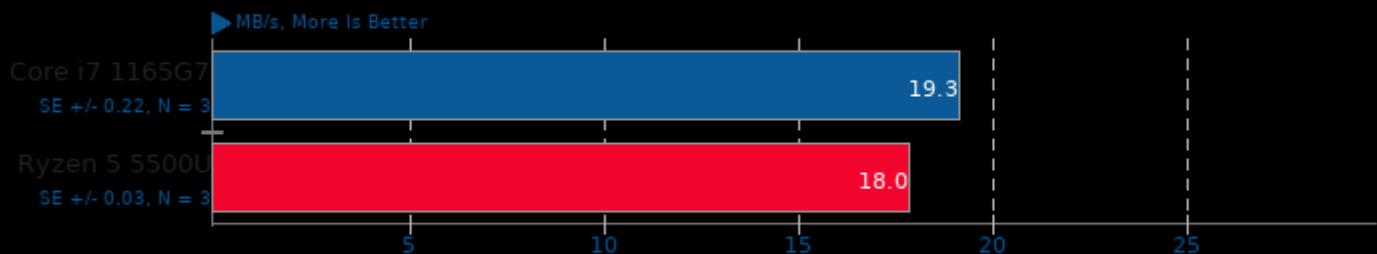
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

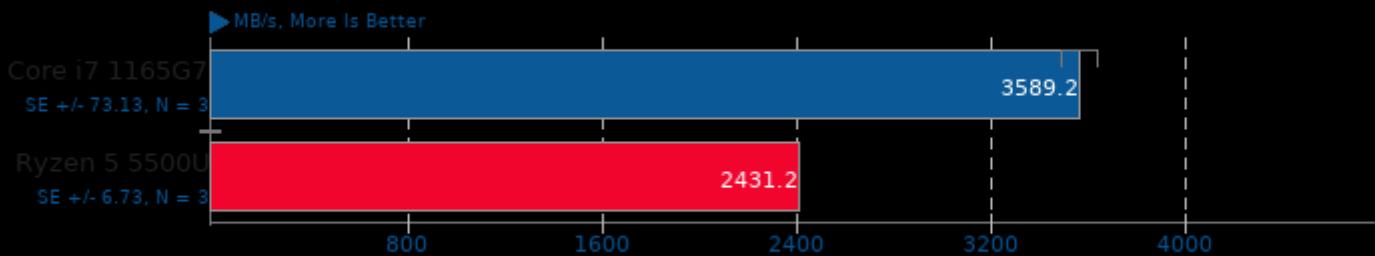
Compression Level: 19 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

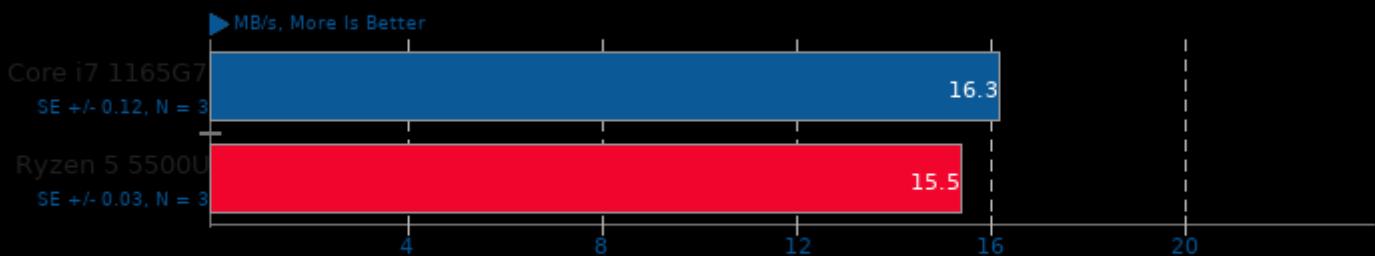
Compression Level: 19 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

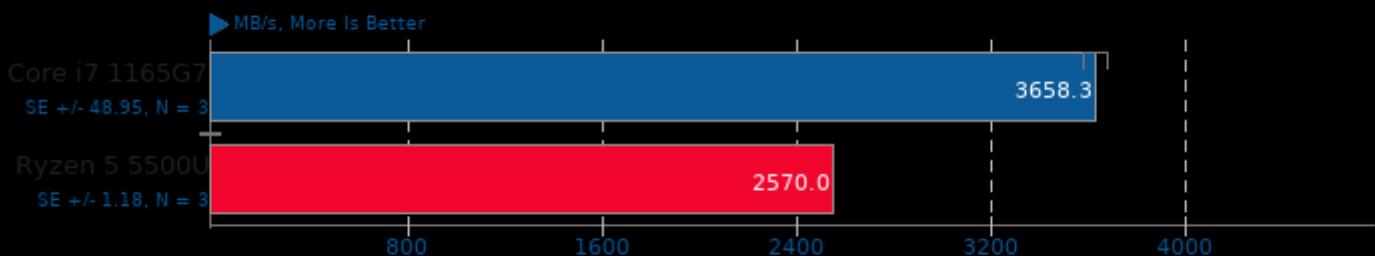
Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## Zstd Compression 1.5.0

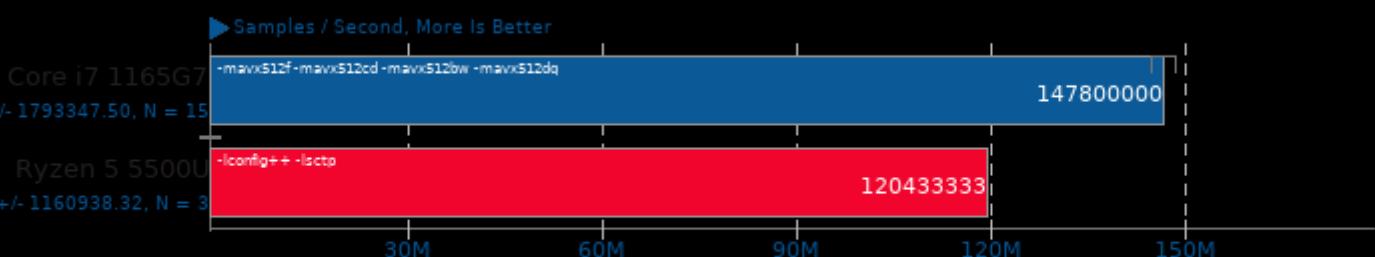
Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma

## srsRAN 21.04

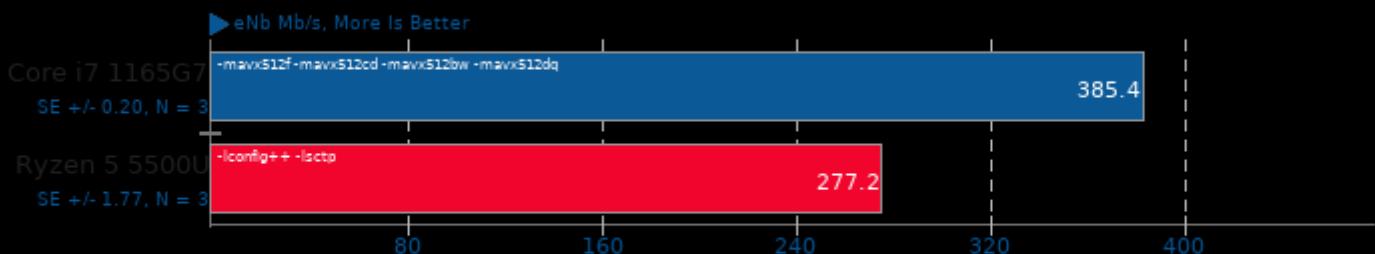
Test: OFDM\_Test



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

Test: 4G PHY\_DL\_Test 100 PRB MIMO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

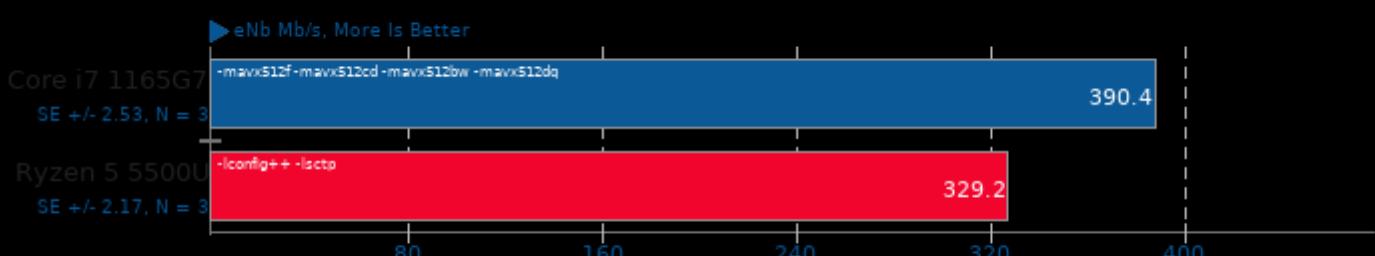
Test: 4G PHY\_DL\_Test 100 PRB MIMO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

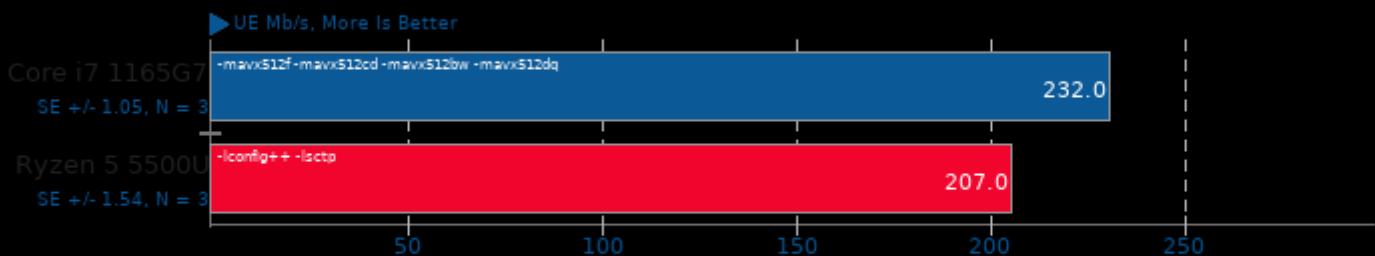
Test: 4G PHY\_DL\_Test 100 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

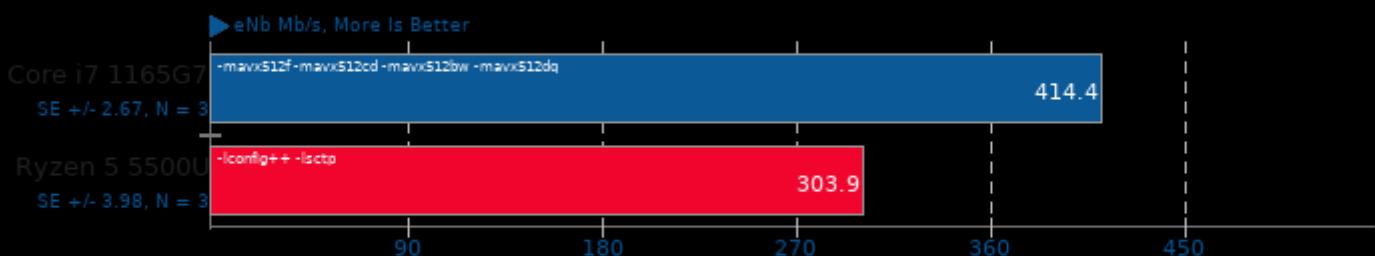
Test: 4G PHY\_DL\_Test 100 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

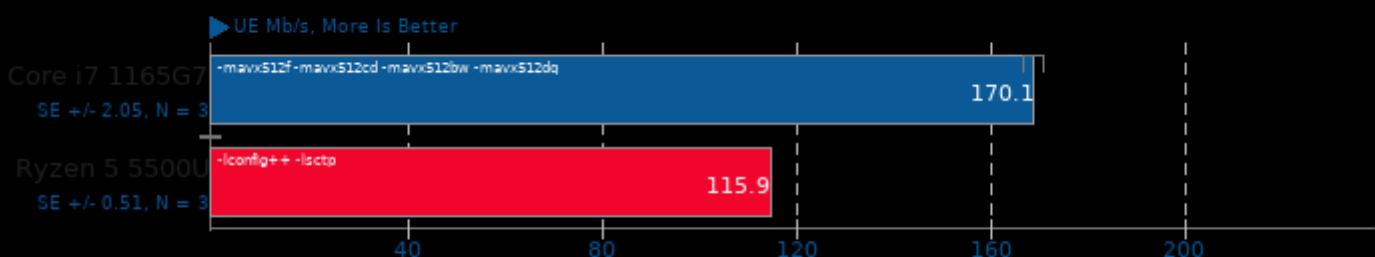
Test: 4G PHY\_DL\_Test 100 PRB MIMO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

## srsRAN 21.04

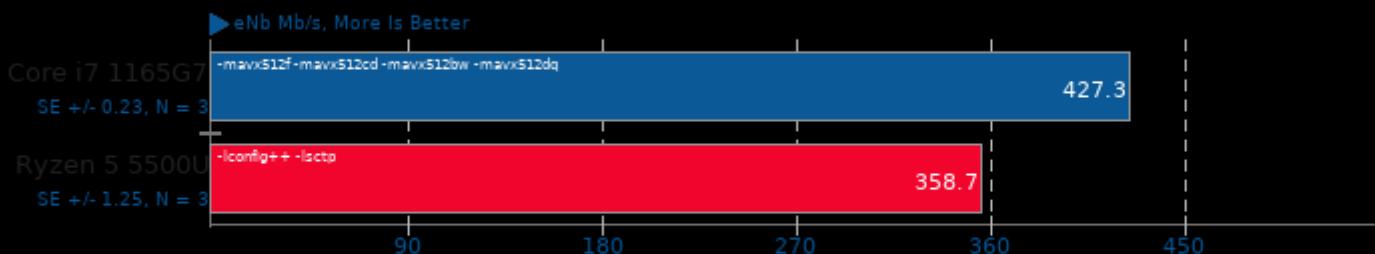
Test: 4G PHY\_DL\_Test 100 PRB MIMO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

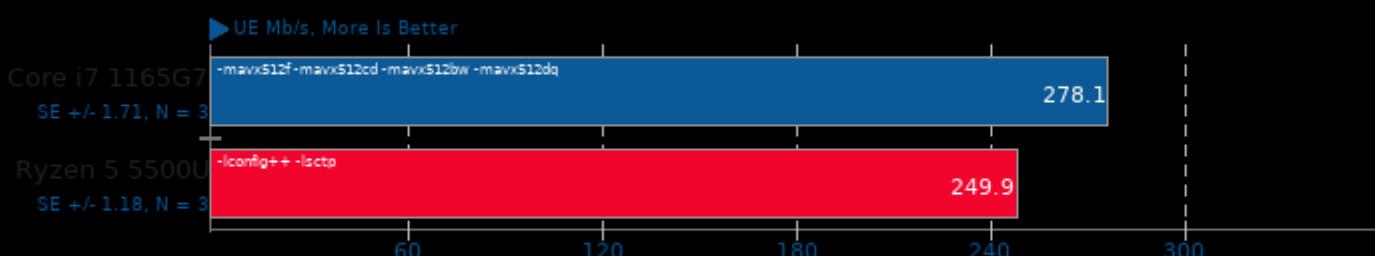
Test: 4G PHY\_DL\_Test 100 PRB SISO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

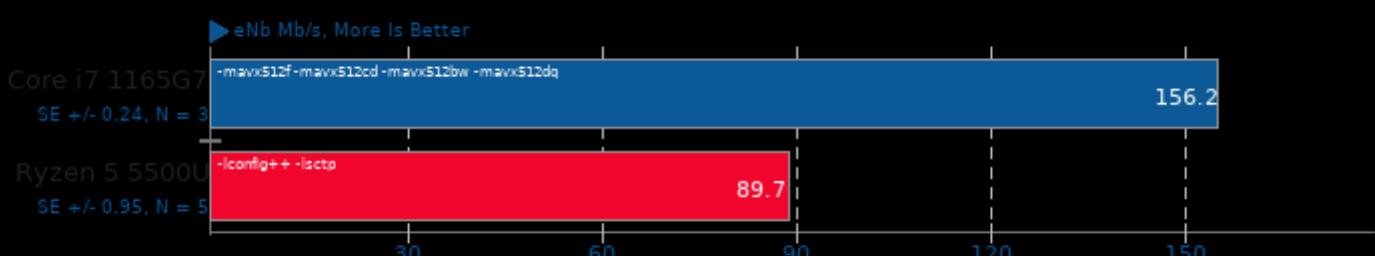
Test: 4G PHY\_DL\_Test 100 PRB SISO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

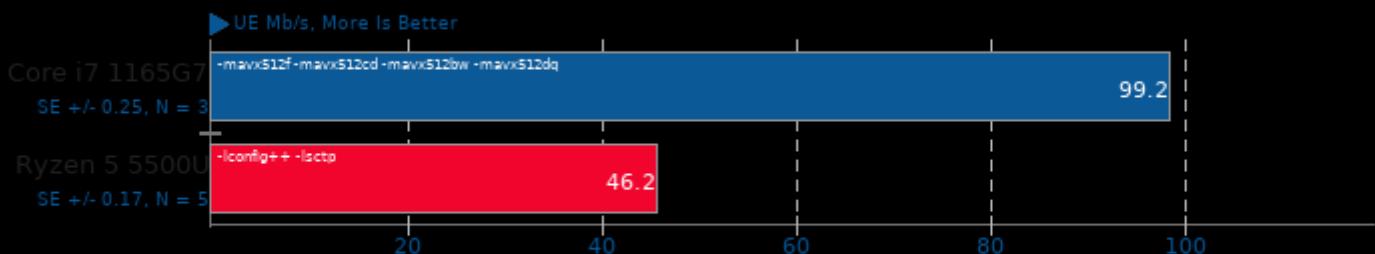
Test: 5G PHY\_DL\_NR Test 52 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

Test: 5G PHY\_DL\_NR Test 52 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

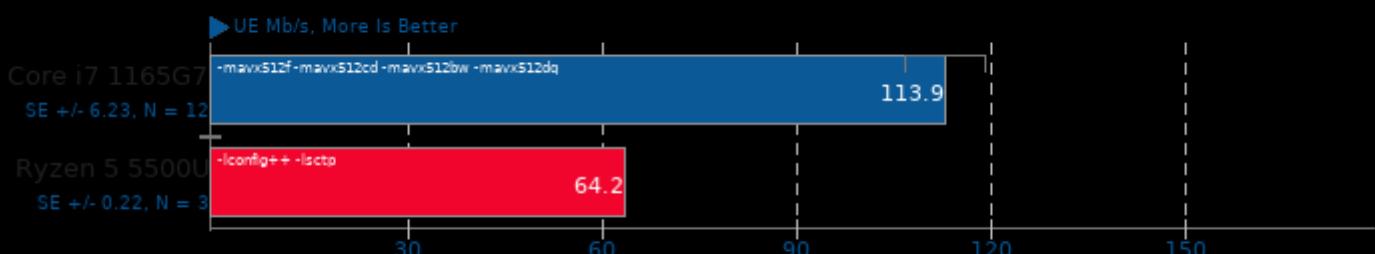
Test: 5G PHY\_DL\_NR Test 270 PRB SISO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

### srsRAN 21.04

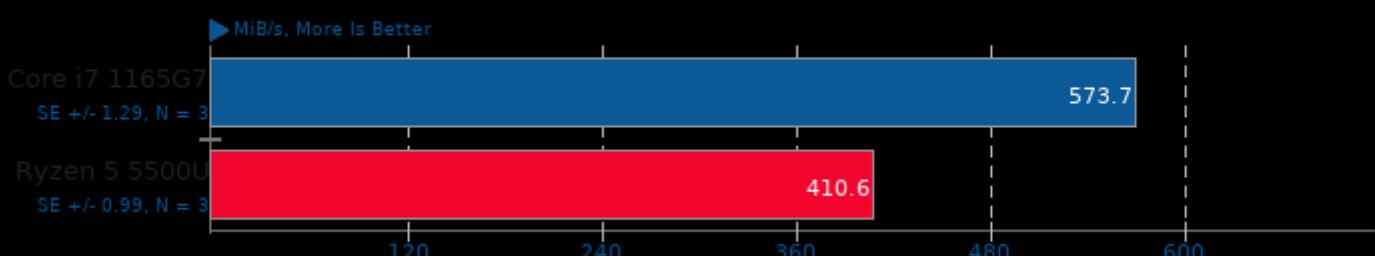
Test: 5G PHY\_DL\_NR Test 270 PRB SISO 256-QAM



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

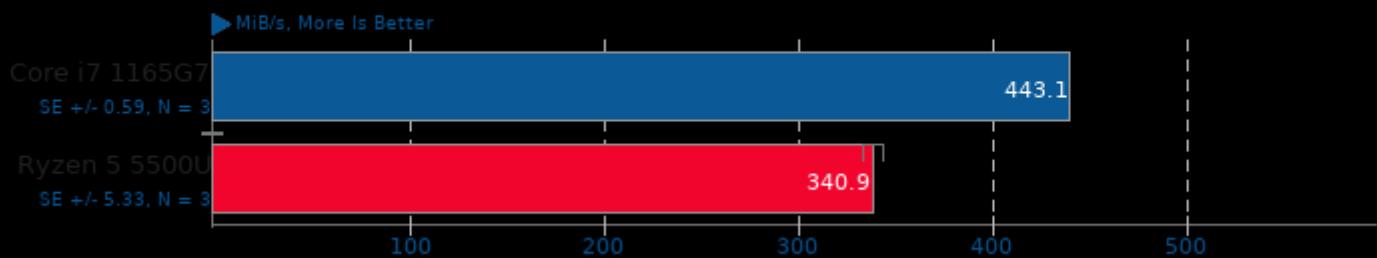
### LuaRadio 0.9.1

Test: Five Back to Back FIR Filters



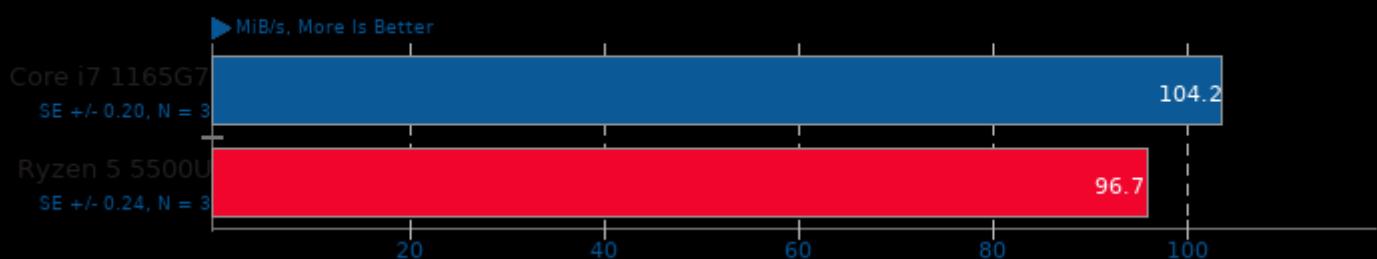
## LuaRadio 0.9.1

Test: FM Deemphasis Filter



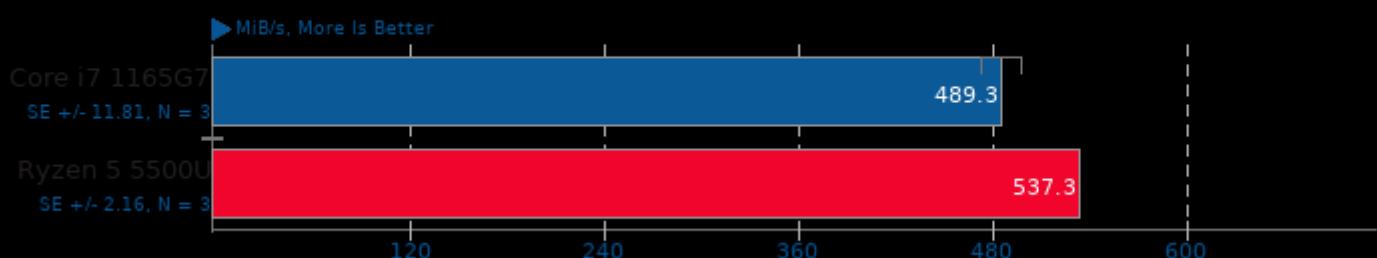
## LuaRadio 0.9.1

Test: Hilbert Transform



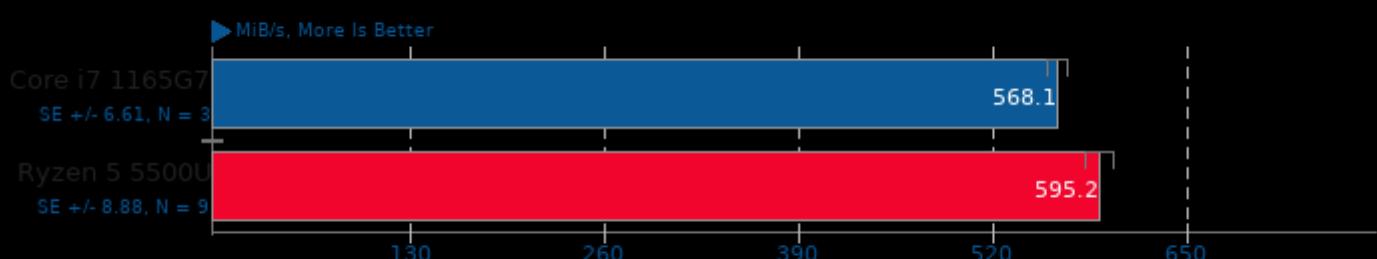
## LuaRadio 0.9.1

Test: Complex Phase



## GNU Radio

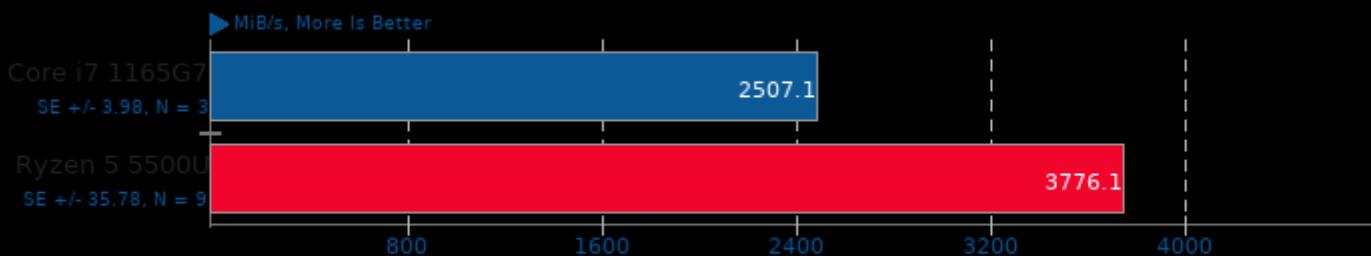
Test: Five Back to Back FIR Filters



1.3.8.2.0

## GNU Radio

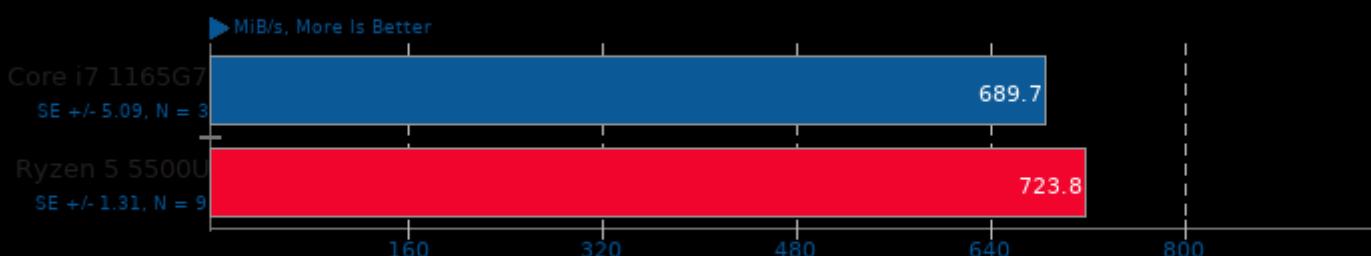
Test: Signal Source (Cosine)



1. 3.8.2.0

## GNU Radio

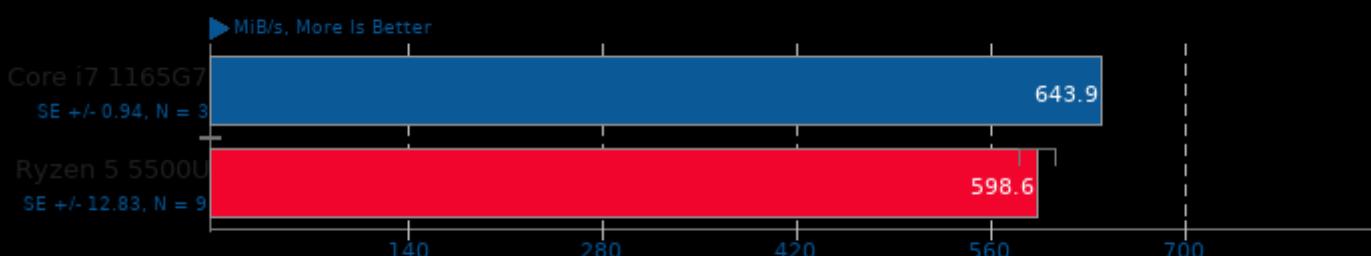
Test: FIR Filter



1. 3.8.2.0

## GNU Radio

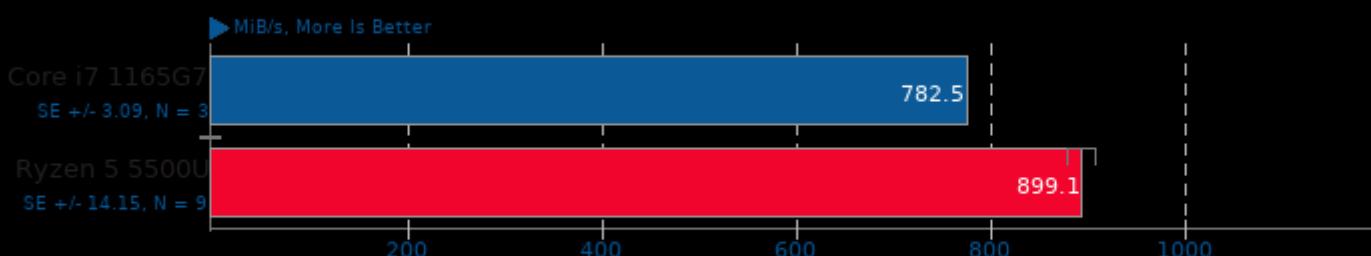
Test: IIR Filter



1. 3.8.2.0

## GNU Radio

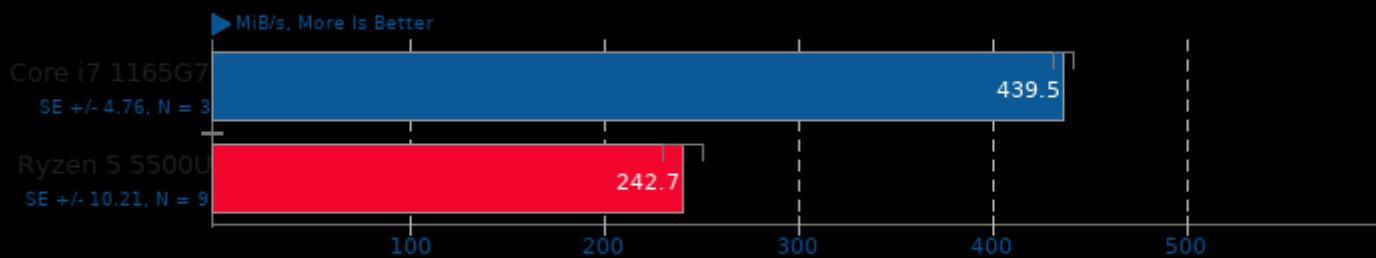
Test: FM Deemphasis Filter



1. 3.8.2.0

## GNU Radio

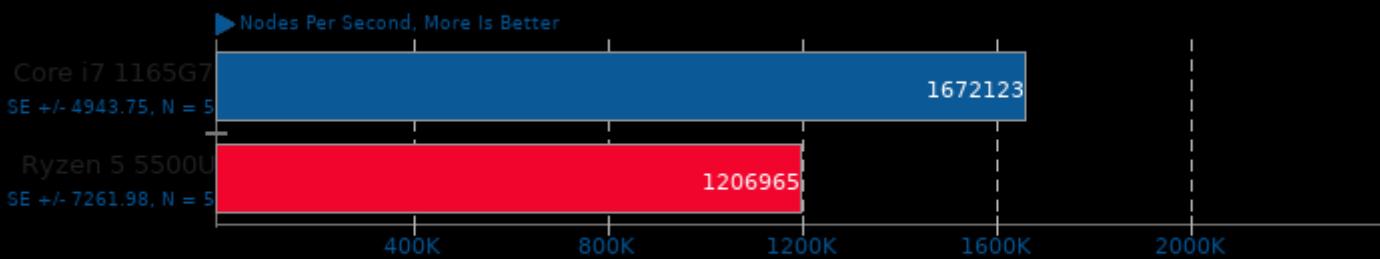
Test: Hilbert Transform



1. 3.8.2.0

## TSCP 1.81

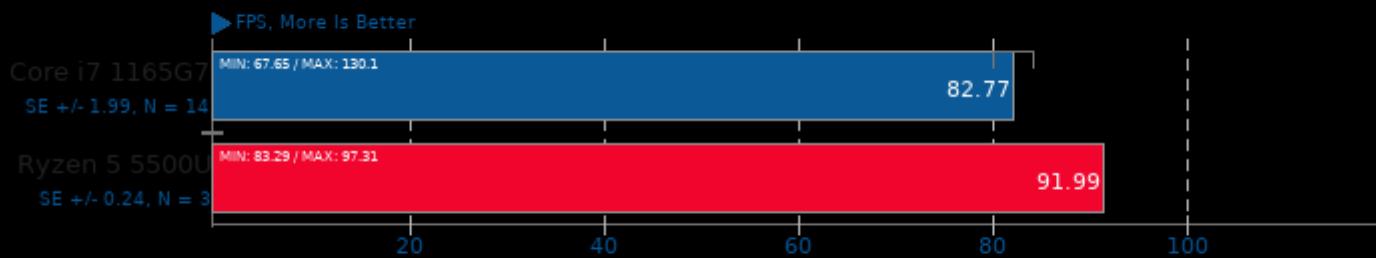
AI Chess Performance



1. (CC) gcc options: -O3 -march=native

## dav1d 0.9.0

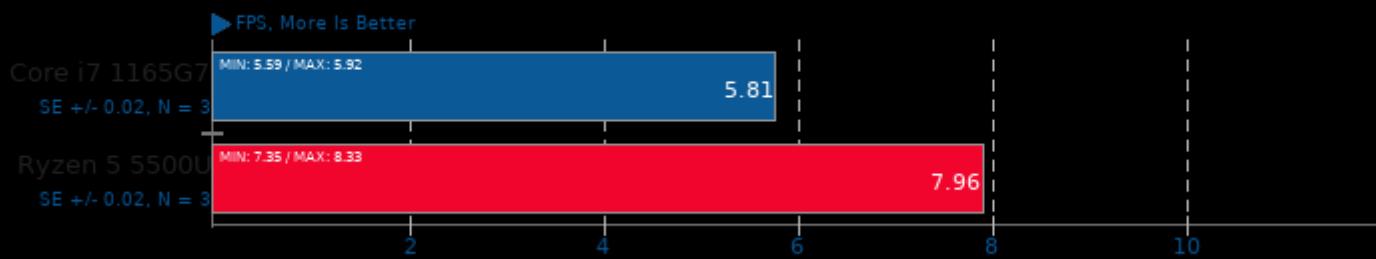
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread -lm

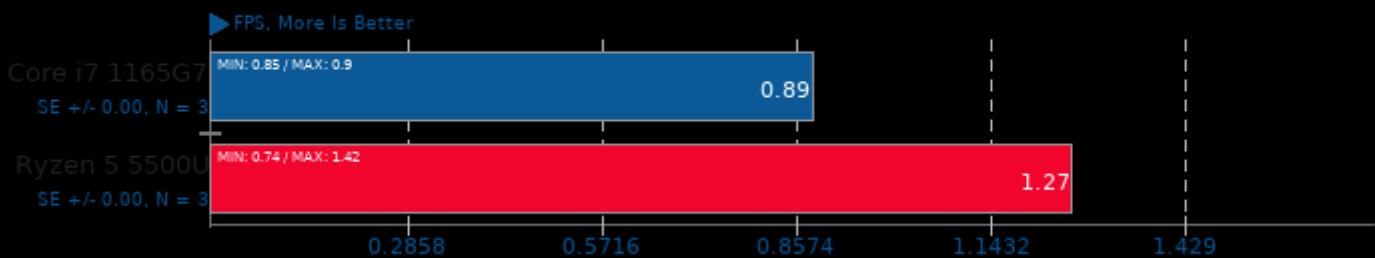
## OSPray 1.8.5

Demo: San Miguel - Renderer: SciVis



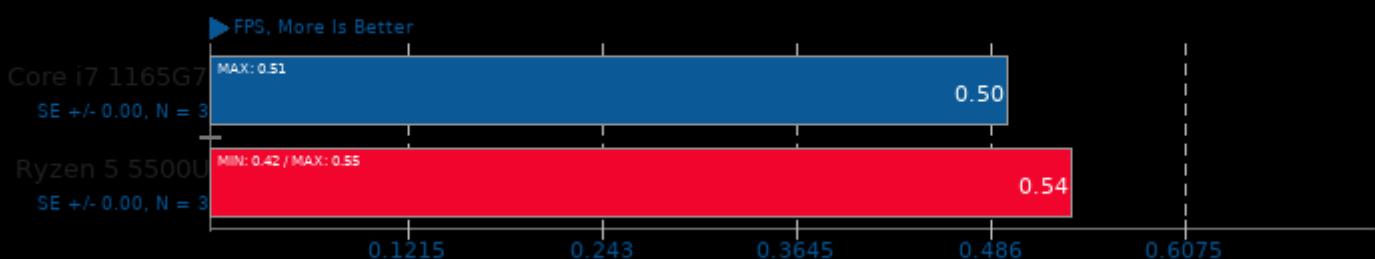
## OSPray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



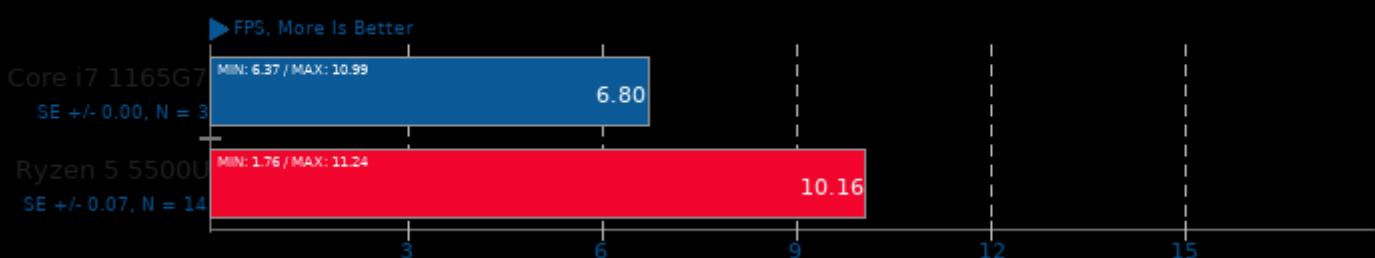
## OSPray 1.8.5

Demo: San Miguel - Renderer: Path Tracer



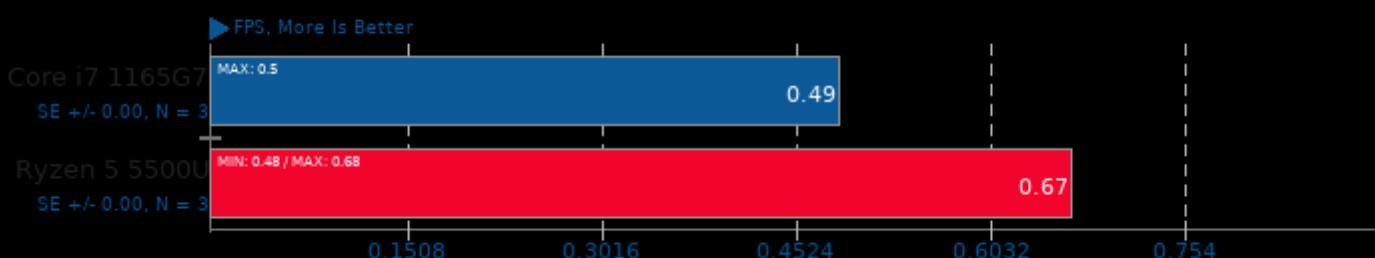
## OSPray 1.8.5

Demo: NASA Streamlines - Renderer: SciVis



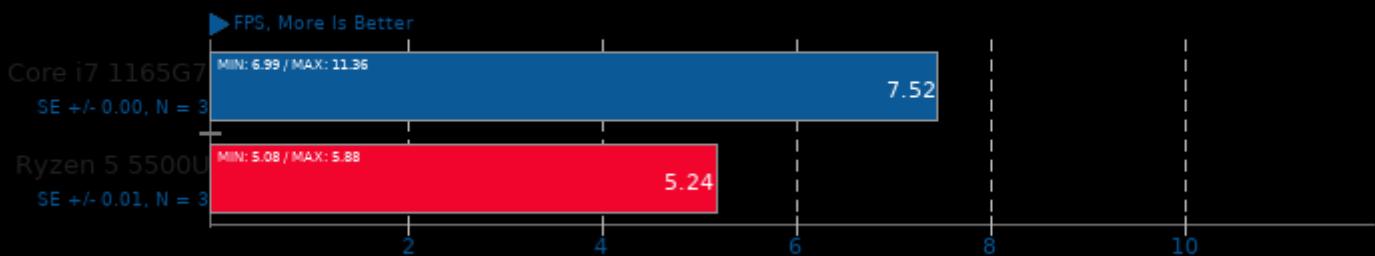
## OSPray 1.8.5

Demo: XFrog Forest - Renderer: Path Tracer



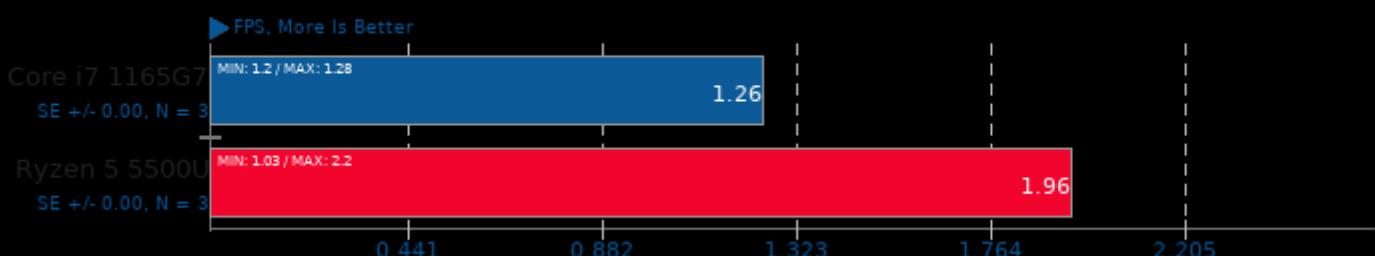
## OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



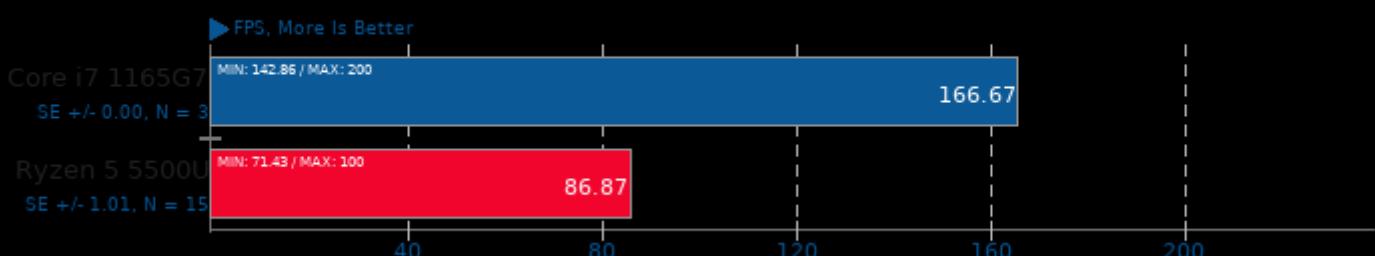
## OSPray 1.8.5

Demo: NASA Streamlines - Renderer: Path Tracer



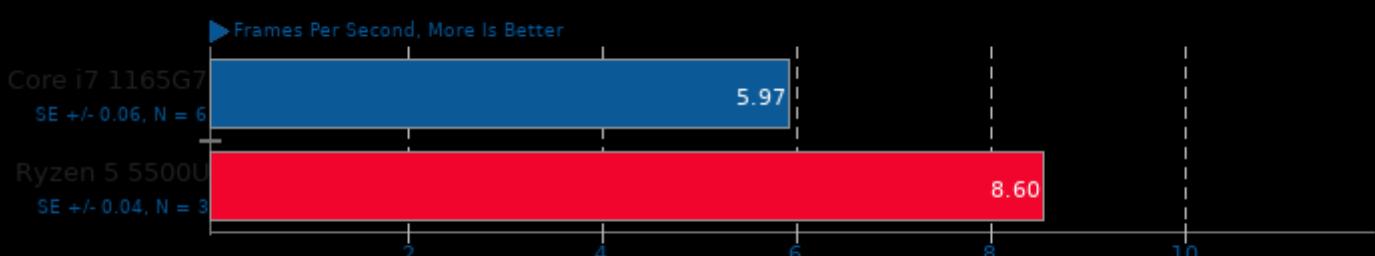
## OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: Path Tracer



## AOM AV1 3.1

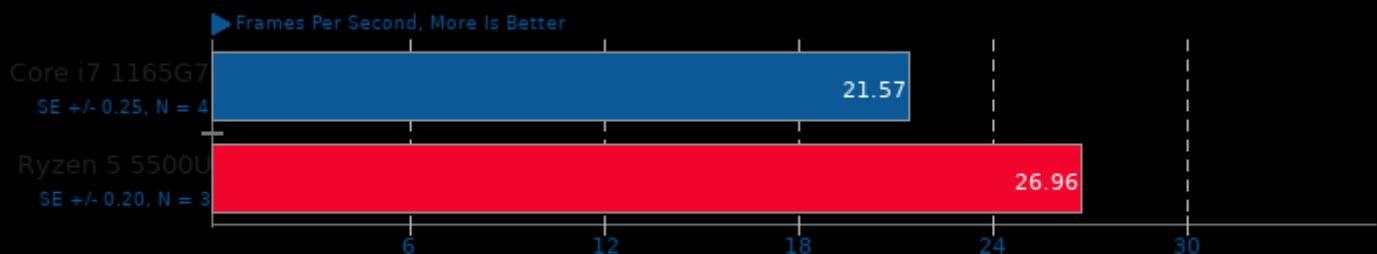
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -fno-thread

## AOM AV1 3.1

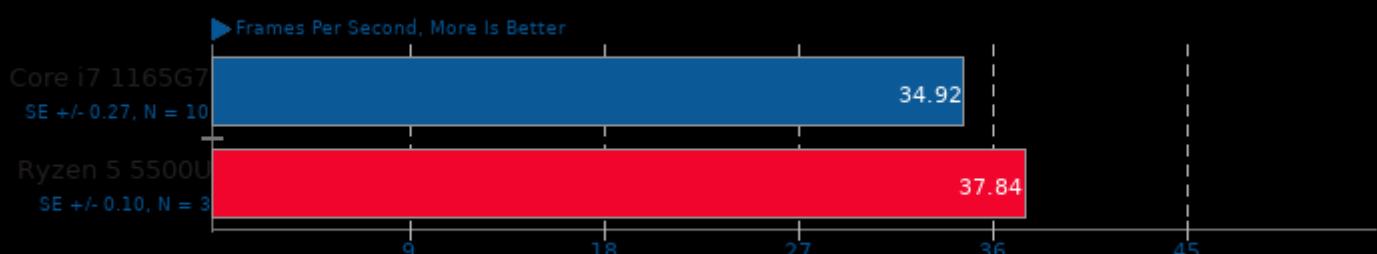
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 3.1

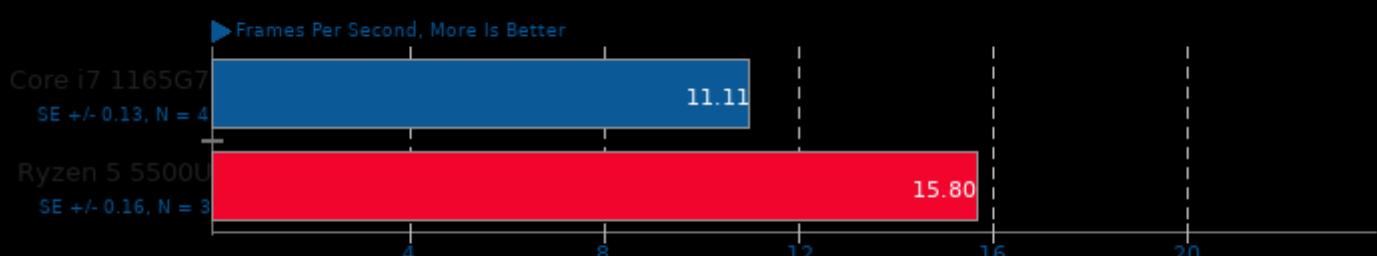
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 3.1

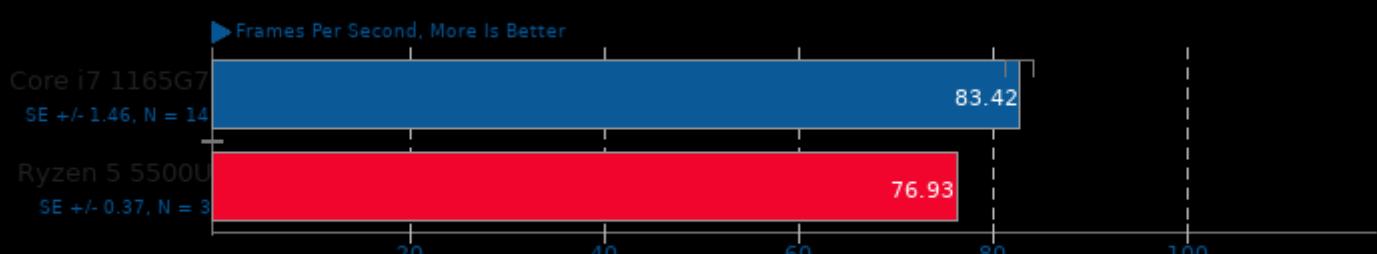
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 3.1

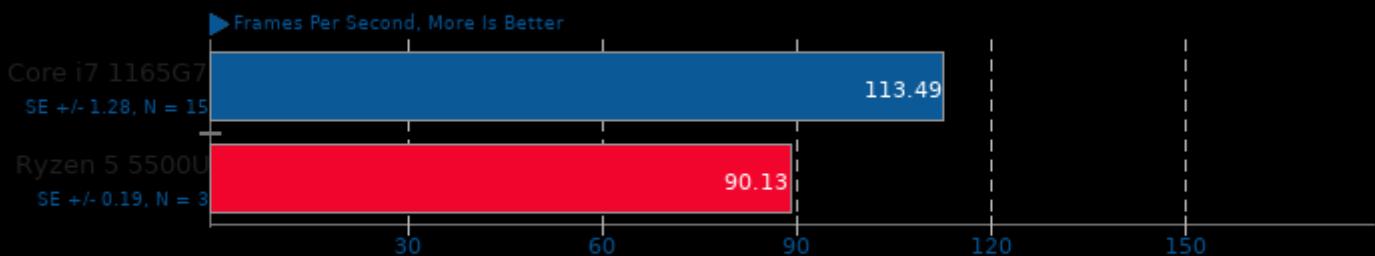
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

## AOM AV1 3.1

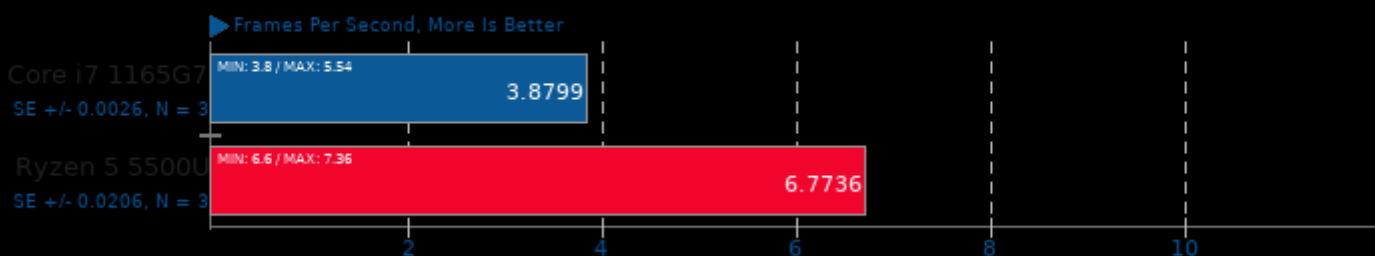
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U\_FORTIFY\_SOURCE -lm -lpthread

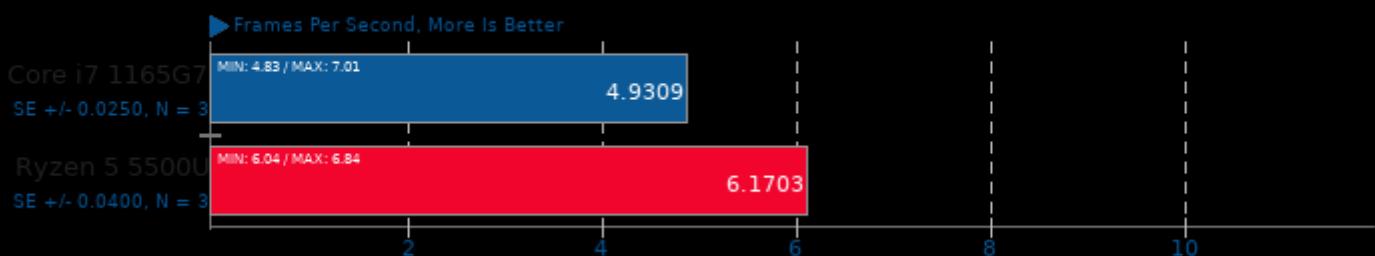
## Embree 3.13

Binary: Pathtracer - Model: Asian Dragon



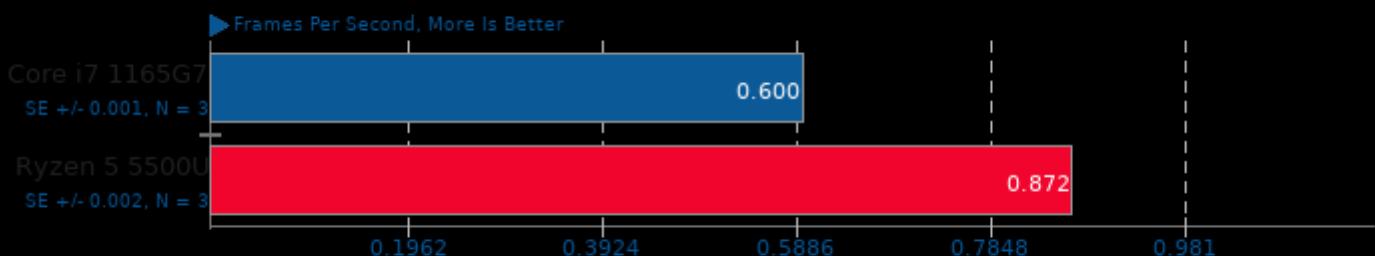
## Embree 3.13

Binary: Pathtracer ISPC - Model: Asian Dragon



## SVT-AV1 0.8.7

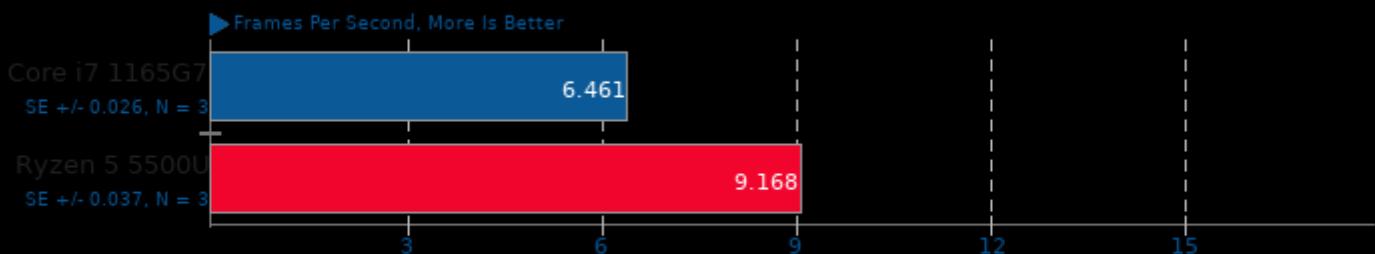
Encoder Mode: Preset 4 - Input: Bosphorus 4K



1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

## SVT-AV1 0.8.7

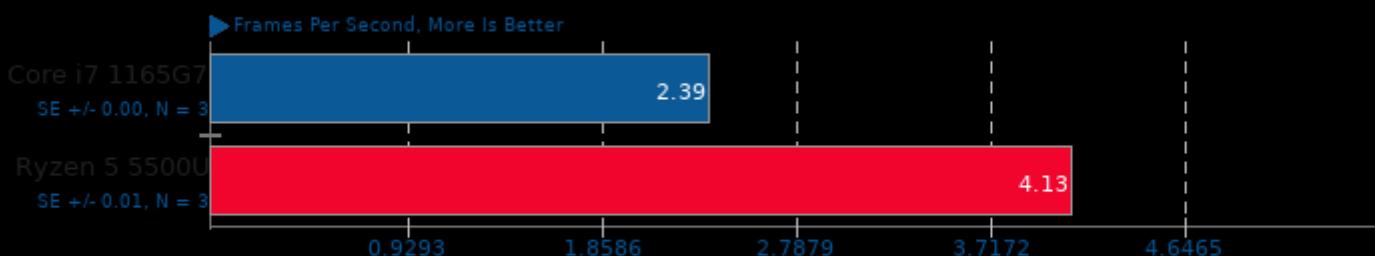
Encoder Mode: Preset 8 - Input: Bosphorus 4K



1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

## SVT-HEVC 1.5.0

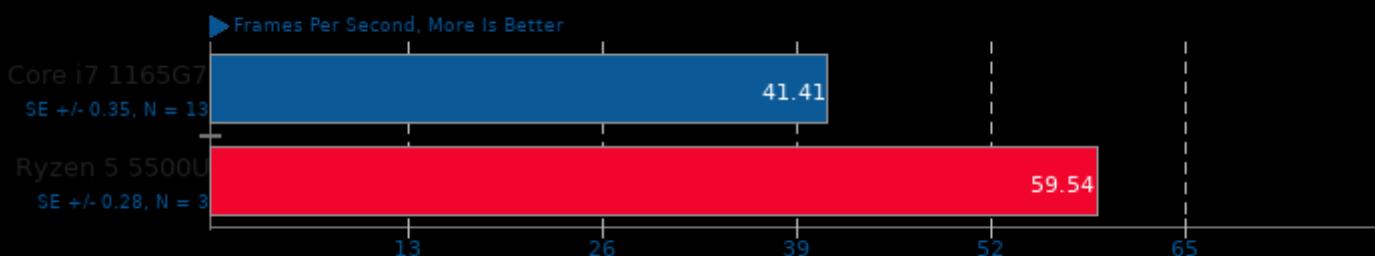
Tuning: 1 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

## SVT-HEVC 1.5.0

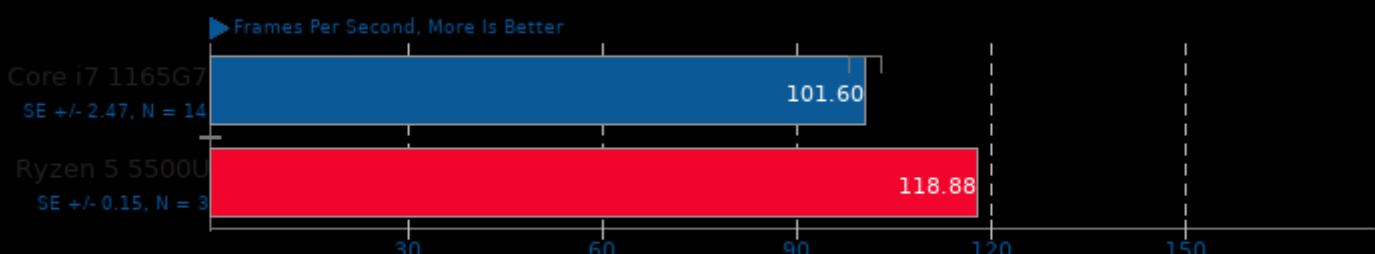
Tuning: 7 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

## SVT-HEVC 1.5.0

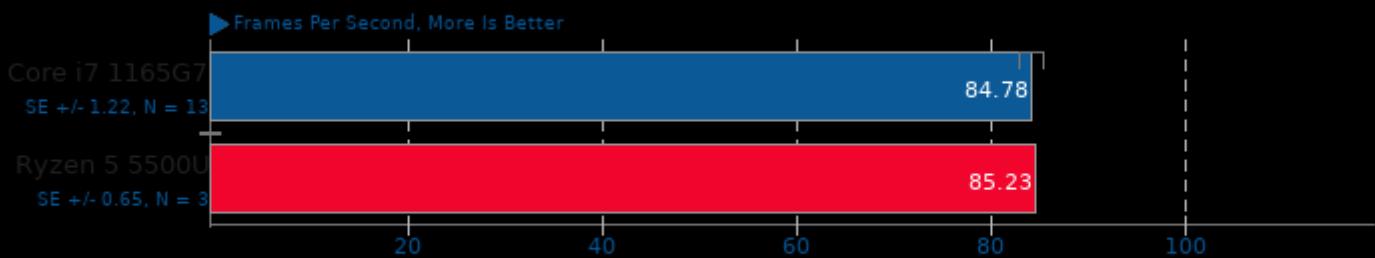
Tuning: 10 - Input: Bosphorus 1080p



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

## SVT-VP9 0.3

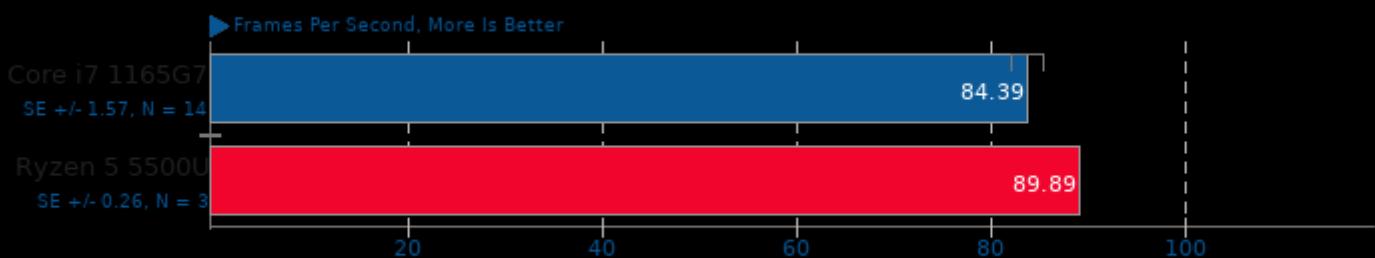
Tuning: VMAF Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

## SVT-VP9 0.3

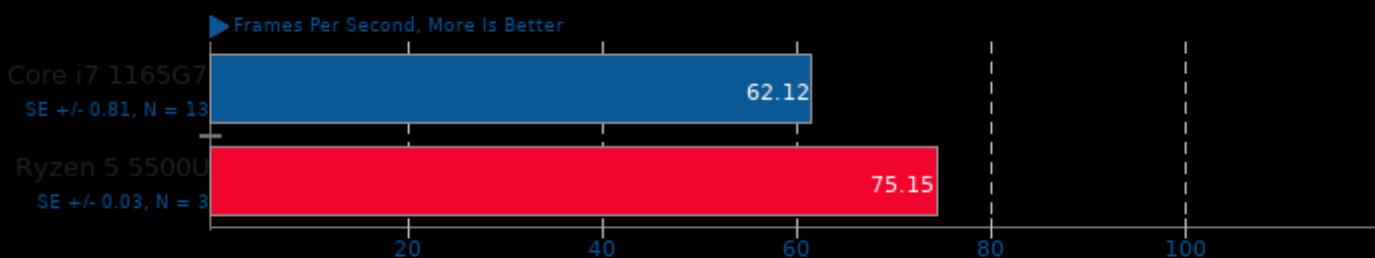
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

## SVT-VP9 0.3

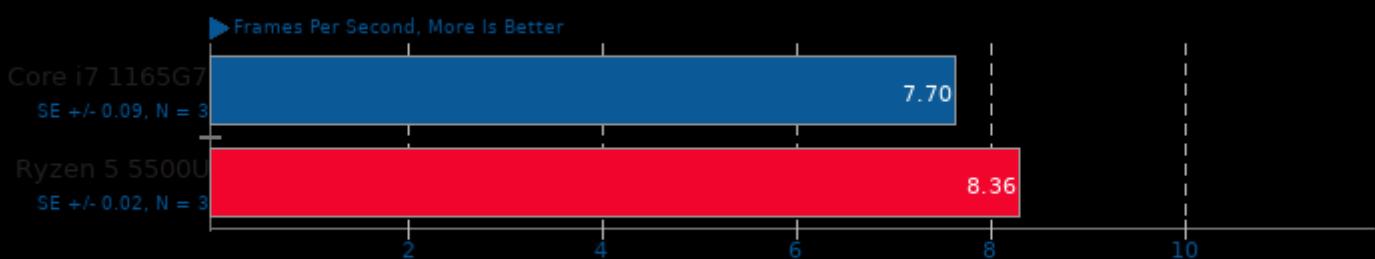
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

## VP9 libvpx Encoding 1.10.0

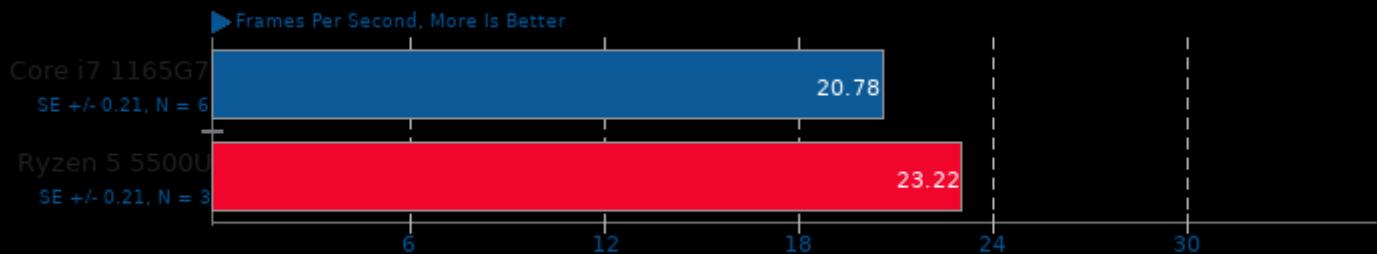
Speed: Speed 5 - Input: Bosphorus 4K



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U\_FORTIFY\_SOURCE -std=gnu++11

## VP9 libvpx Encoding 1.10.0

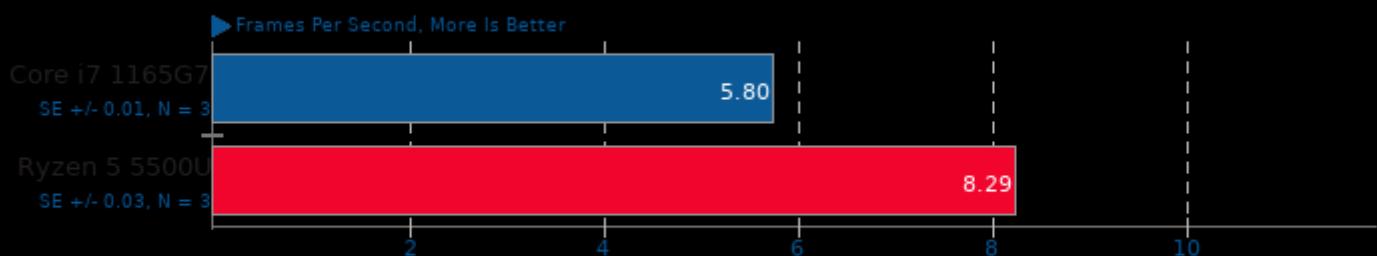
Speed: Speed 5 - Input: Bosphorus 1080p



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U\_FORTIFY\_SOURCE -std=gnu++11

## x265 3.4

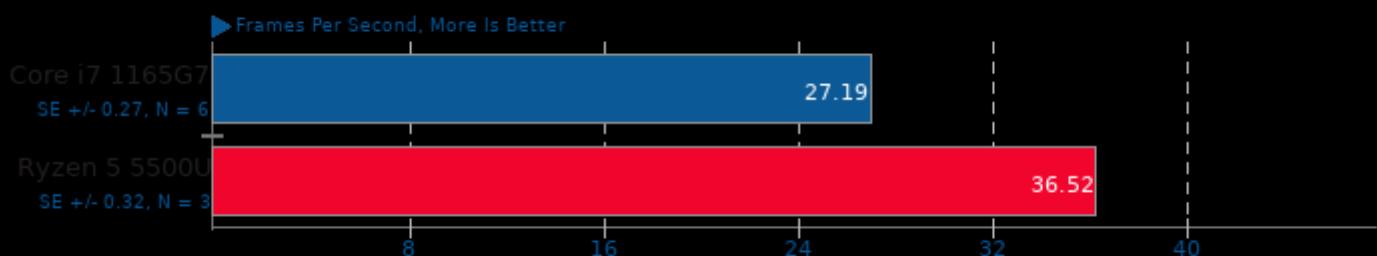
Video Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

## x265 3.4

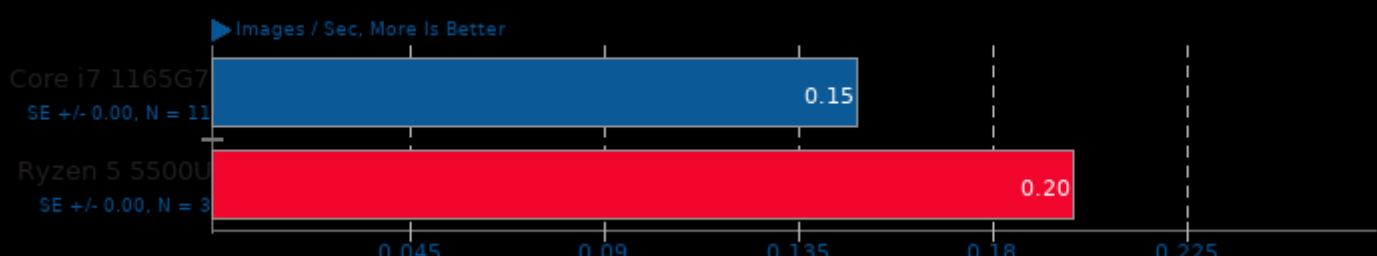
Video Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

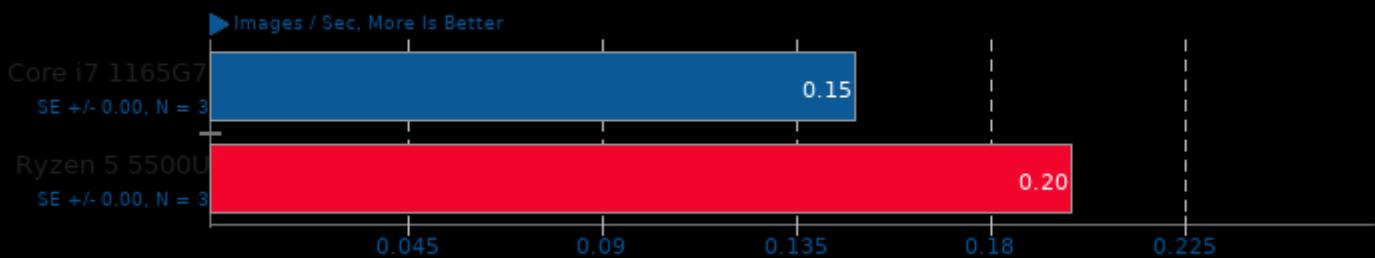
## Intel Open Image Denoise 1.4.0

Run: RT.hdr\_alb\_nrm.3840x2160



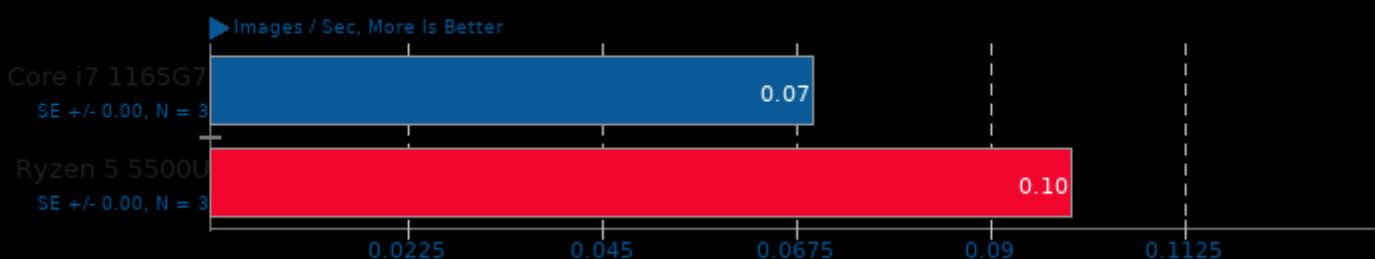
## Intel Open Image Denoise 1.4.0

Run: RT.Idr\_alb\_nrm.3840x2160



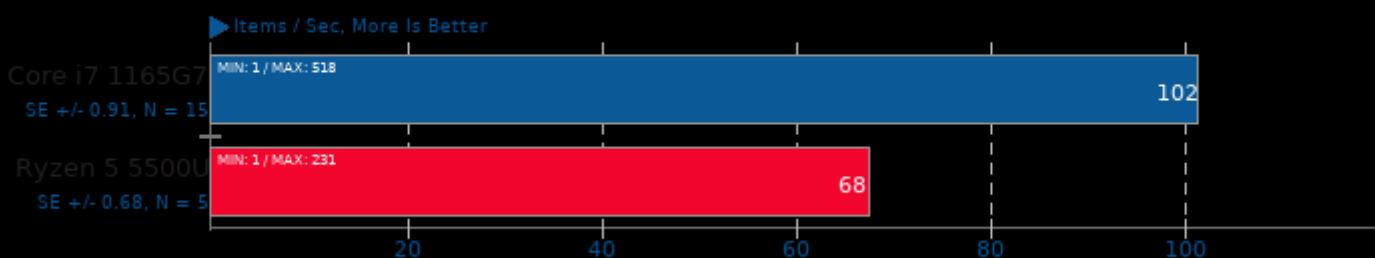
## Intel Open Image Denoise 1.4.0

Run: RTLightmap.hdr.4096x4096



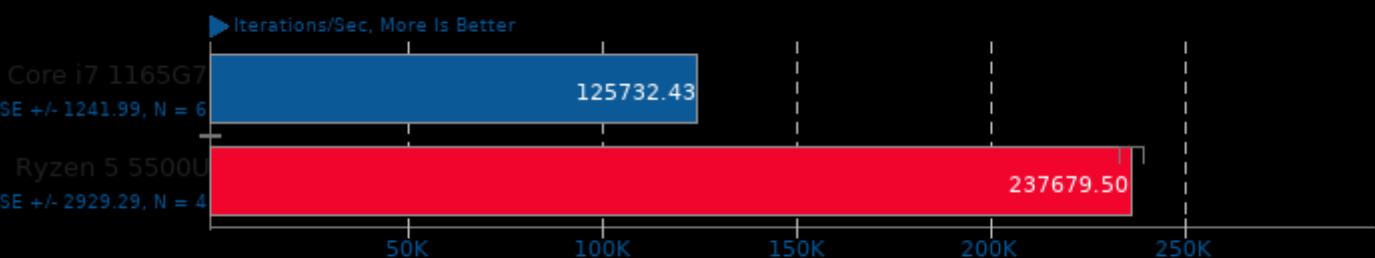
## OpenVKL 0.9

Benchmark: vklBenchmark



## Coremark 1.0

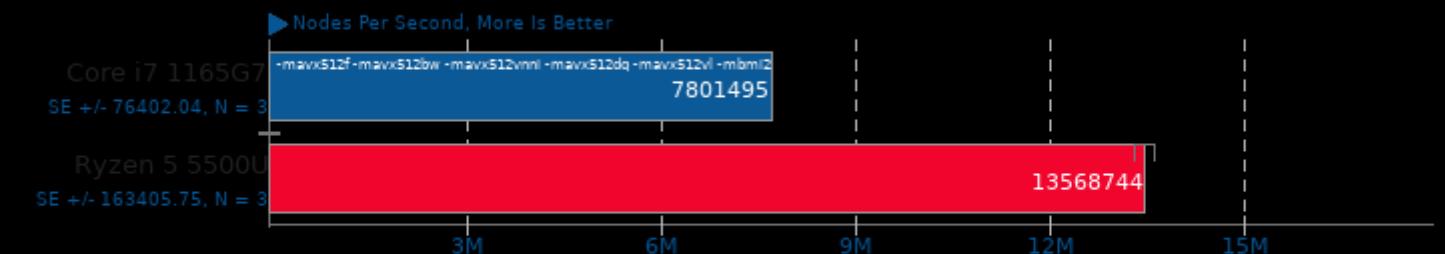
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fintc -firt

## Stockfish 13

Total Time



1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt -

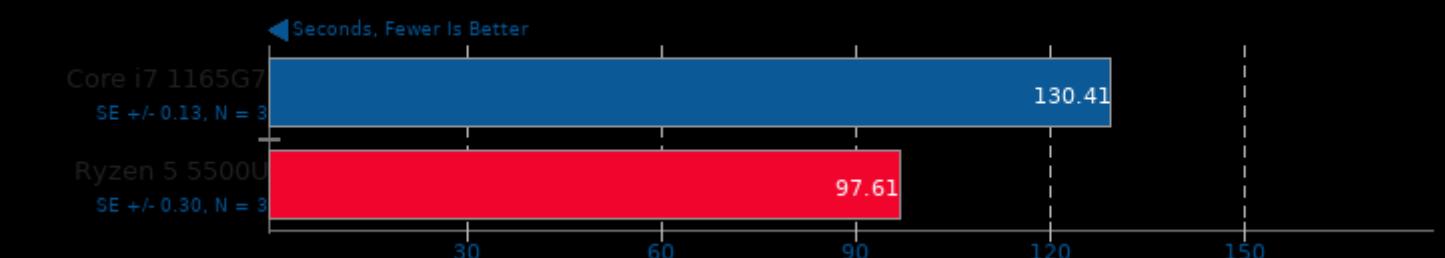
## asmFish 2018-07-23

1024 Hash Memory, 26 Depth



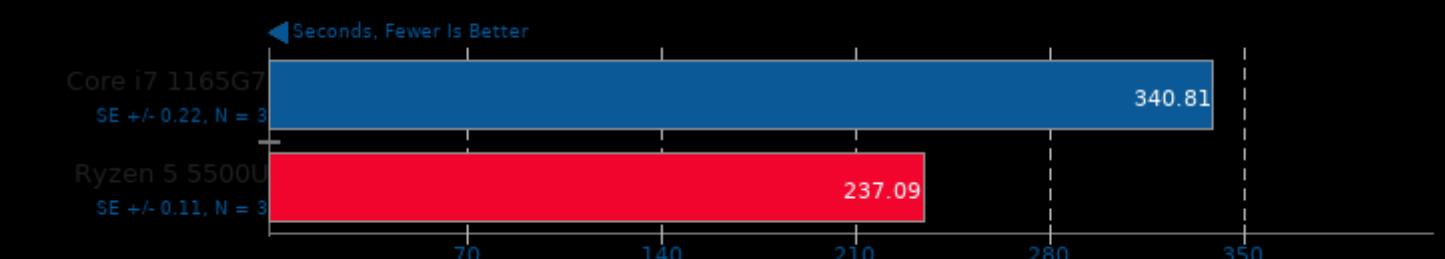
## Timed GDB GNU Debugger Compilation 10.2

Time To Compile



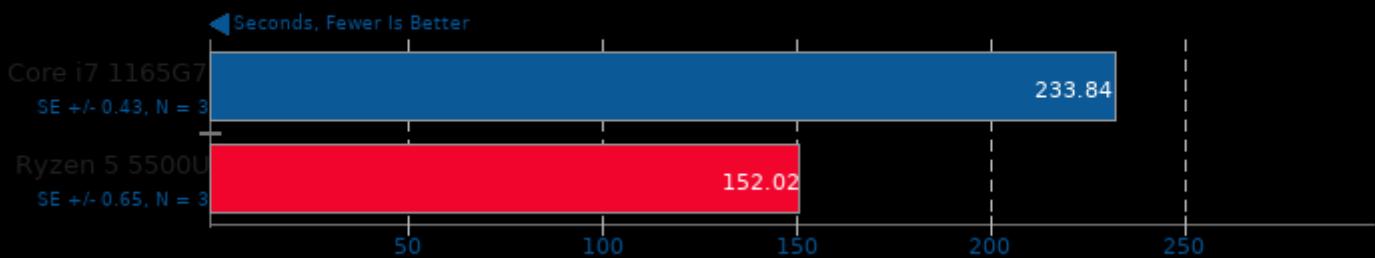
## Timed Godot Game Engine Compilation 3.2.3

Time To Compile



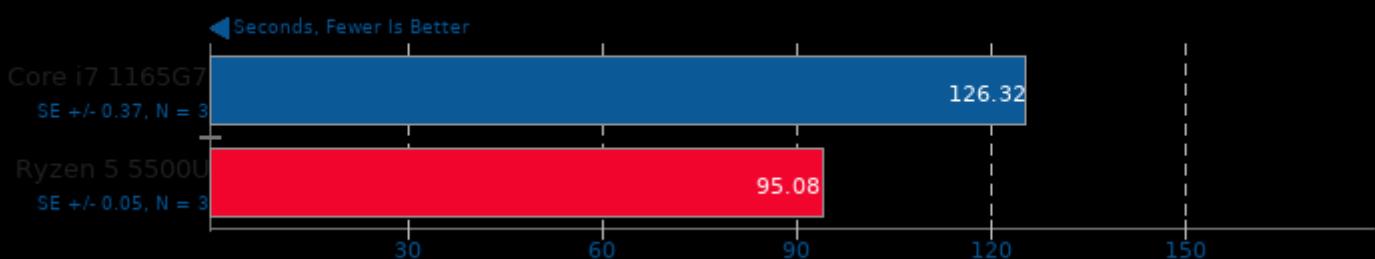
## Timed Linux Kernel Compilation 5.10.20

Time To Compile



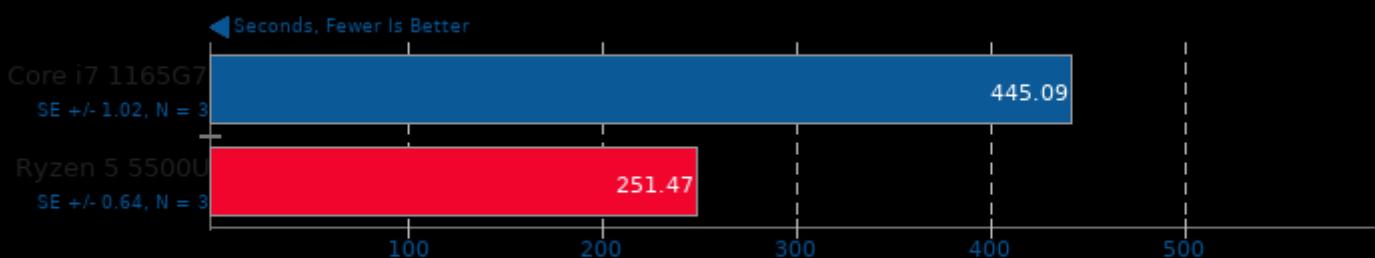
## Timed Mesa Compilation 21.0

Time To Compile



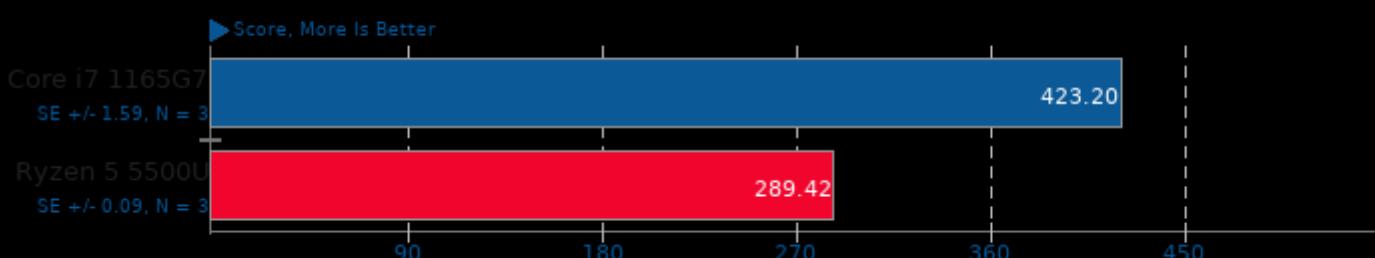
## YafaRay 3.4.1

Total Time For Sample Scene



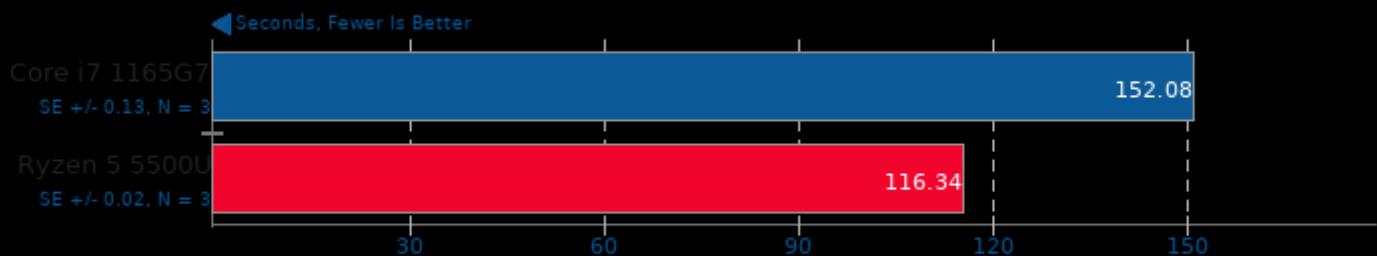
1. (CXX) g++ options: -std=c++11 -O3 -ffast-math -rdynamic -ldl -lmath -lmlmf -lex -lHalf -lz -lmlThread -lxml2 -lfreetype -lpthread

## Numpy Benchmark



## Timed Wasmer Compilation 1.0.2

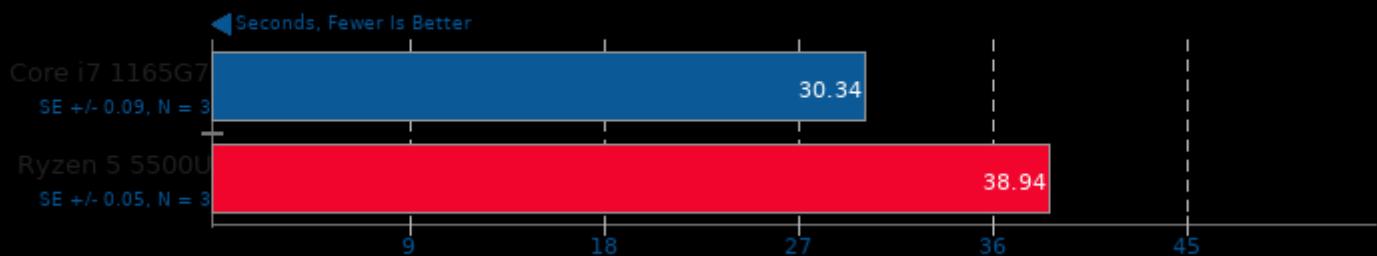
Time To Compile



l, (CC) gcc options: -m64 -pie -nodefaultlibs -ldl -lgcc\_s -util -lrt -lpthread -lm -lc

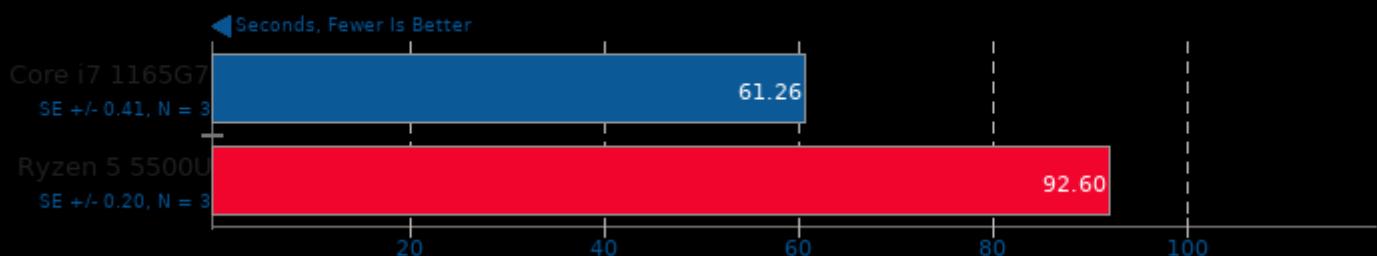
## Gzip Compression

Linux Source Tree Archiving To .tar.gz



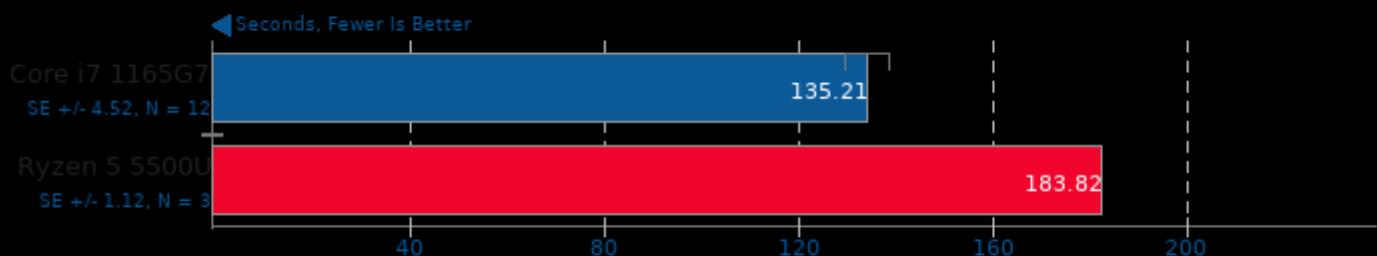
## DeepSpeech 0.6

Acceleration: CPU



## Ngspice 34

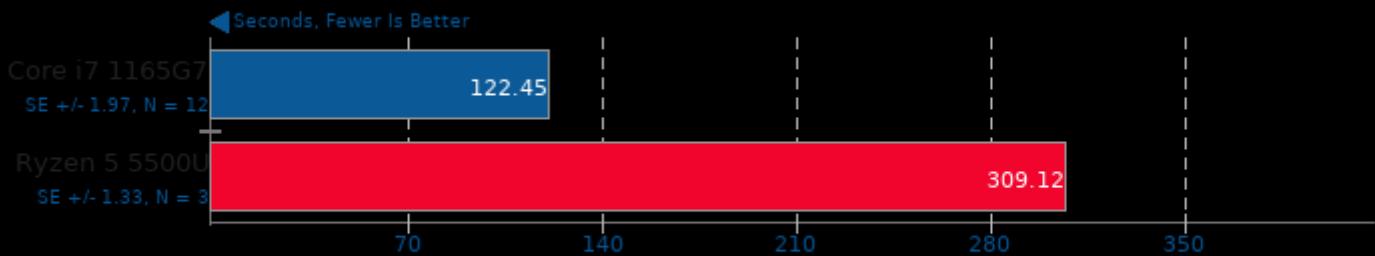
Circuit: C2670



l, (CC) gcc options: -O0 -fopenmp -lm -stdc++ -lftw3 -Xaw -Xmu -Xt -Xext -X11 -Xft -lfontconfig -Xrender -lfreetype -lSM -lICE

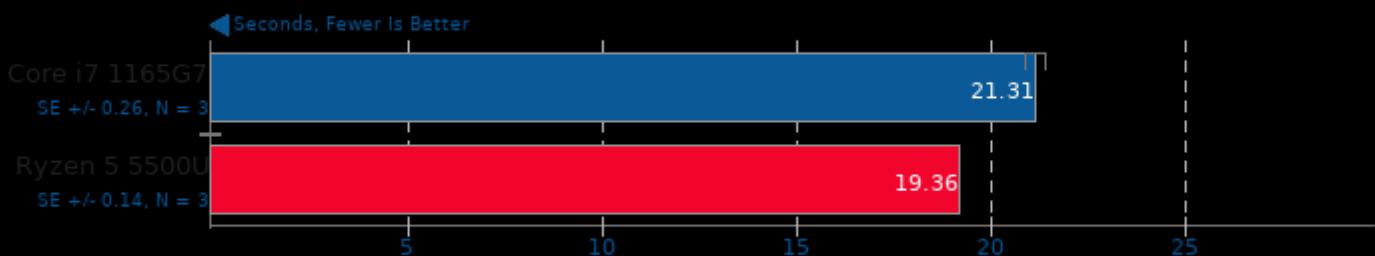
## Ngspice 34

Circuit: C7552



1. (CC) gcc options: -O0 -fopenmp -lm -stdc++ -lftw3 -Xaw -Xmu -Xt -Xext -X11 -Xft -lfontconfig -Xrender -lfreetype -lSM -lICE

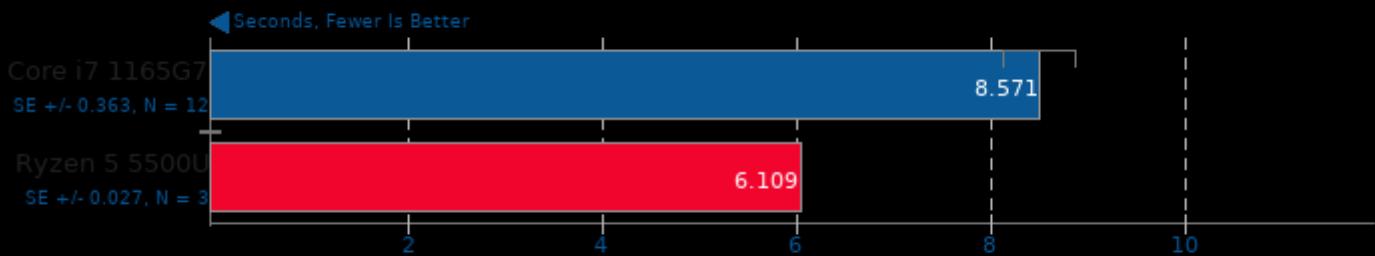
## RNNoise 2020-06-28



1. (CC) gcc options: -O2 -pedantic -fvisibility=hidden

## WebP2 Image Encode 20210126

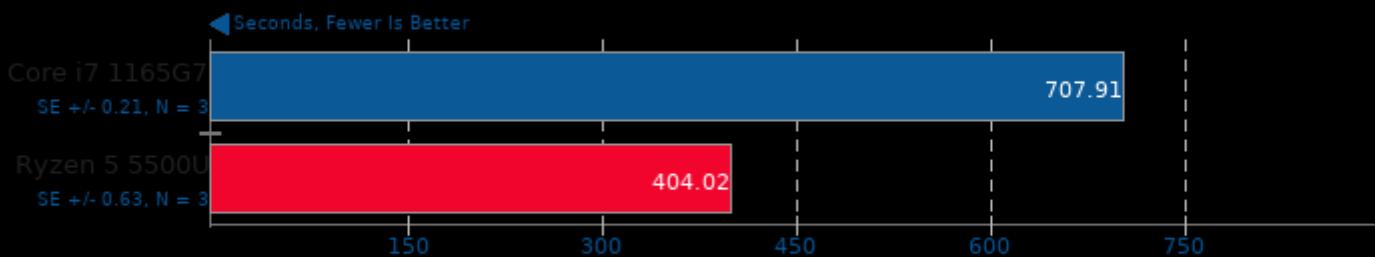
Encode Settings: Default



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -rdynamic -lOpenGL -lGLX -lGLU -lglut -lXmu -lXi -lpthread -ljpeg

## WebP2 Image Encode 20210126

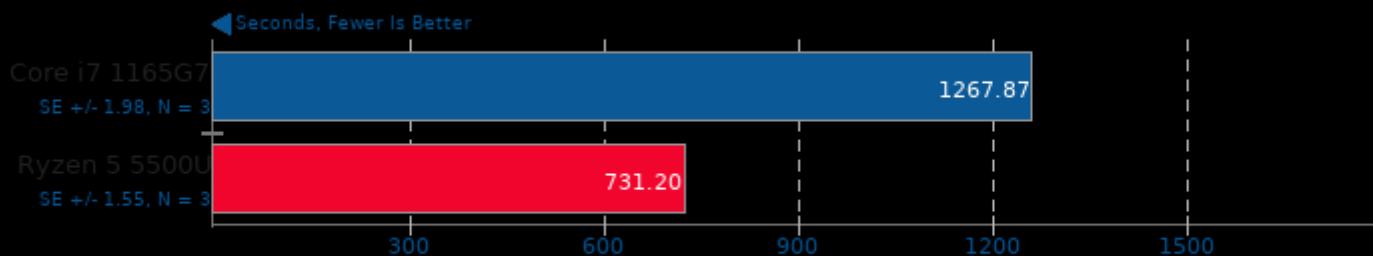
Encode Settings: Quality 75, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -rdynamic -lOpenGL -lGLX -lGLU -lglut -lXmu -lXi -lpthread -ljpeg

## WebP2 Image Encode 20210126

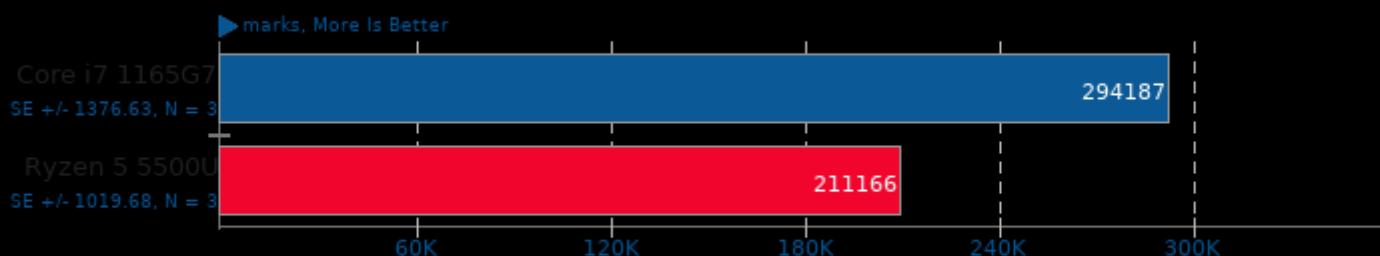
Encode Settings: Quality 95, Compression Effort 7



1. (CXX) g++ options: -mssse4.2 -fno-rtti -O3 -rdynamic -lOpenGL -lGLX -lGLU -lglut -lXmu -lXi -lpthread -ljpeg

## SecureMark 1.0.4

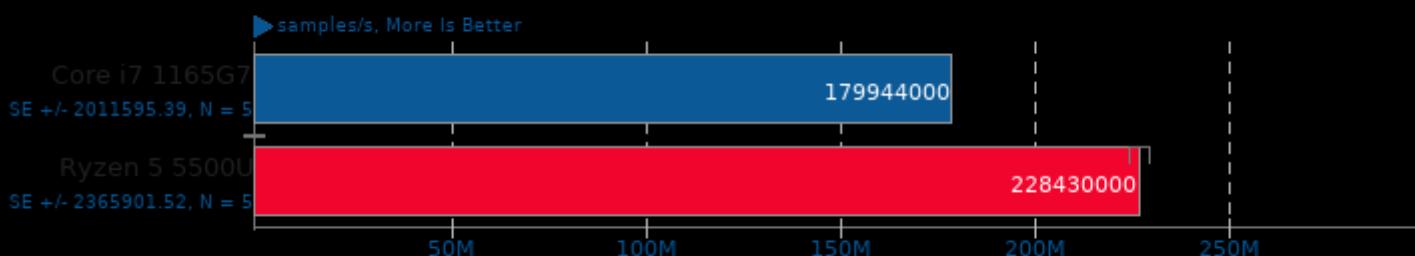
Benchmark: SecureMark-TLS



1. (CC) gcc options: -pedantic -O3

## Liquid-DSP 2021.01.31

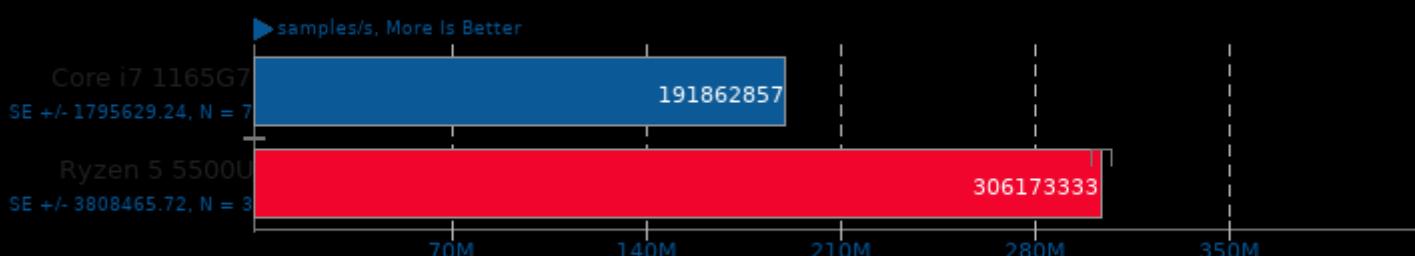
Threads: 4 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid

## Liquid-DSP 2021.01.31

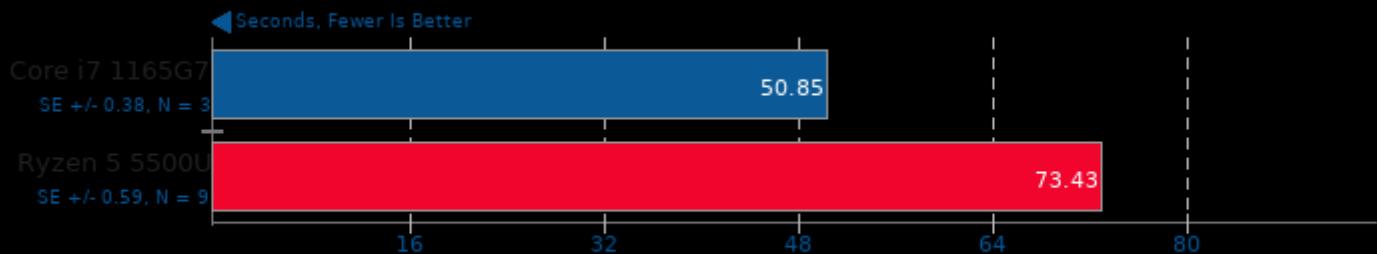
Threads: 8 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid

## SQLite Speedtest 3.30

Timed Time - Size 1,000



1. (CC) gcc options: -O2 -ldl -lz -lpthread

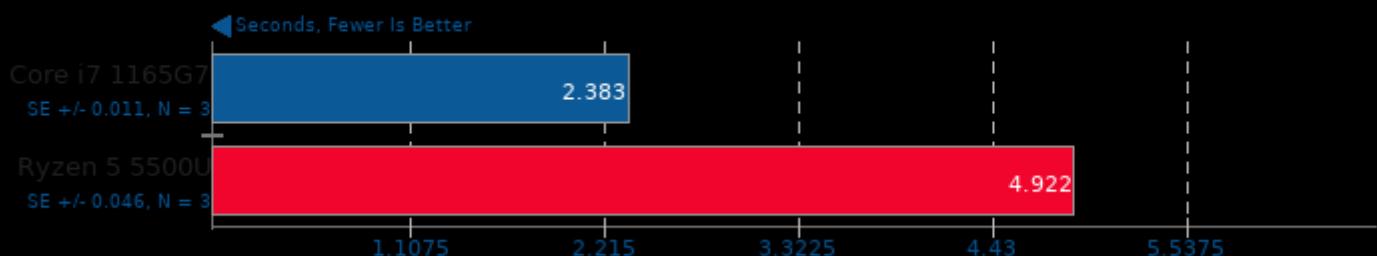
## KTX-Software toktx 4.0

Settings: UASTC 3



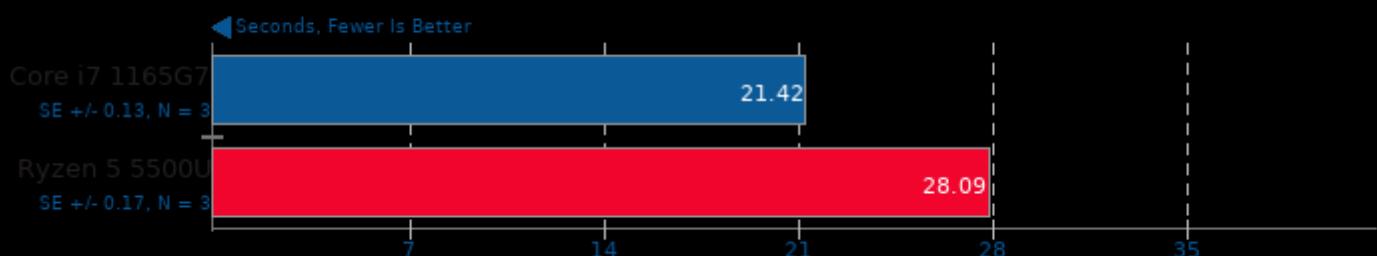
## KTX-Software toktx 4.0

Settings: Zstd Compression 9



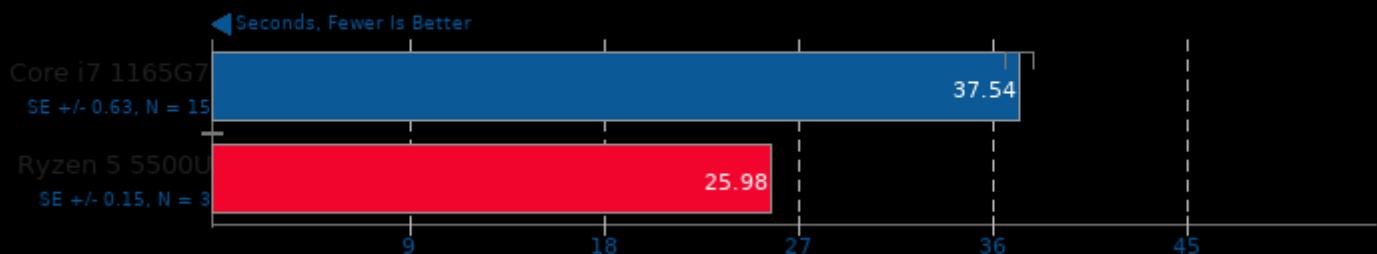
## KTX-Software toktx 4.0

Settings: Zstd Compression 19



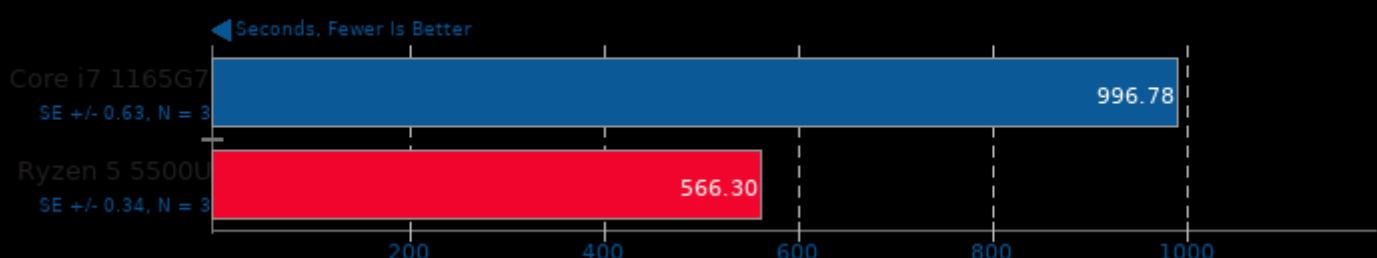
## KTX-Software toktx 4.0

Settings: UASTC 3 + Zstd Compression 19



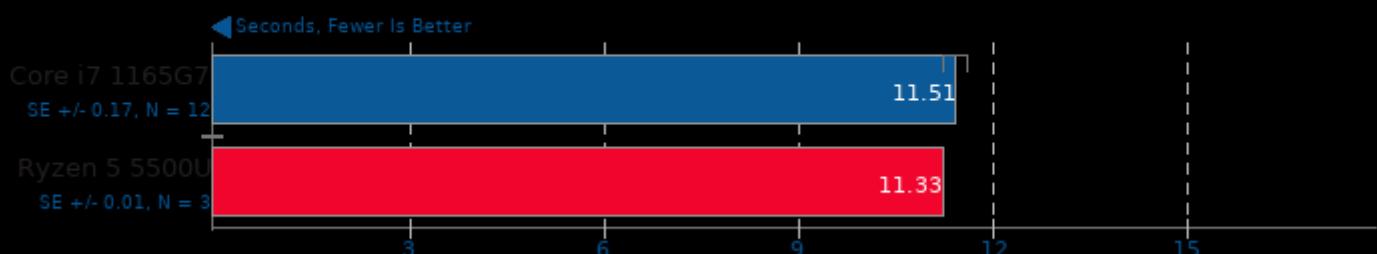
## KTX-Software toktx 4.0

Settings: UASTC 4 + Zstd Compression 19



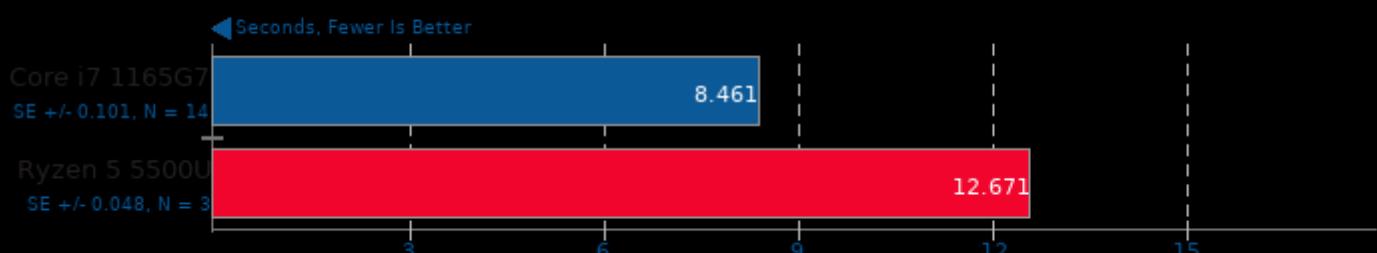
## Darktable 3.4.1

Test: Boat - Acceleration: CPU-only



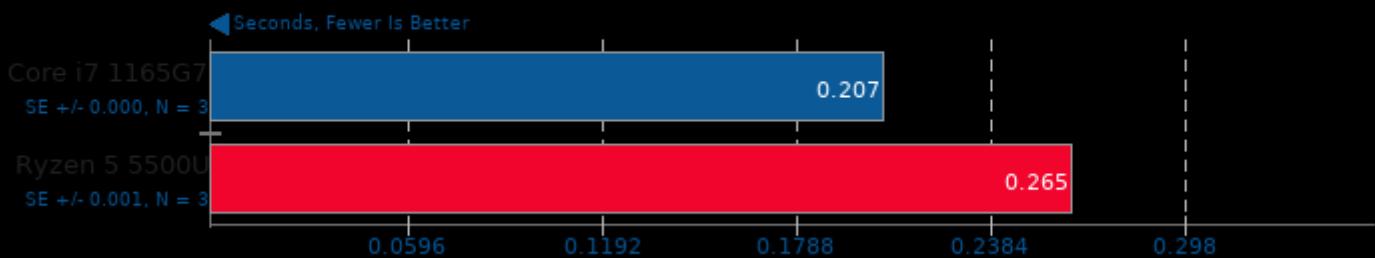
## Darktable 3.4.1

Test: Masskrug - Acceleration: CPU-only



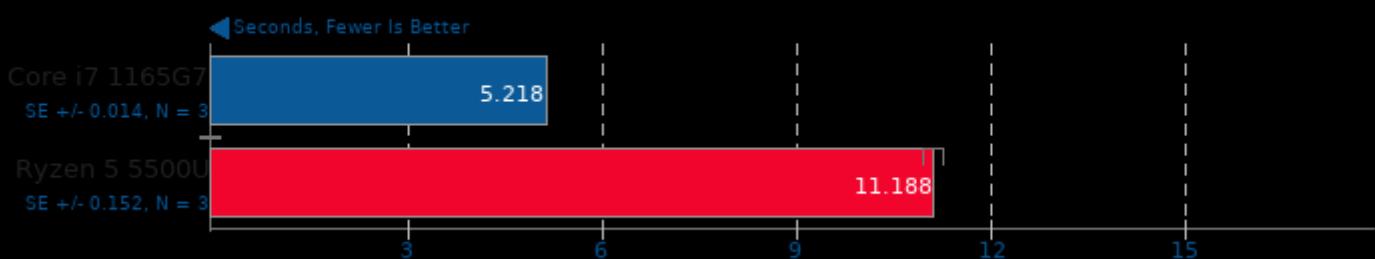
## Darktable 3.4.1

Test: Server Rack - Acceleration: CPU-only



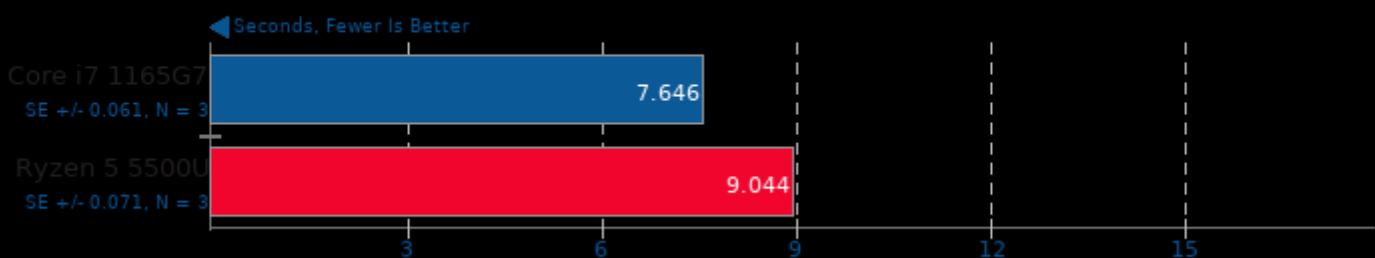
## Darktable 3.4.1

Test: Server Room - Acceleration: CPU-only



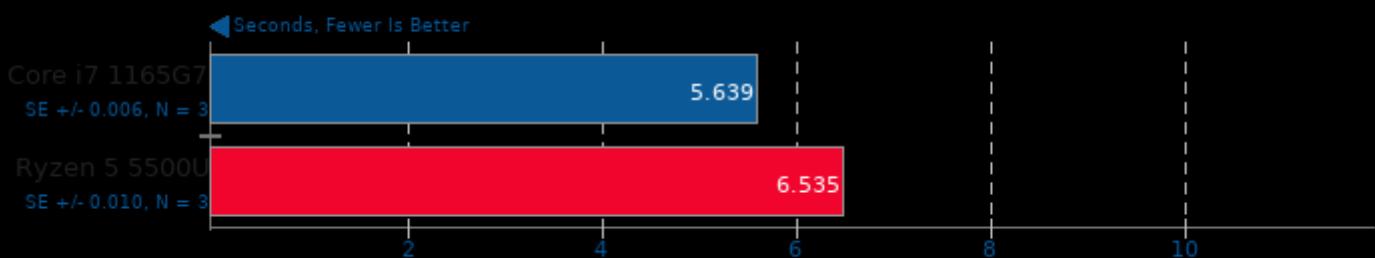
## GEGL

Operation: Crop



## GEGL

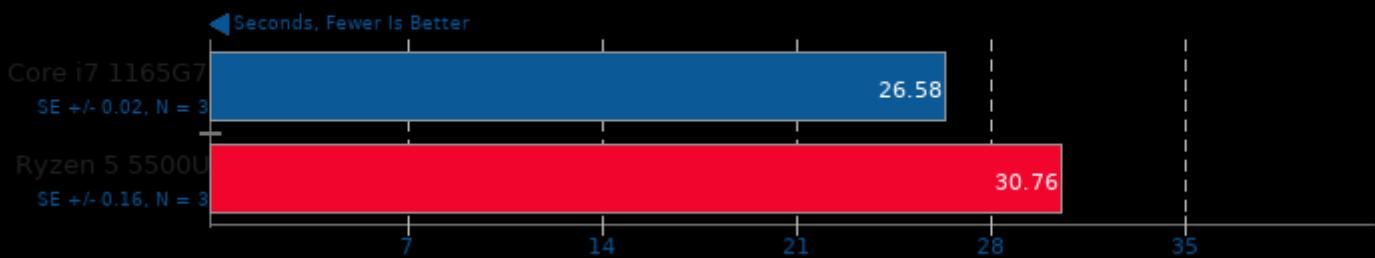
Operation: Scale



## Laptop Compute

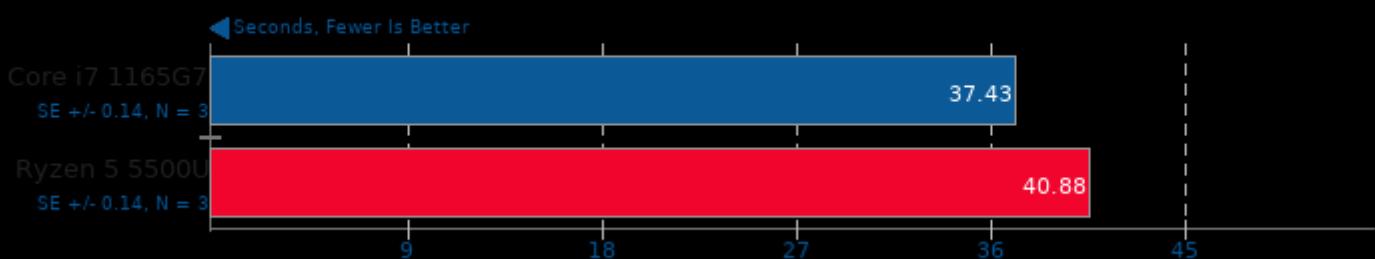
### GEGL

Operation: Reflect



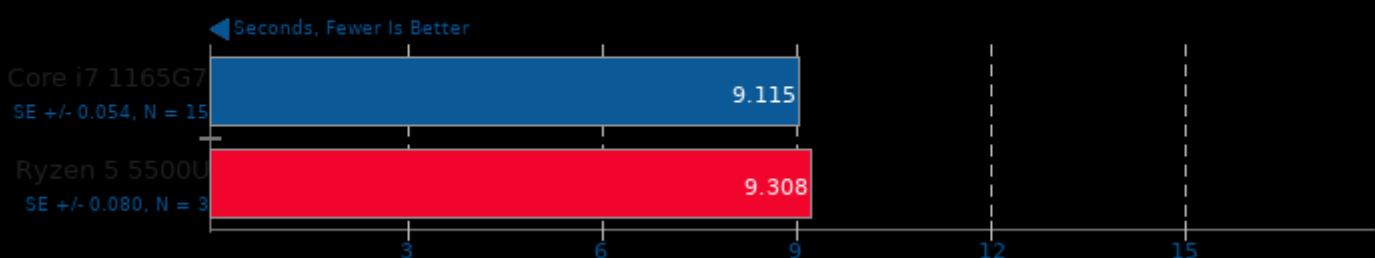
### GEGL

Operation: Rotate 90 Degrees



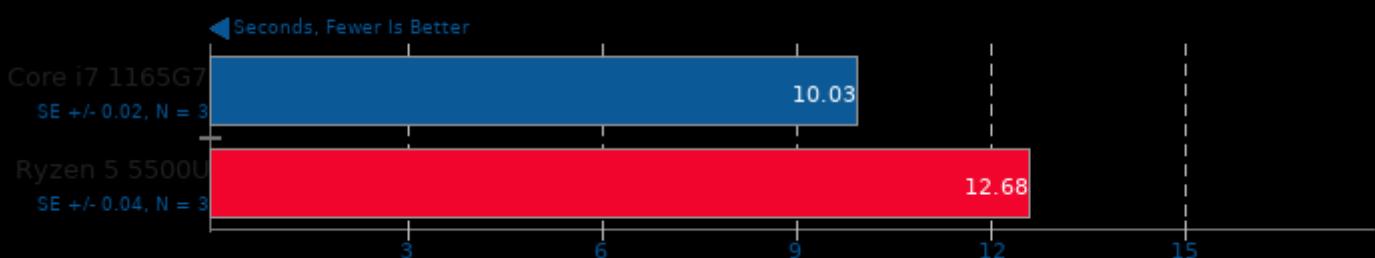
### GIMP 2.10.22

Test: resize



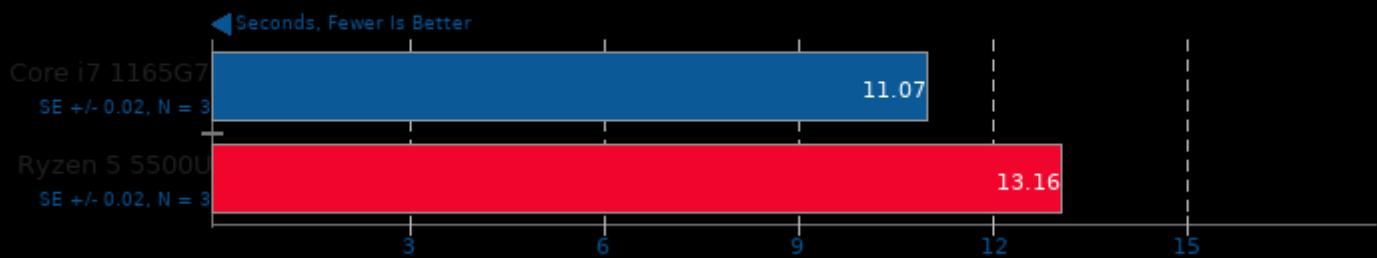
### GIMP 2.10.22

Test: rotate



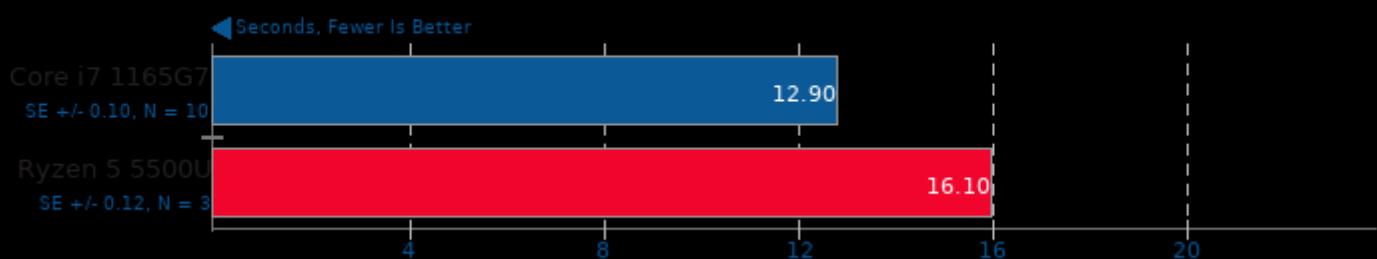
## GIMP 2.10.22

Test: auto-levels



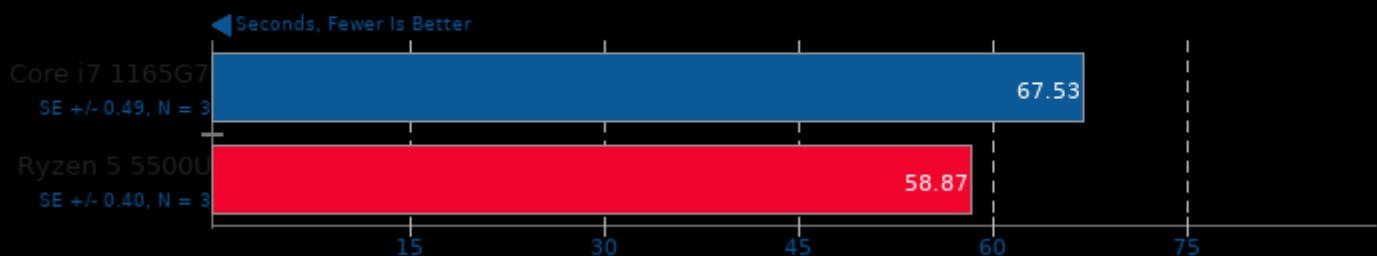
## GIMP 2.10.22

Test: unsharp-mask



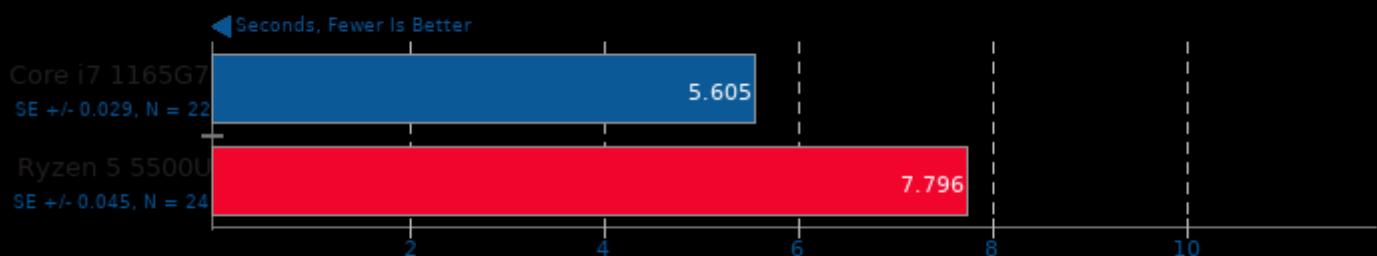
## Hugin

Panorama Photo Assistant + Stitching Time



## LibreOffice

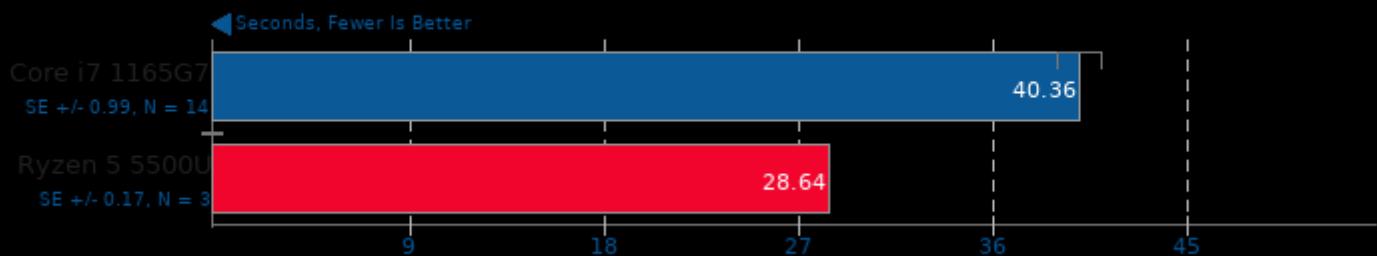
Test: 20 Documents To PDF



1. LibreOffice 7.1.4.2 10(Build:2)

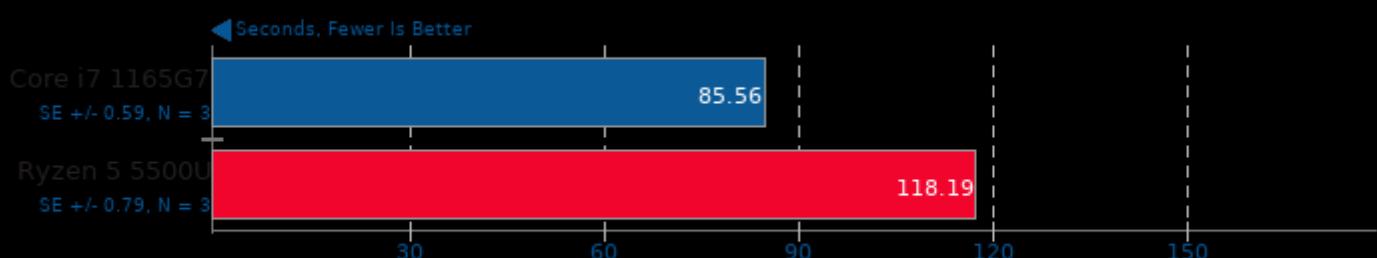
## OCRMyPDF 10.3.1+dfsg

Processing 60 Page PDF Document



## OpenSCAD

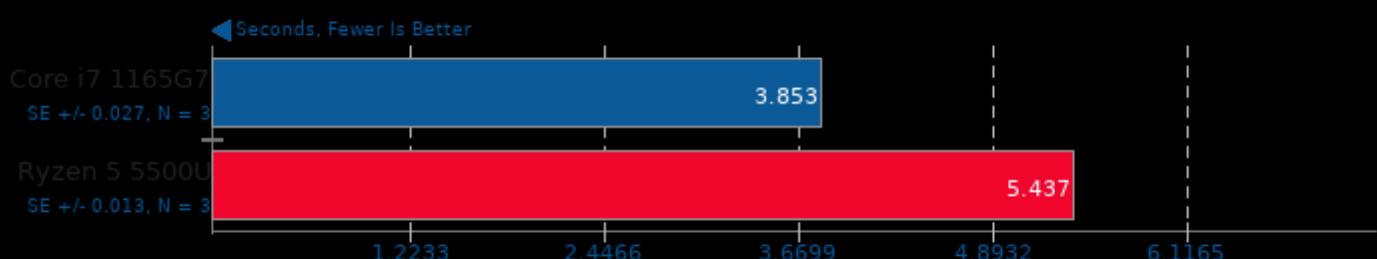
Render: Pistol



1. OpenSCAD version 2021.01

## OpenSCAD

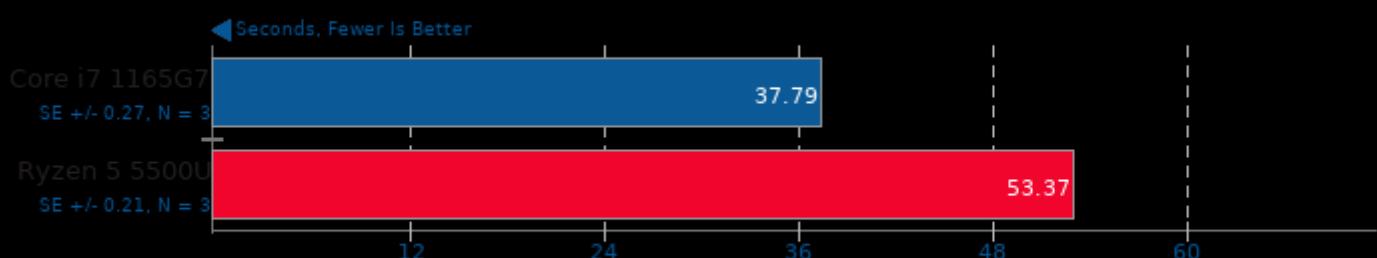
Render: Retro Car



1. OpenSCAD version 2021.01

## OpenSCAD

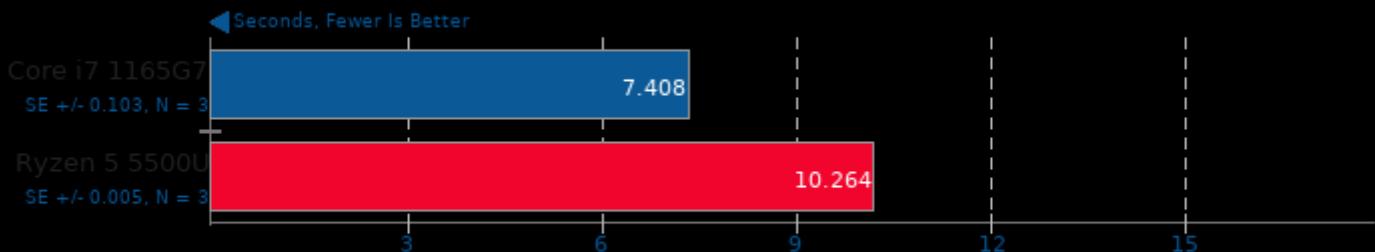
Render: Mini-ITX Case



1. OpenSCAD version 2021.01

## OpenSCAD

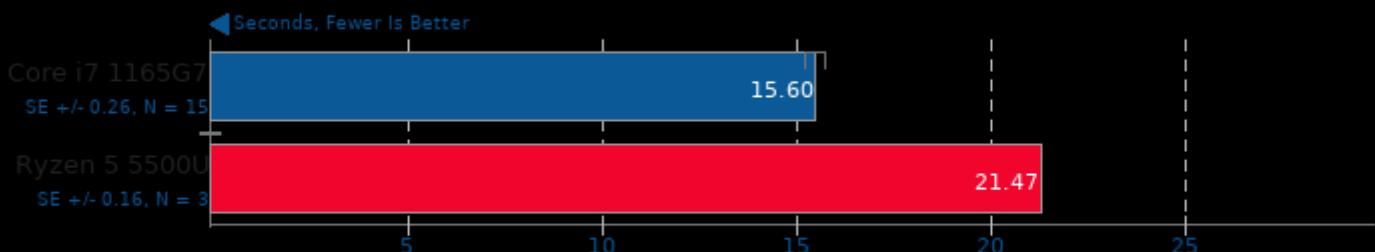
Render: Projector Mount Swivel



1. OpenSCAD version 2021.01

## OpenSCAD

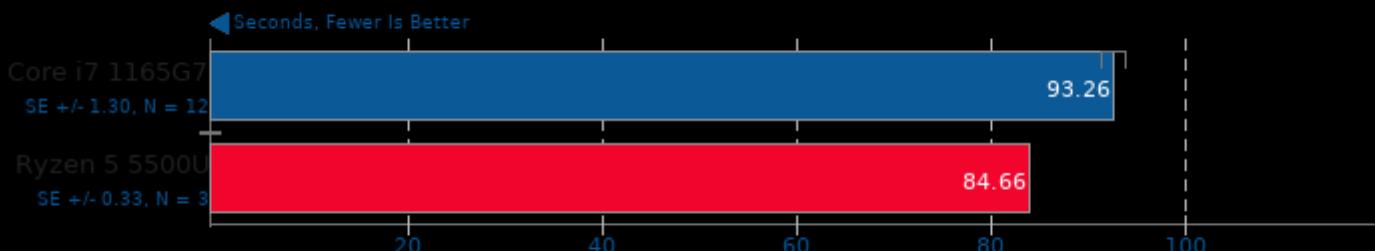
Render: Leonardo Phone Case Slim



1. OpenSCAD version 2021.01

## RawTherapee

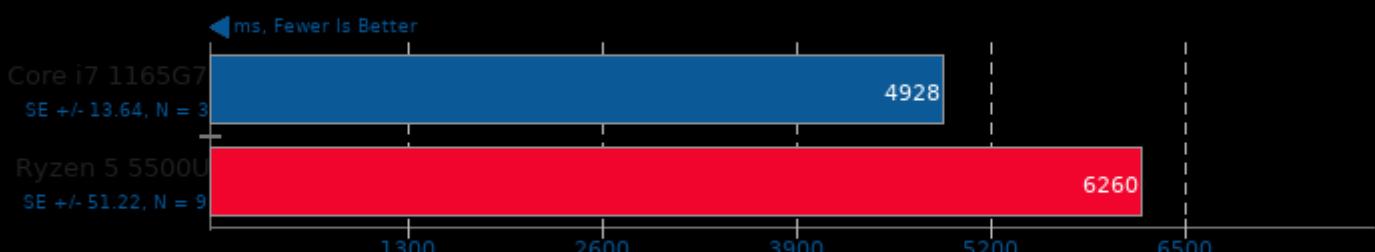
Total Benchmark Time



1. RawTherapee, version 5.8, command line.

## Google Draco 1.4.1

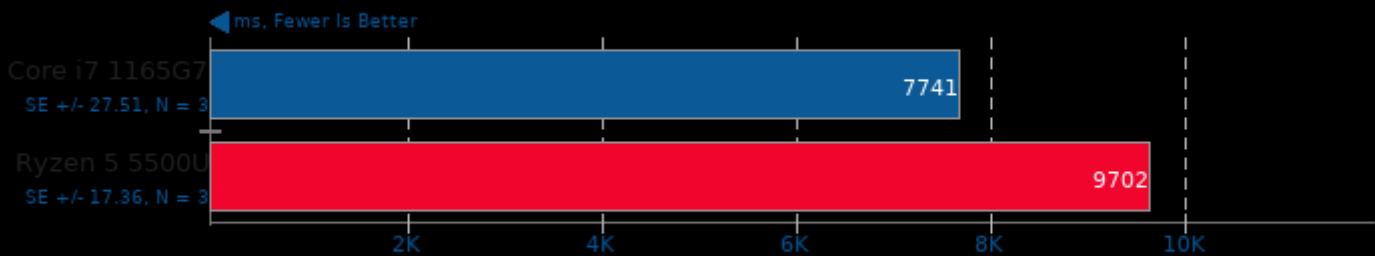
Model: Lion



1. (CXX) g++ options: -O3

## Google Draco 1.4.1

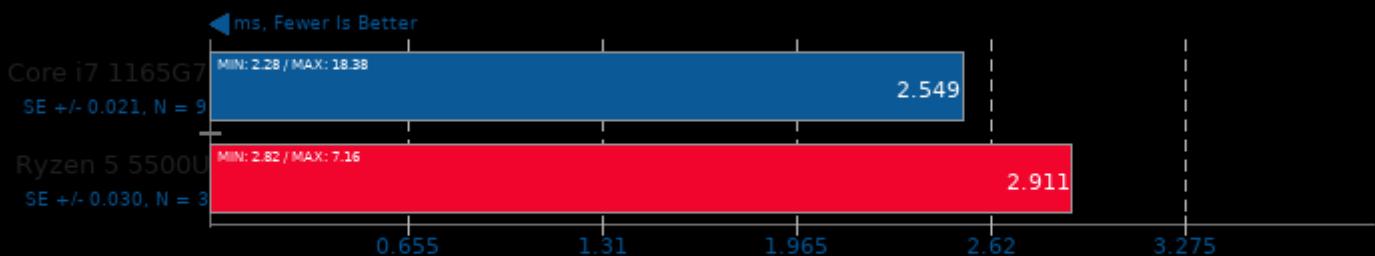
Model: Church Facade



1. (CXX) g++ options: -O3

## Mobile Neural Network 1.2

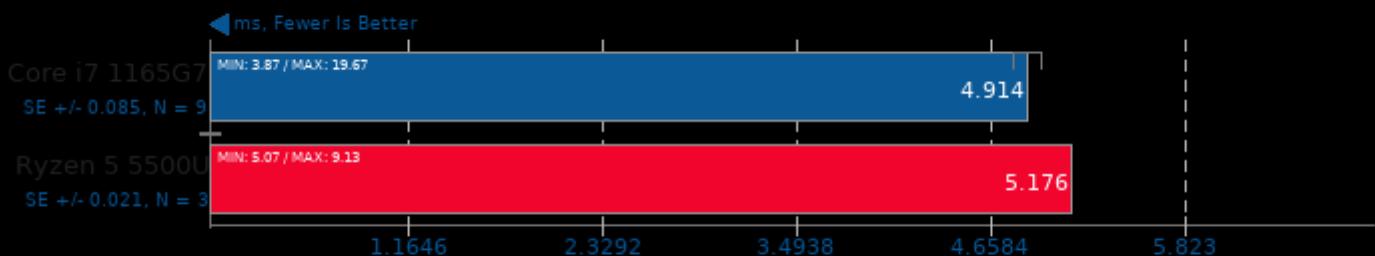
Model: mobilenetV3



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

## Mobile Neural Network 1.2

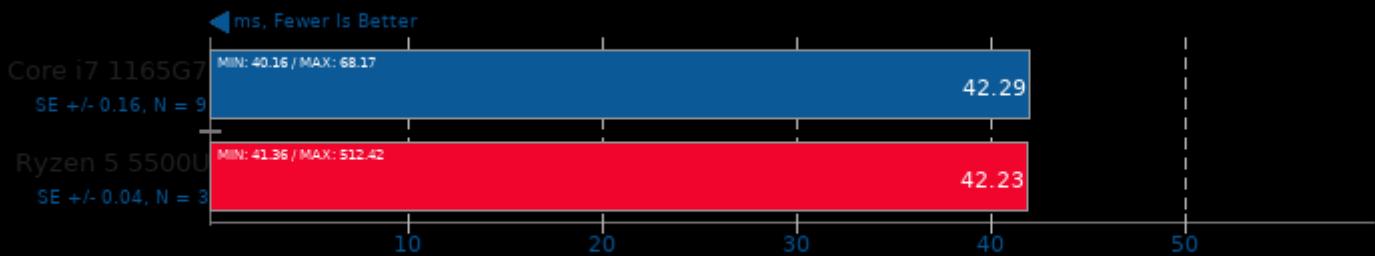
Model: squeezenetv1.1



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

## Mobile Neural Network 1.2

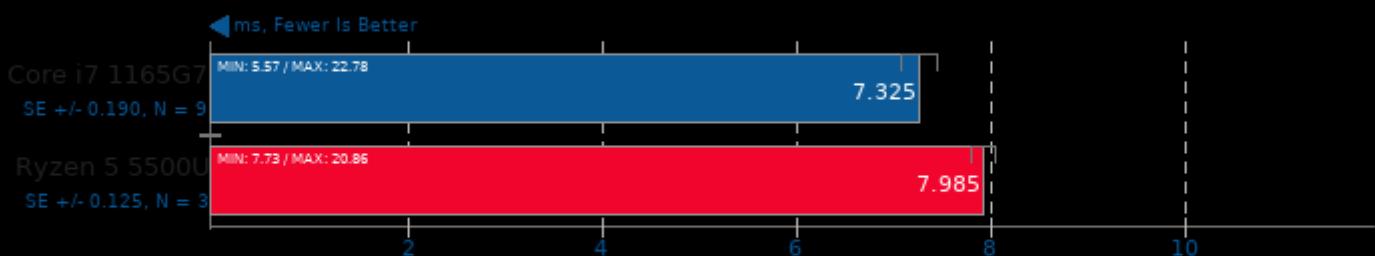
Model: resnet-v2-50



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

## Mobile Neural Network 1.2

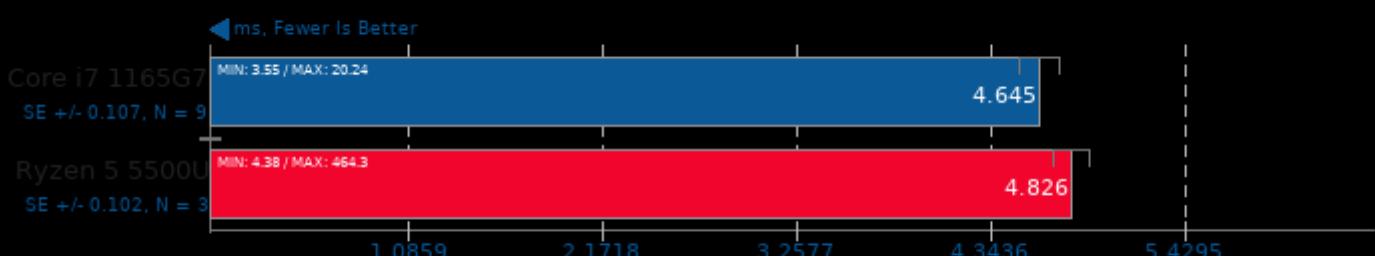
Model: SqueezeNetV1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

## Mobile Neural Network 1.2

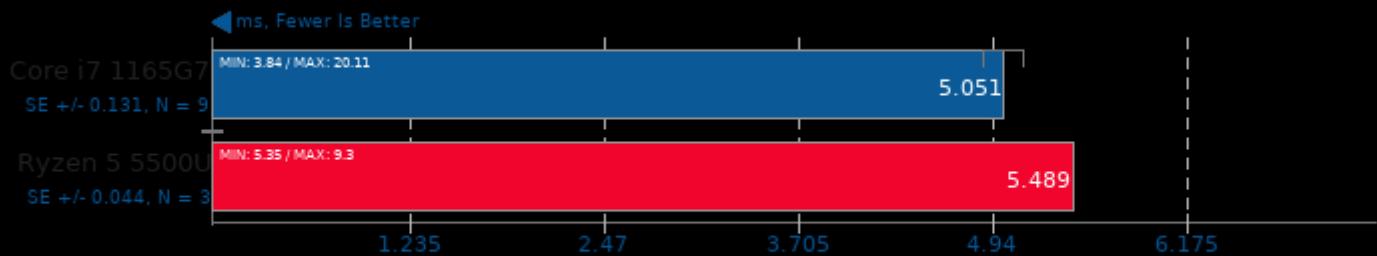
Model: MobileNetV2\_224



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

## Mobile Neural Network 1.2

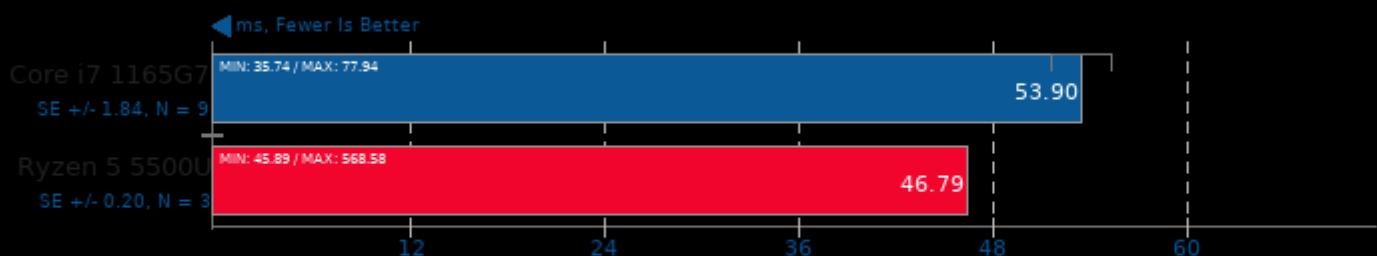
Model: mobilenet-v1-1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

## Mobile Neural Network 1.2

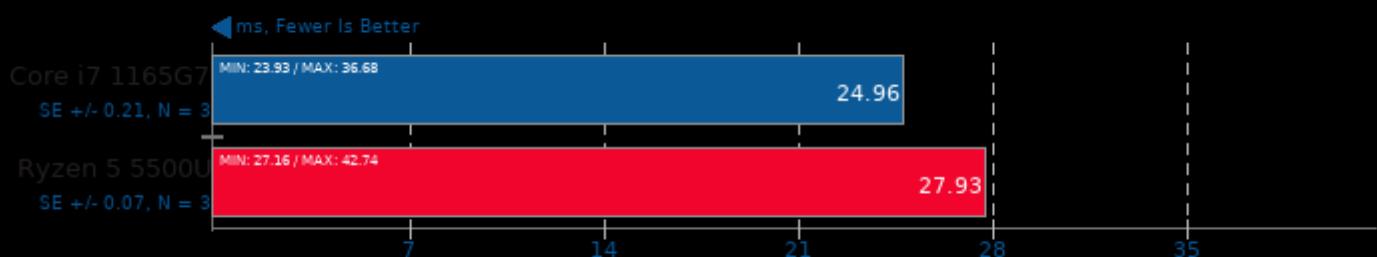
Model: inception-v3



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

## NCNN 20210525

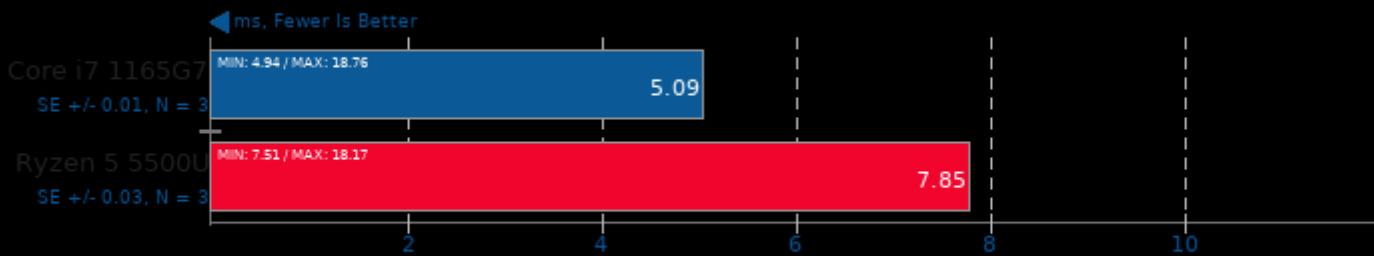
Target: CPU - Model: mobilenet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

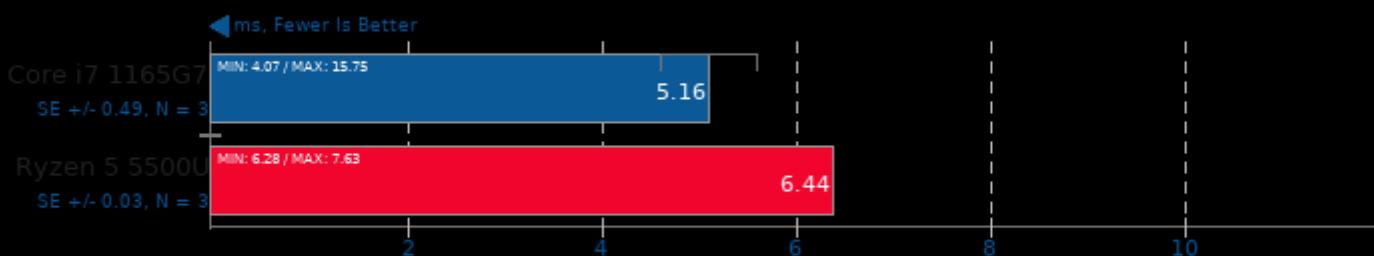
Target: CPU-v2-v2 - Model: mobilenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

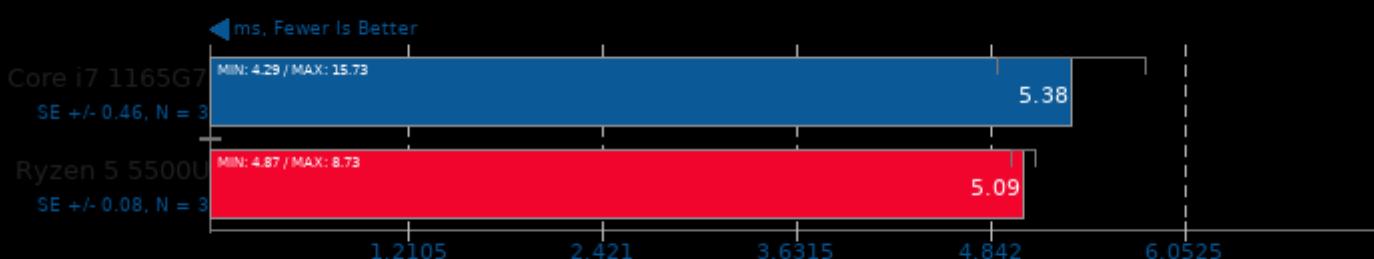
Target: CPU-v3-v3 - Model: mobilenet-v3



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

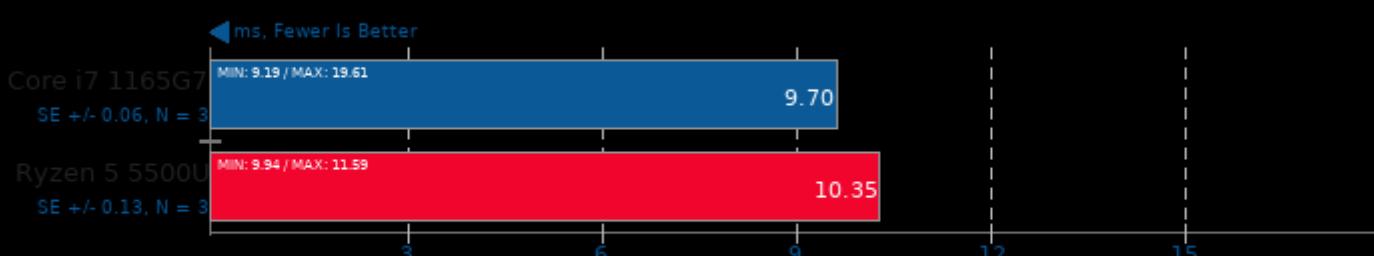
Target: CPU - Model: shufflenet-v2



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

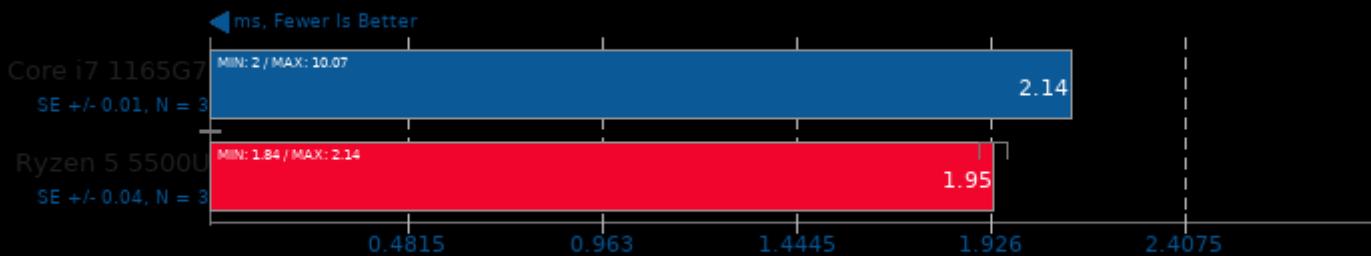
Target: CPU - Model: efficientnet-b0



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

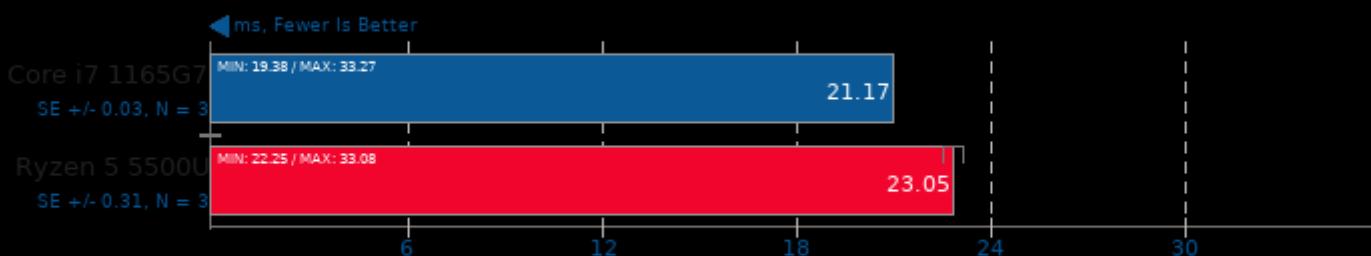
Target: CPU - Model: blazeface



1. (CXX) g++ options: -O3 -rdynamic -lgomp -pthread -pthread

## NCNN 20210525

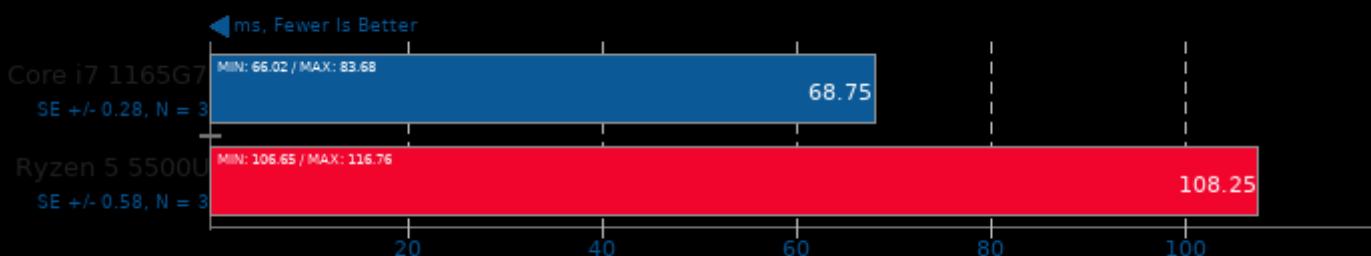
Target: CPU - Model: googlenet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -pthread -pthread

## NCNN 20210525

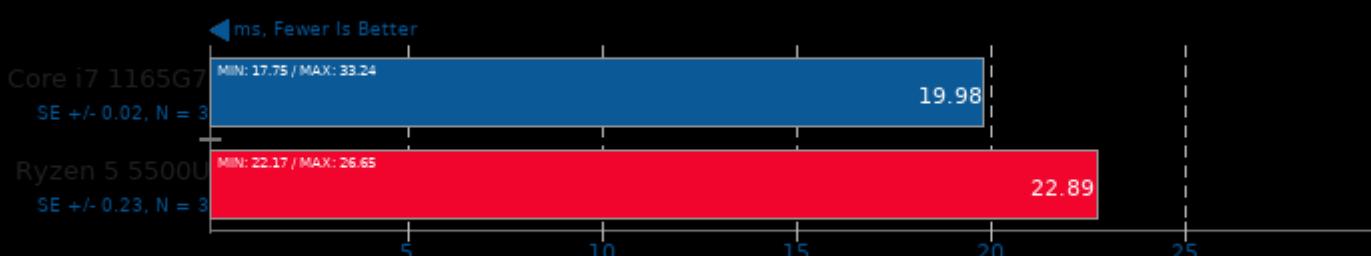
Target: CPU - Model: vgg16



1. (CXX) g++ options: -O3 -rdynamic -lgomp -pthread -pthread

## NCNN 20210525

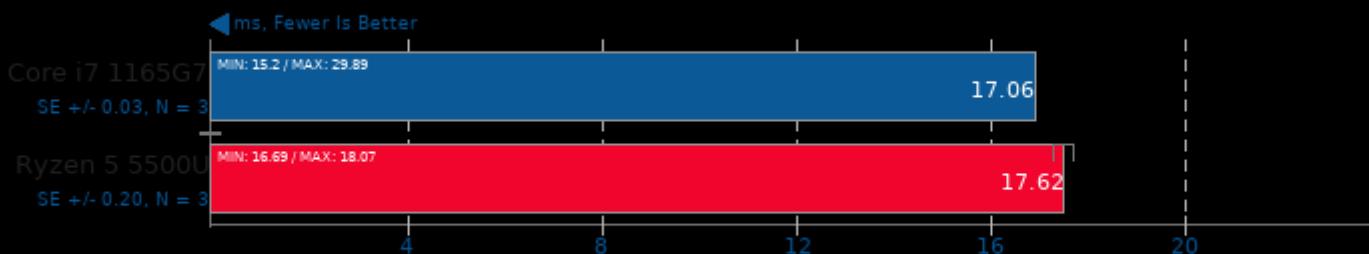
Target: CPU - Model: resnet18



1. (CXX) g++ options: -O3 -rdynamic -lgomp -pthread -pthread

## NCNN 20210525

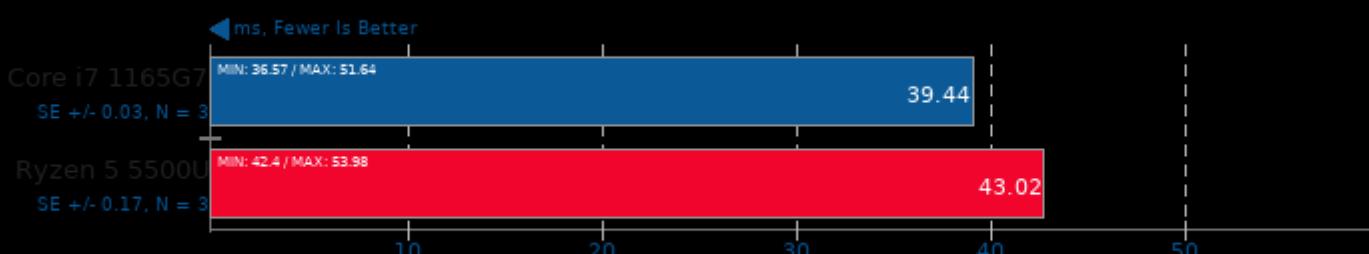
Target: CPU - Model: alexnet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

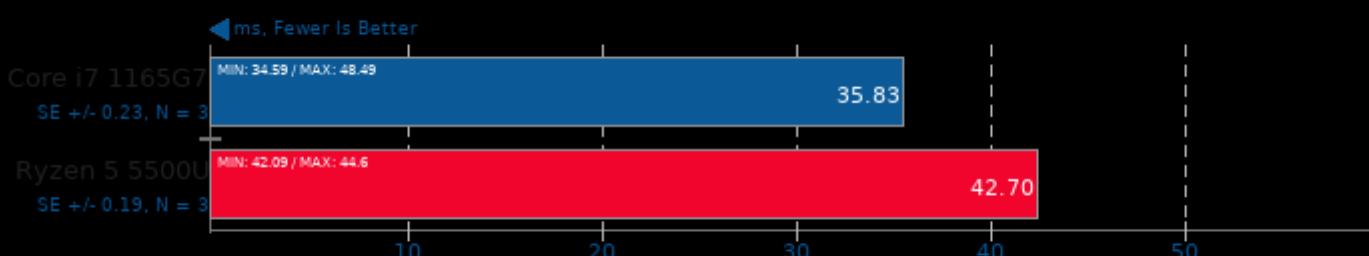
Target: CPU - Model: resnet50



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

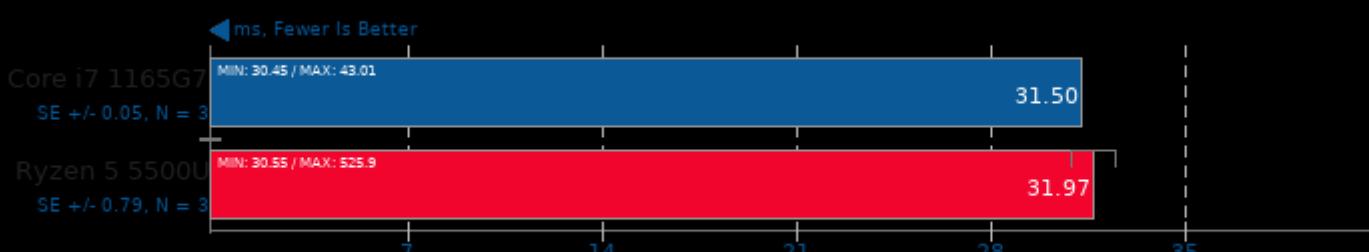
Target: CPU - Model: yolov4-tiny



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

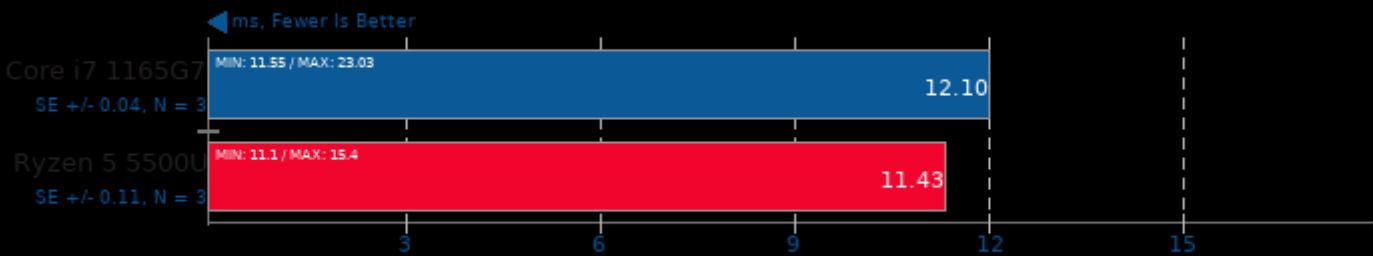
Target: CPU - Model: squeezeenet\_ssd



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

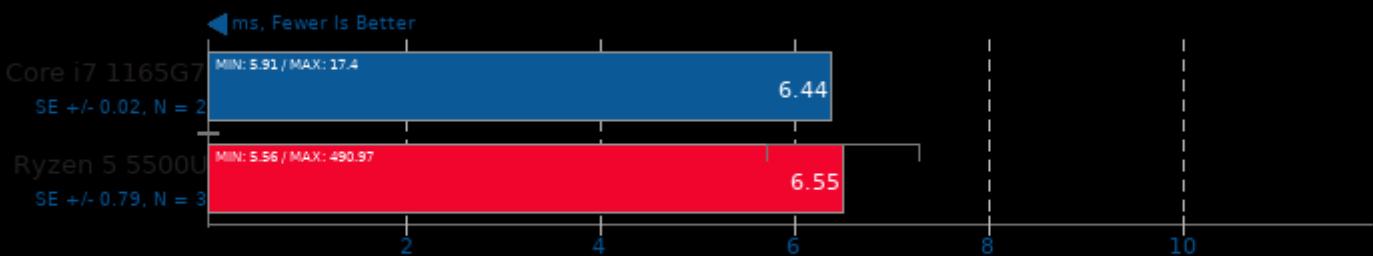
Target: CPU - Model: regnety\_400m



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## NCNN 20210525

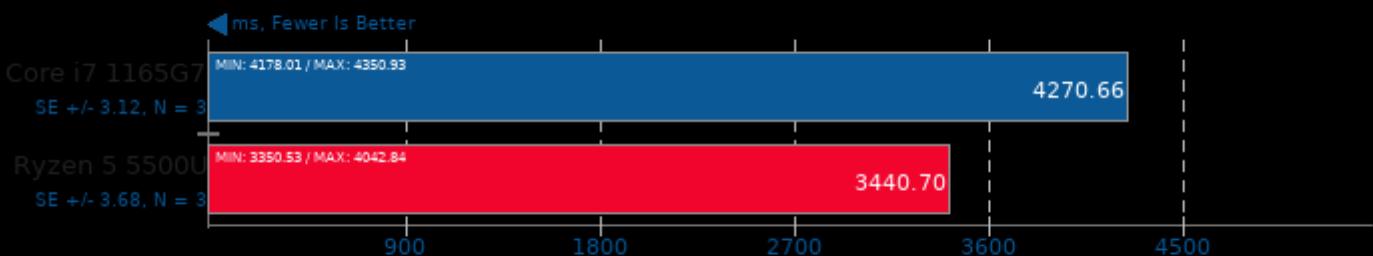
Target: CPU - Model: mnasnet



1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

## TNN 0.3

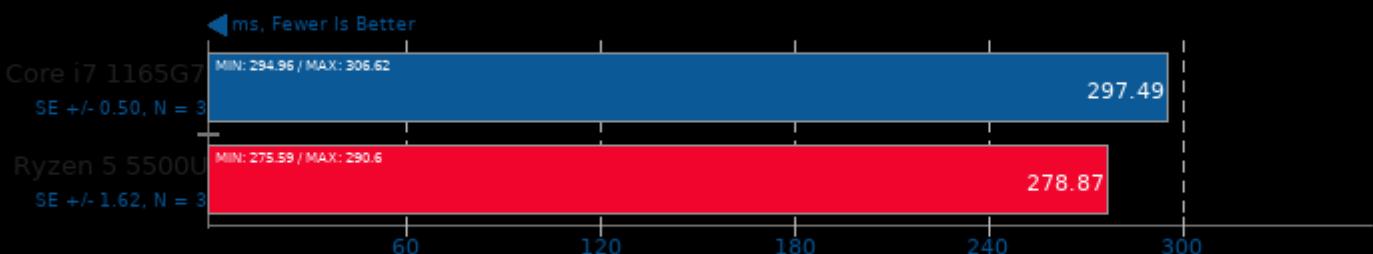
Target: CPU - Model: DenseNet



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

## TNN 0.3

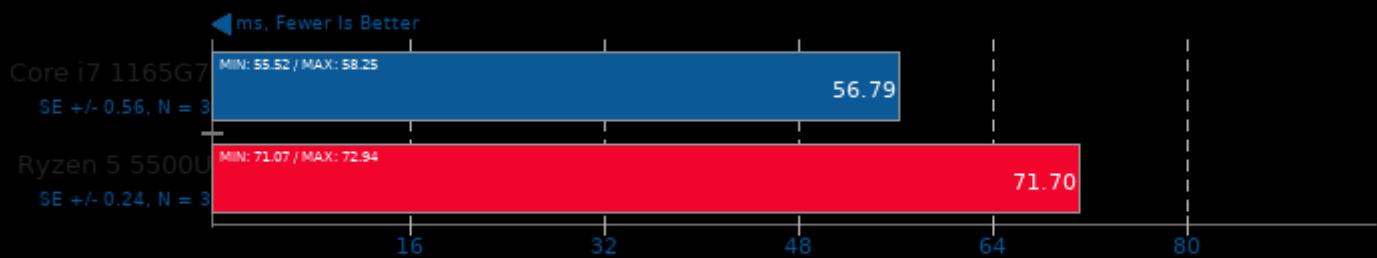
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

## TNN 0.3

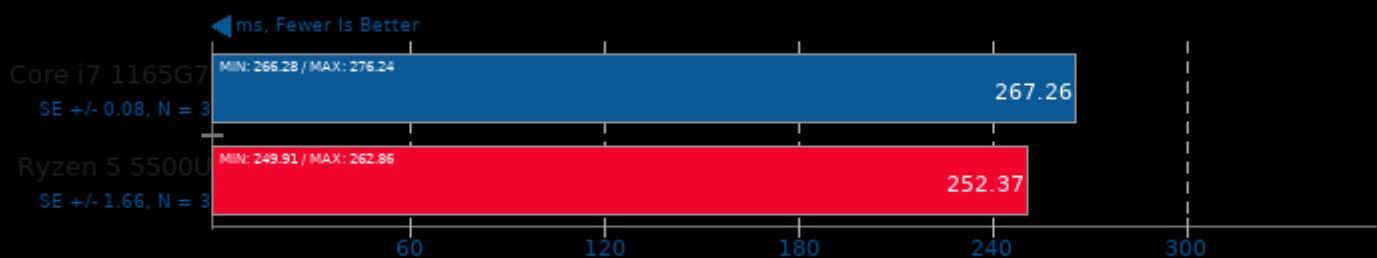
Target: CPU - Model: SqueezeNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

## TNN 0.3

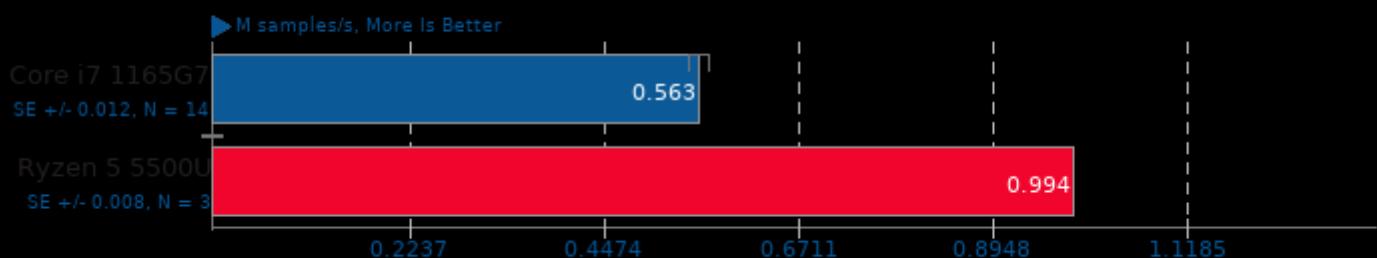
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

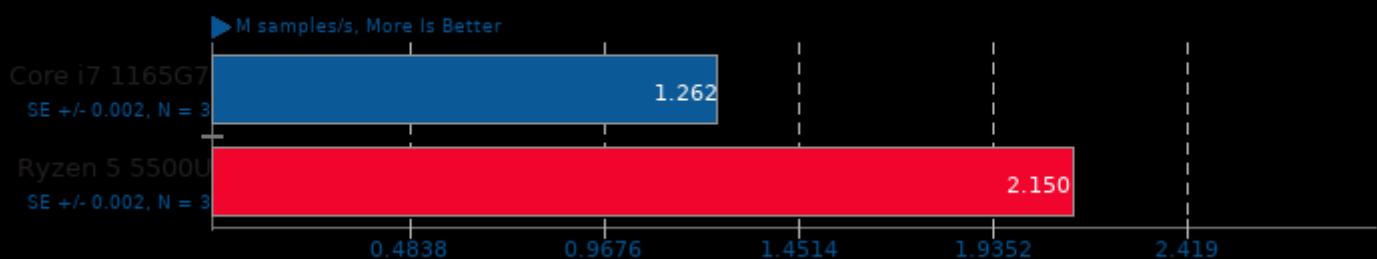
## IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



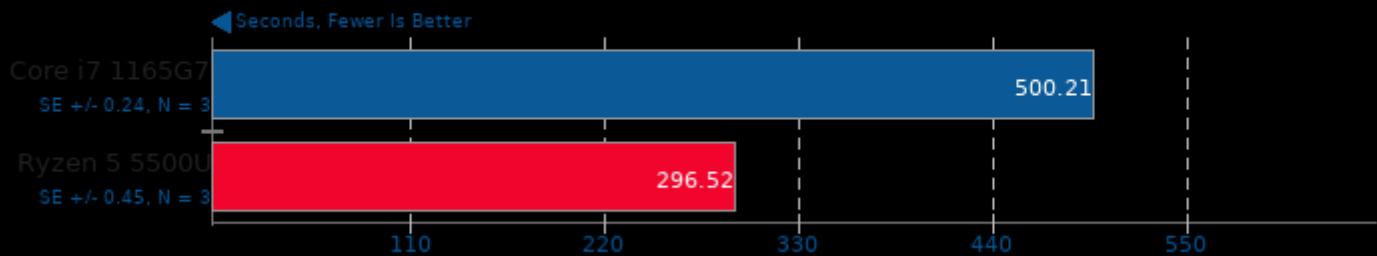
## IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



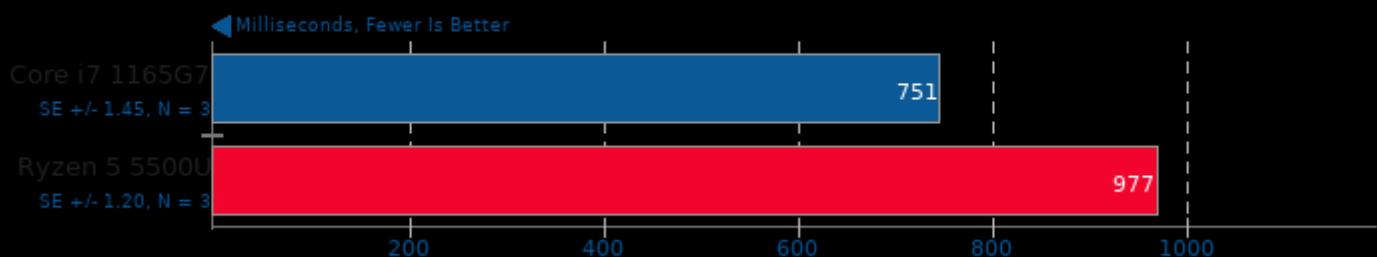
## Blender 2.92

Blend File: BMW27 - Compute: CPU-Only



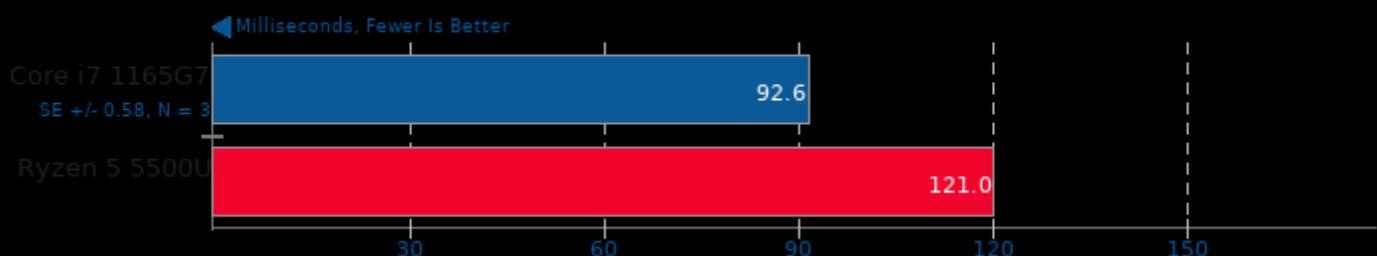
## PyBench 2018-02-16

Total For Average Test Times



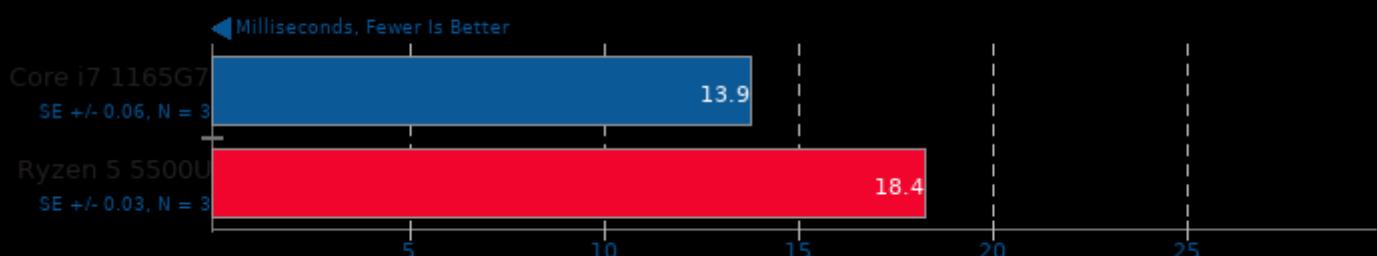
## PyPerformance 1.0.0

Benchmark: float



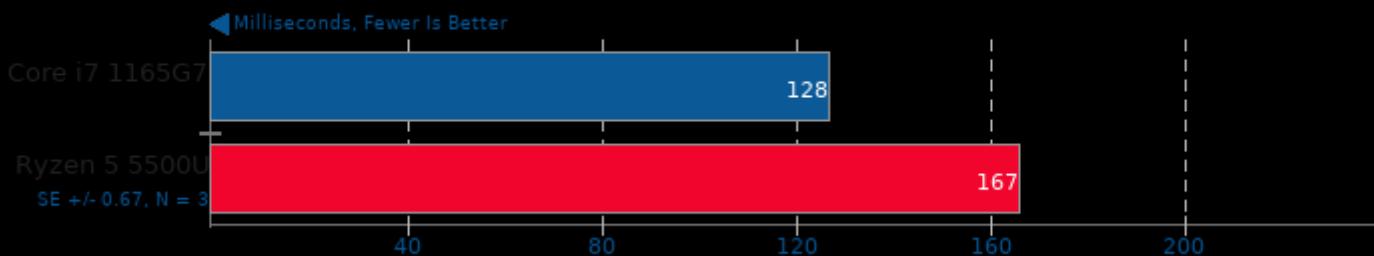
## PyPerformance 1.0.0

Benchmark: pathlib



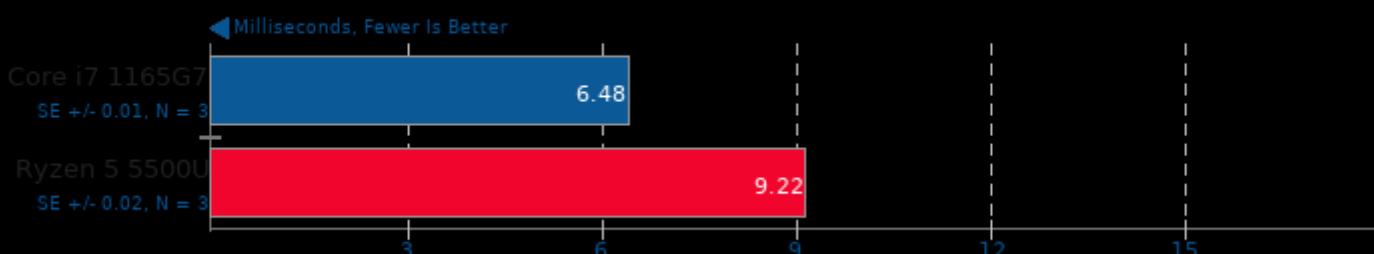
## PyPerformance 1.0.0

Benchmark: regex\_compile



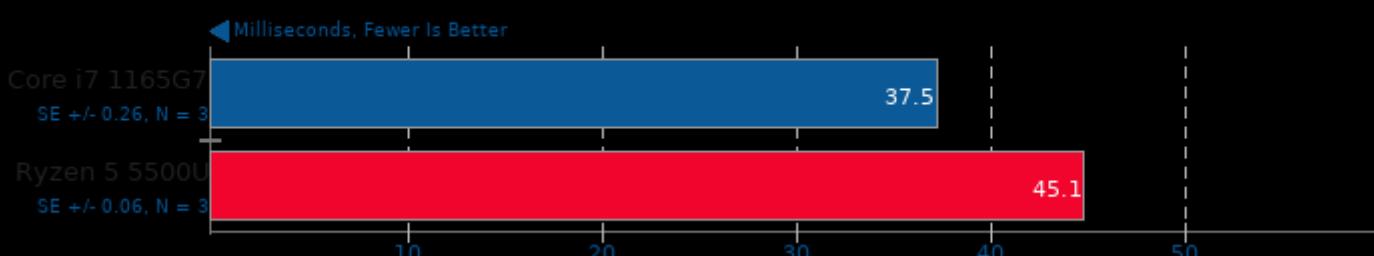
## PyPerformance 1.0.0

Benchmark: python\_startup



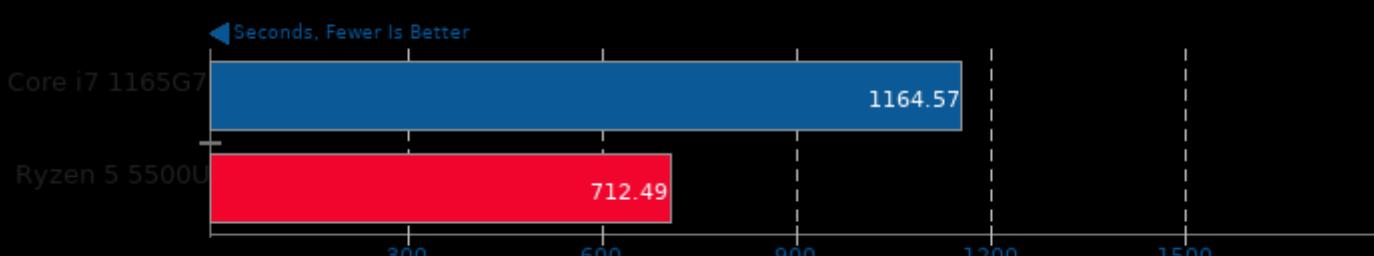
## PyPerformance 1.0.0

Benchmark: django\_template



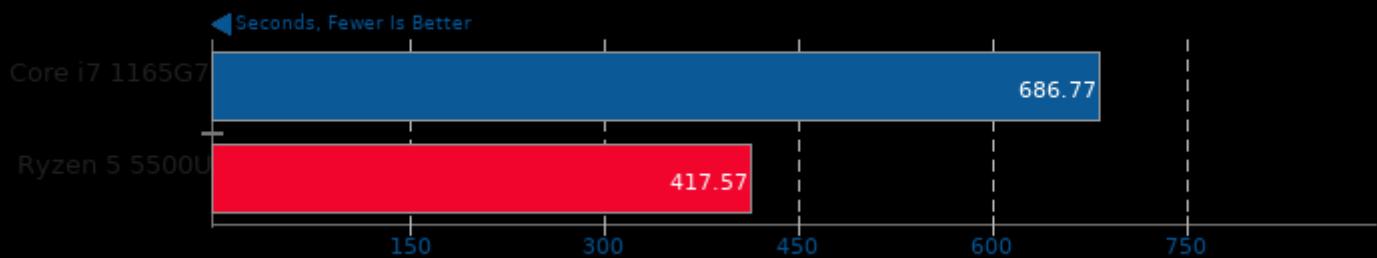
## Appleseed 2.0 Beta

Scene: Emily



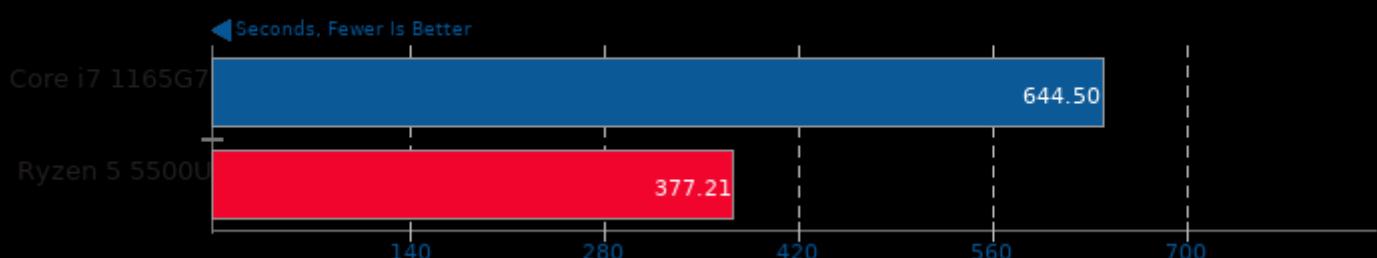
## Appleseed 2.0 Beta

Scene: Disney Material



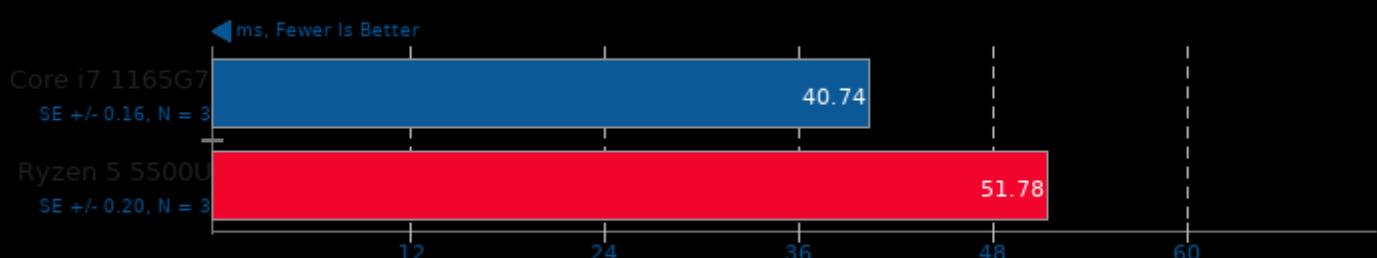
## Appleseed 2.0 Beta

Scene: Material Tester



## Selenium

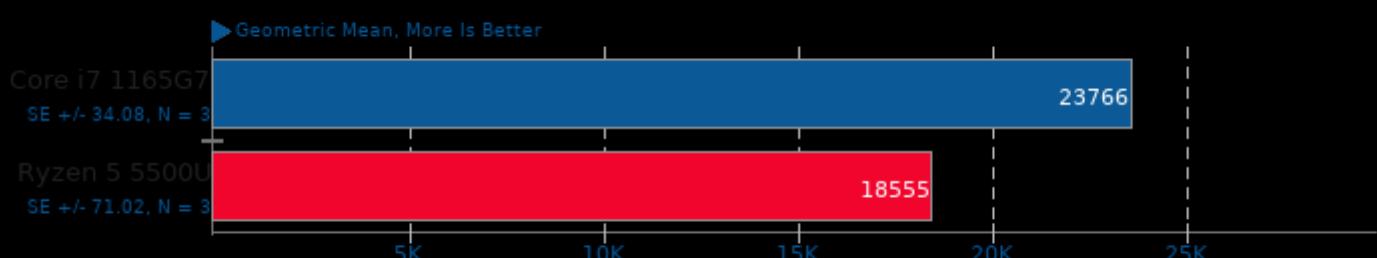
Benchmark: ARES-6 - Browser: Firefox



1. firefox 89.0.2

## Selenium

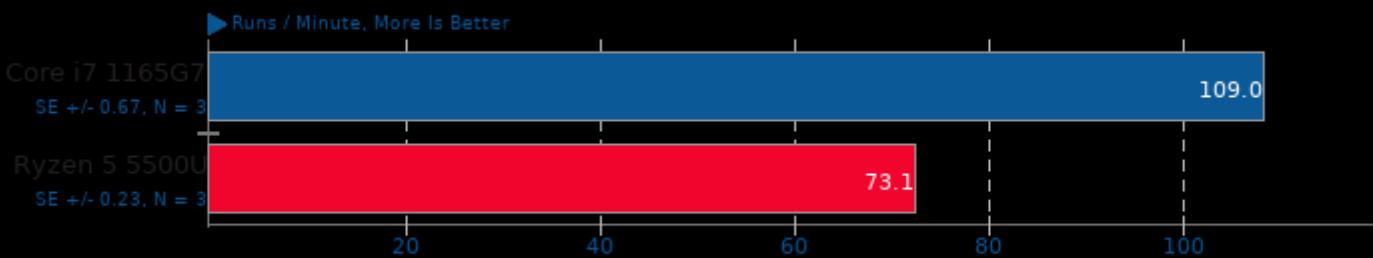
Benchmark: Octane - Browser: Firefox



1. firefox 89.0.2

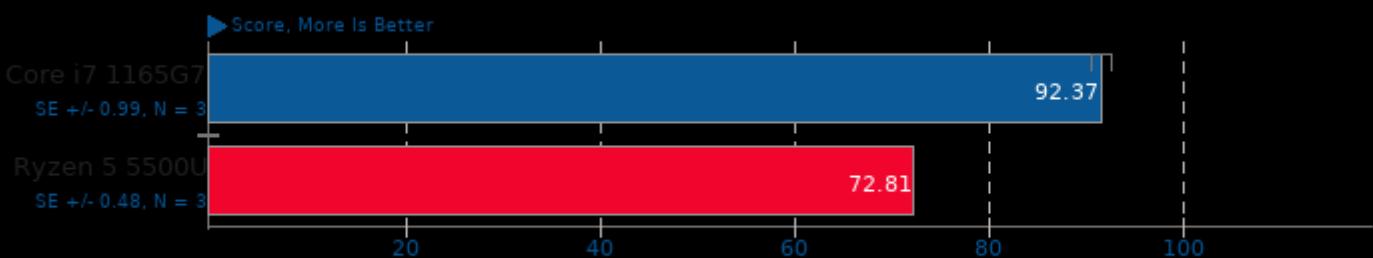
## Selenium

Benchmark: StyleBench - Browser: Firefox



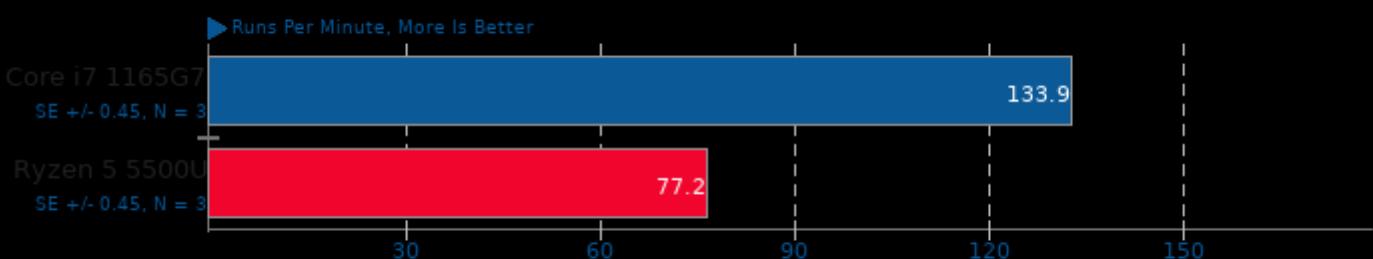
## Selenium

Benchmark: Jetstream 2 - Browser: Firefox



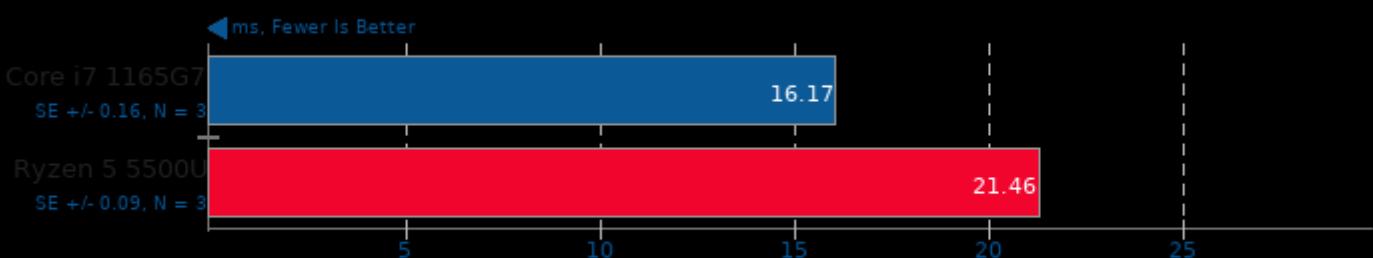
## Selenium

Benchmark: Speedometer - Browser: Firefox



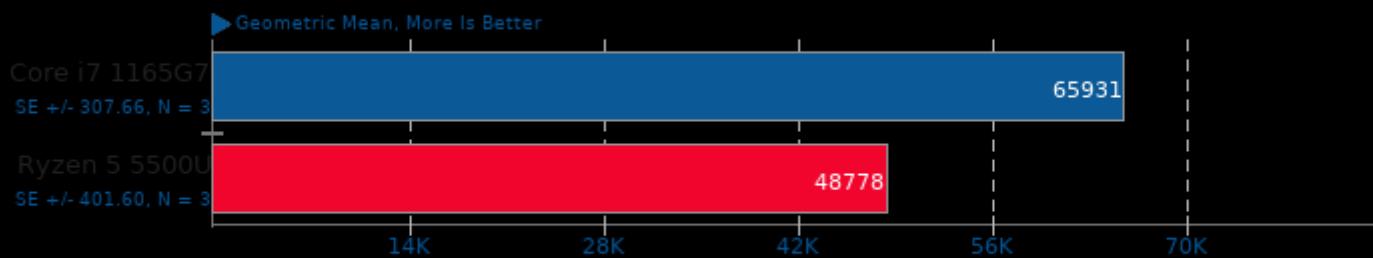
## Selenium

Benchmark: ARES-6 - Browser: Google Chrome



## Selenium

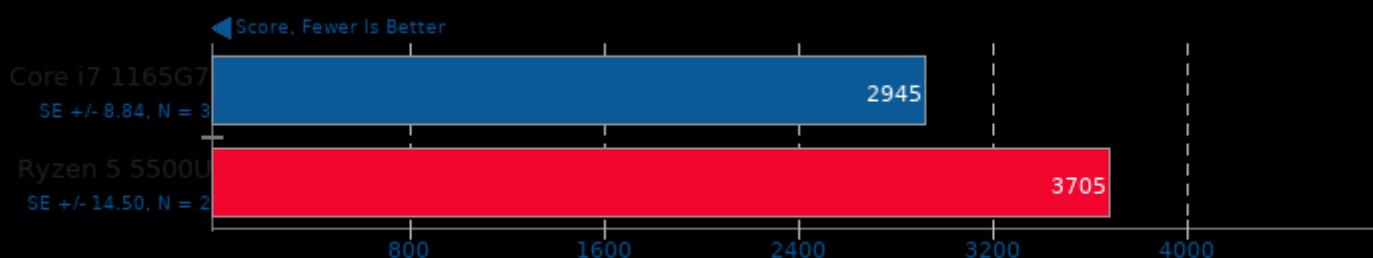
Benchmark: Octane - Browser: Google Chrome



1. chrome 91.0.4472.114

## Selenium

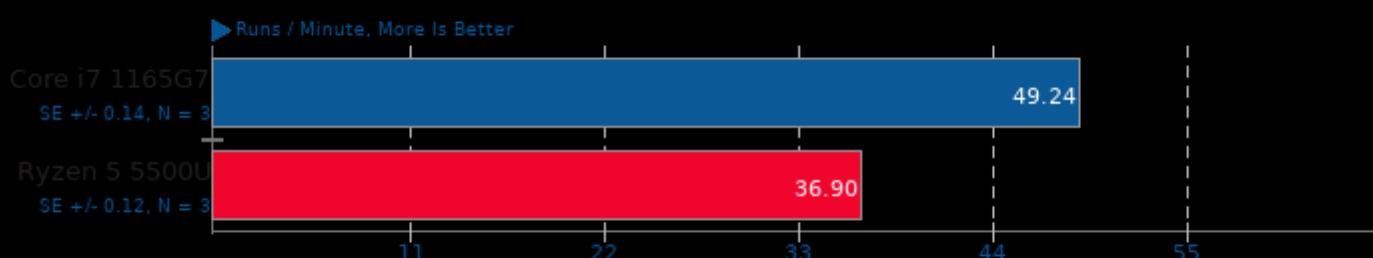
Benchmark: PSPDFKit WASM - Browser: Firefox



1. firefox 89.0.2

## Selenium

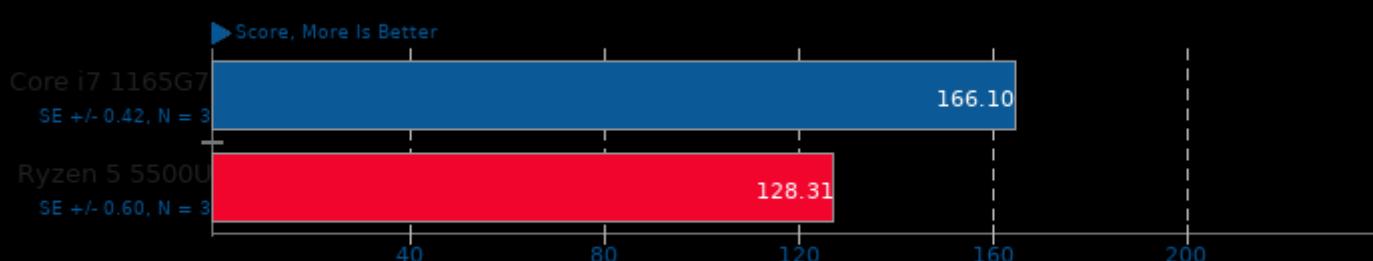
Benchmark: StyleBench - Browser: Google Chrome



1. chrome 91.0.4472.114

## Selenium

Benchmark: Jetstream 2 - Browser: Google Chrome

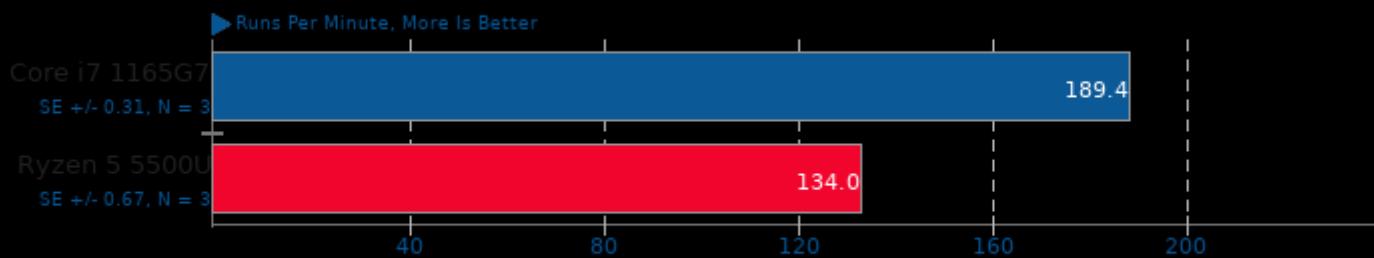


1. chrome 91.0.4472.114

## Laptop Compute

### Selenium

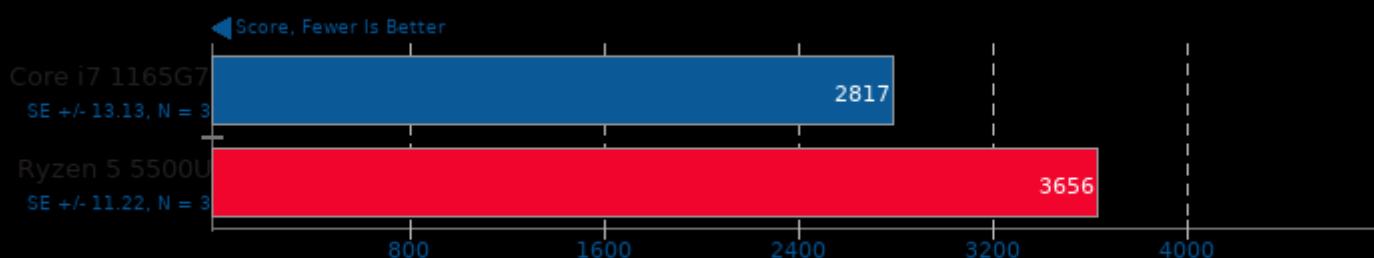
Benchmark: Speedometer - Browser: Google Chrome



1. chrome 91.0.4472.114

### Selenium

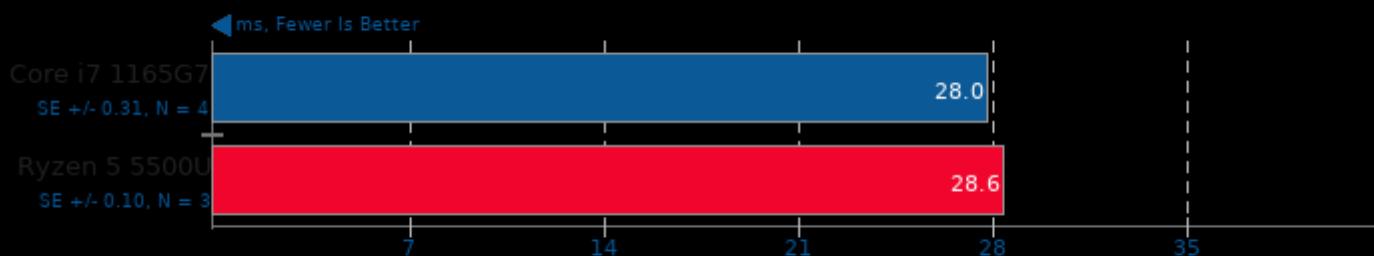
Benchmark: PSPDFKit WASM - Browser: Google Chrome



1. chrome 91.0.4472.114

### Selenium

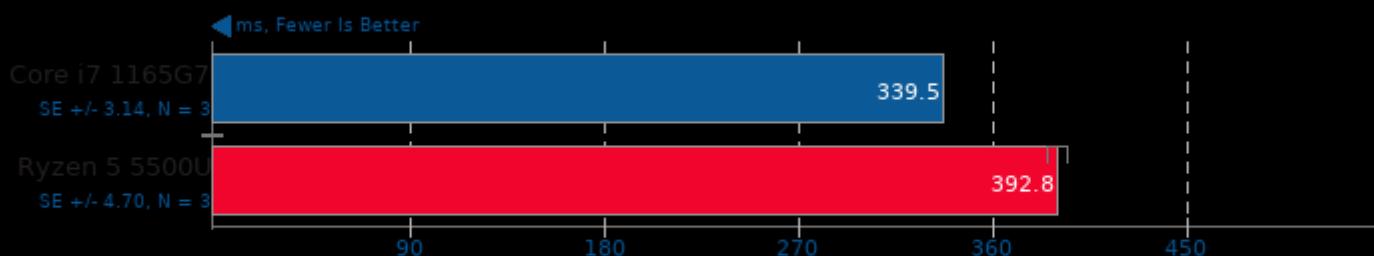
Benchmark: WASM imageConvolute - Browser: Firefox



1. firefox 89.0.2

### Selenium

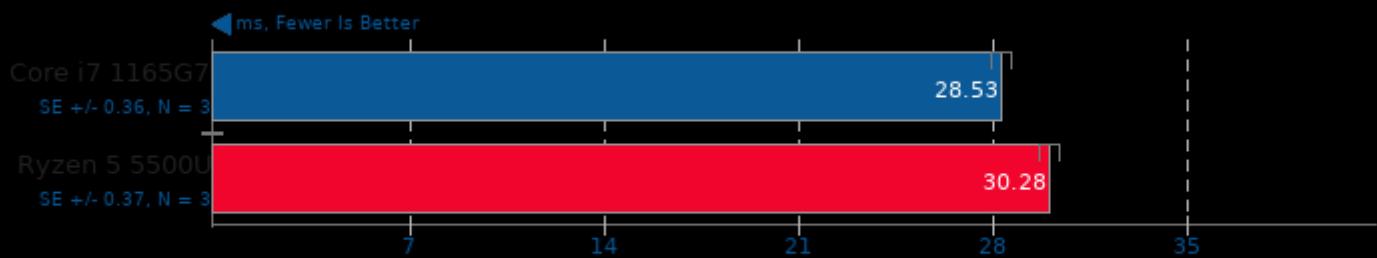
Benchmark: WASM collisionDetection - Browser: Firefox



1. firefox 89.0.2

## Selenium

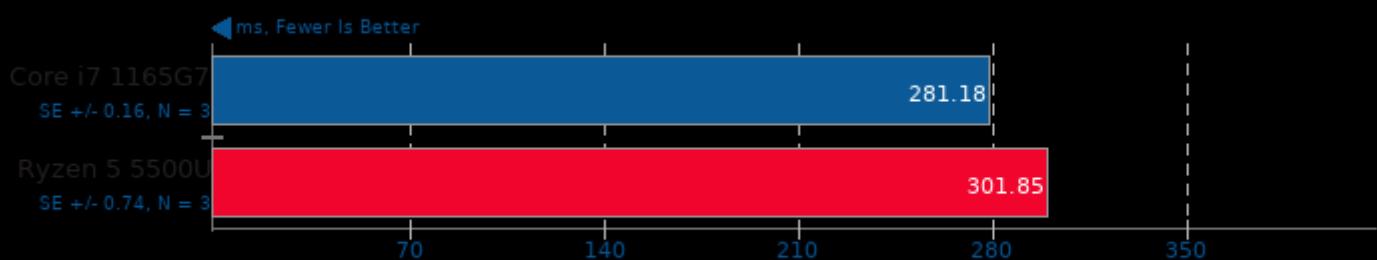
Benchmark: WASM imageConvolute - Browser: Google Chrome



1. chrome 91.0.4472.114

## Selenium

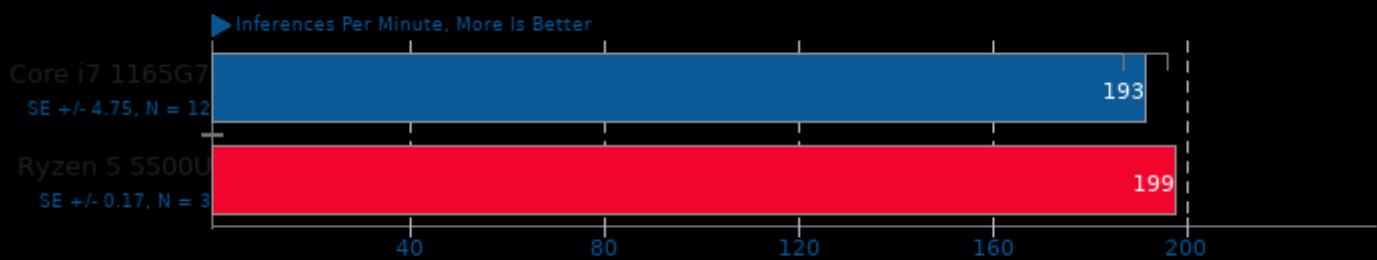
Benchmark: WASM collisionDetection - Browser: Google Chrome



1. chrome 91.0.4472.114

## ONNX Runtime 1.6

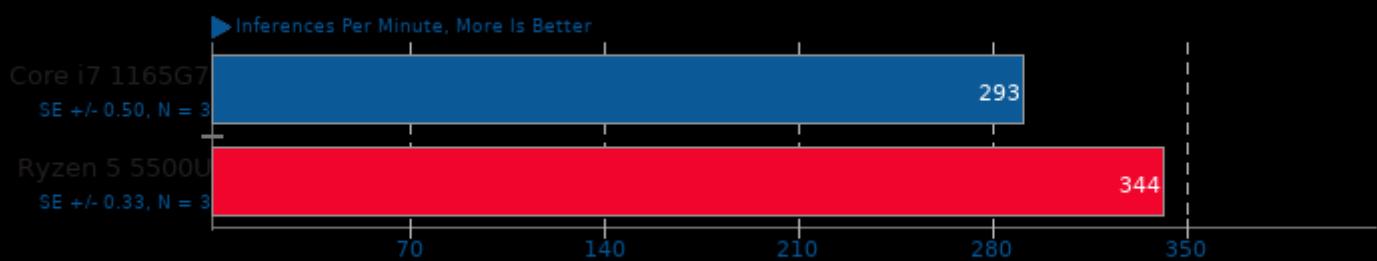
Model: yolov4 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

## ONNX Runtime 1.6

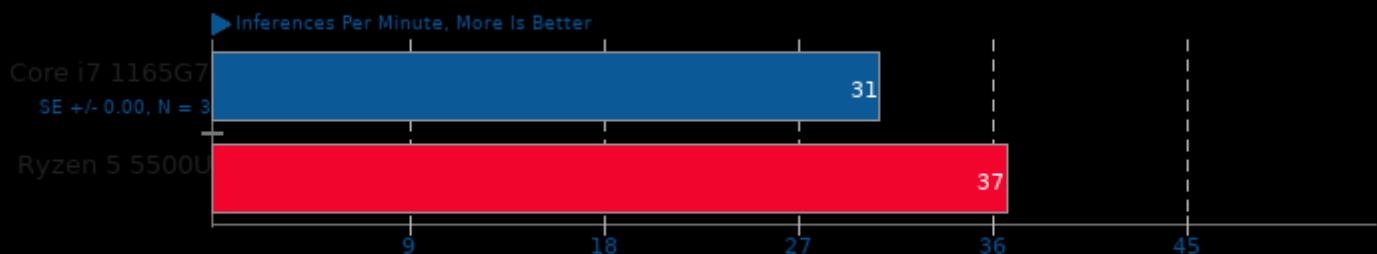
Model: bertsquad-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

## ONNX Runtime 1.6

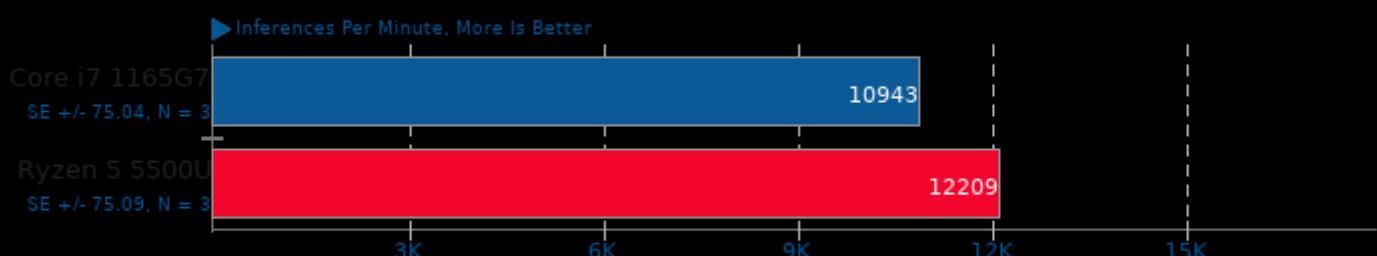
Model: fcn-resnet101-11 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -O3 -ldl -lrt

## ONNX Runtime 1.6

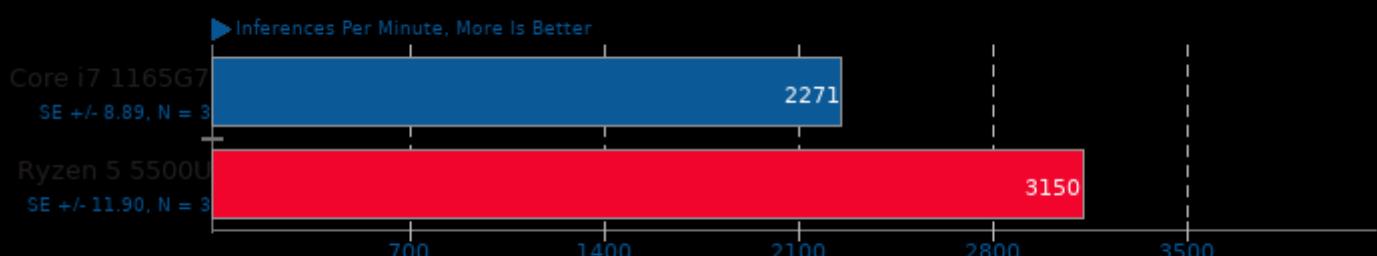
Model: shufflenet-v2-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -O3 -ldl -lrt

## ONNX Runtime 1.6

Model: super-resolution-10 - Device: OpenMP CPU



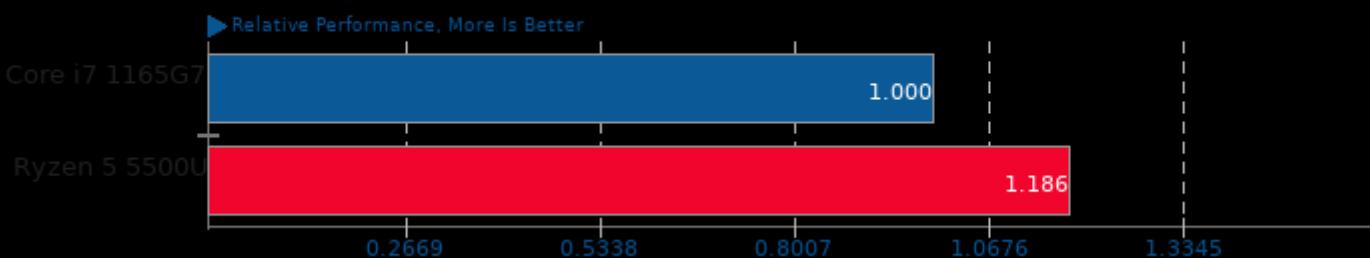
1. (CXX) g++ options: -fopenmp -ffunction-sections -O3 -ldl -lrt

## Laptop Compute

These geometric means are based upon test groupings / test suites for this result file.

### Geometric Mean Of AV1 Tests

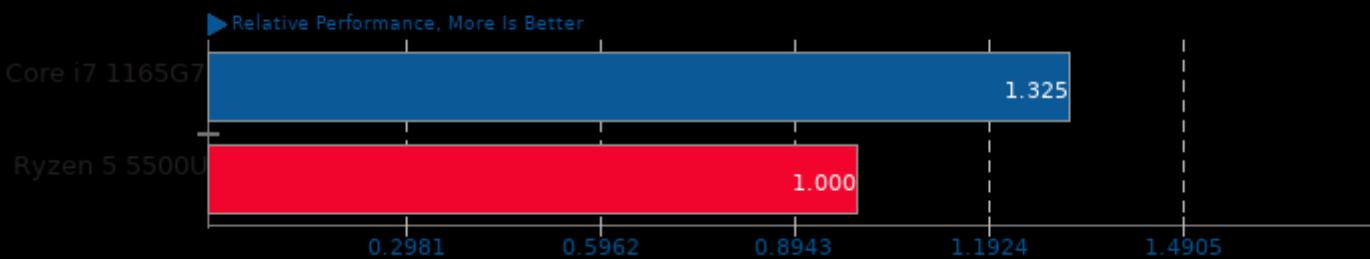
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/dav1d, pts/aom-av1 and pts/svt-av1

### Geometric Mean Of C++ Boost Tests

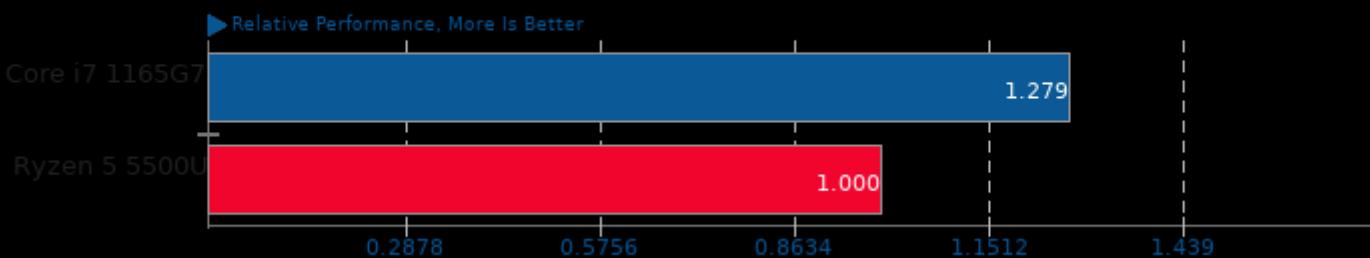
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/srsran and pts/yafaray

### Geometric Mean Of Web Browsers Tests

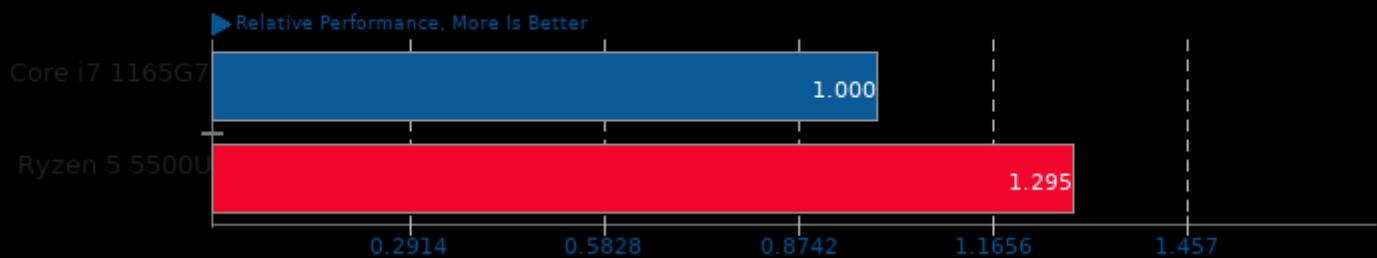
Result Composite - Laptop Compute



Geometric mean based upon tests: system/selenium

## Geometric Mean Of Chess Test Suite

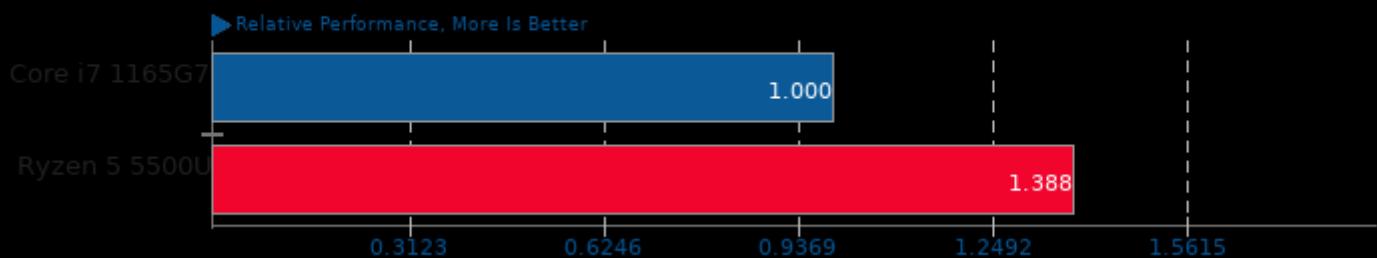
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/tscp, pts/stockfish and pts/asmfish

## Geometric Mean Of Timed Code Compilation Tests

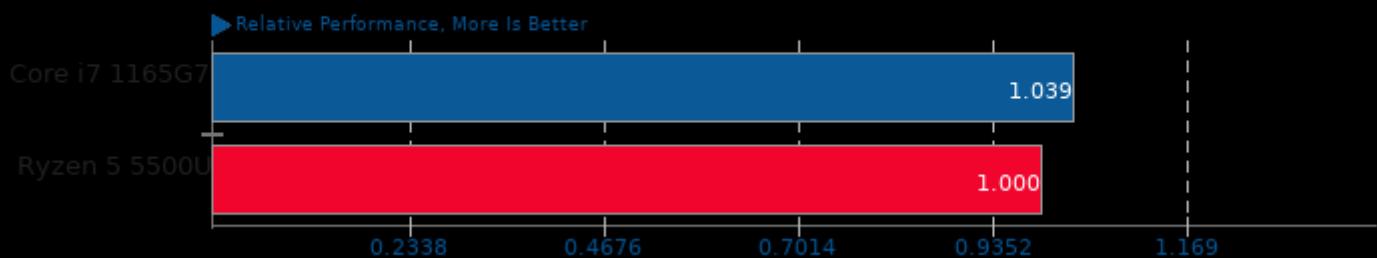
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/build-linux-kernel, pts/build-gdb, pts/build-godot, pts/build-wasmer and pts/build-mesa

## Geometric Mean Of C/C++ Compiler Tests

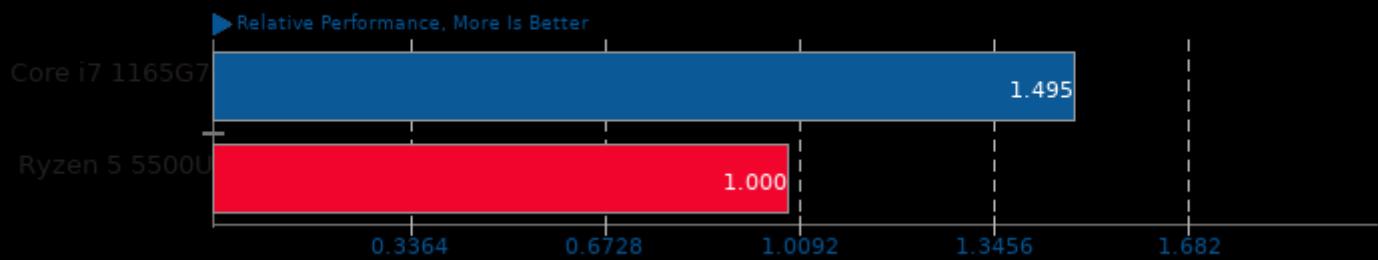
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/tscp, pts/vpxenc, pts/stockfish, pts/sqlite-speedtest, pts/dav1d, pts/x265, pts/compress-zstd, pts/aom-av1, pts/svt-av1, pts/svt-vp9 and pts/build-gdb

## Geometric Mean Of Compression Tests

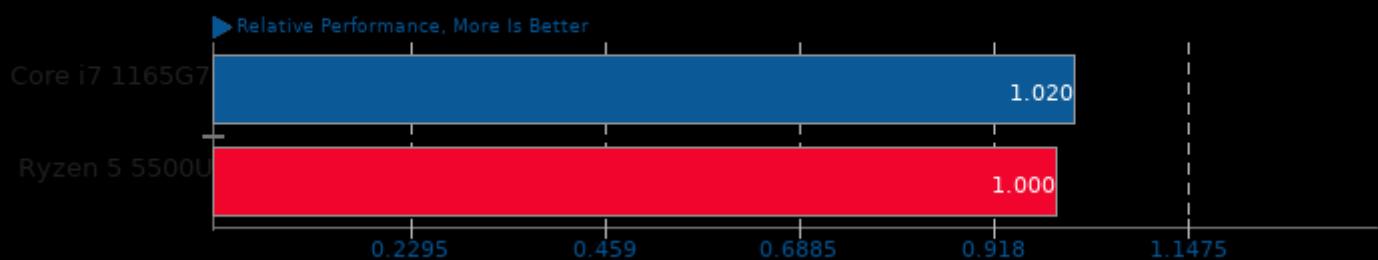
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/compress-gzip, pts/compress-zstd, pts/compress-lz4 and pts/blosc

## Geometric Mean Of CPU Massive Tests

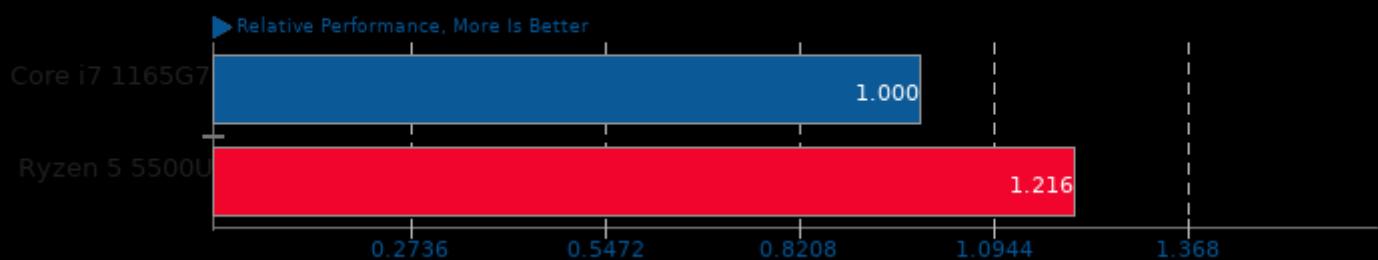
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/asmfish, pts/build-linux-kernel, pts/compress-zstd, pts/dav1d, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/vpxenc, pts/x265, pts/numpy, pts/stockfish, pts/blender and system/darktable

## Geometric Mean Of Encoding Tests

Result Composite - Laptop Compute

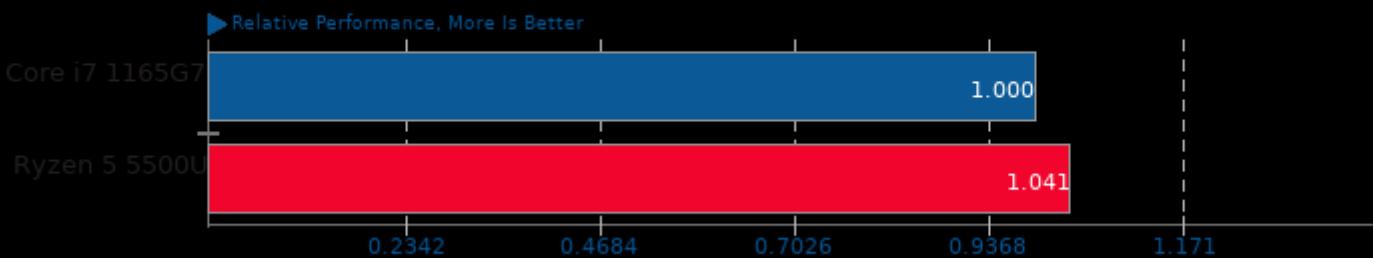


Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x265, pts/vpxenc, pts/dav1d, pts/aom-av1 and pts/svt-av1

## Laptop Compute

### Geometric Mean Of Game Development Tests

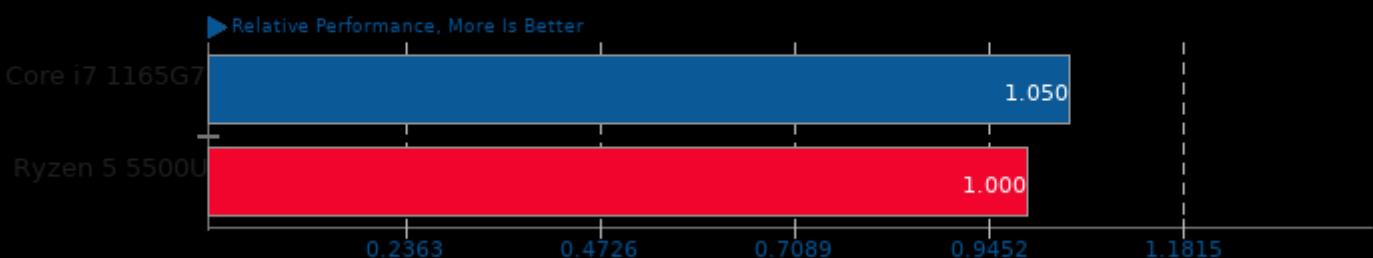
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/etcpack, pts/toktx, pts/draco, pts/build-godot, pts/blender, pts/oidn and pts/openvkl

### Geometric Mean Of HPC - High Performance Computing Tests

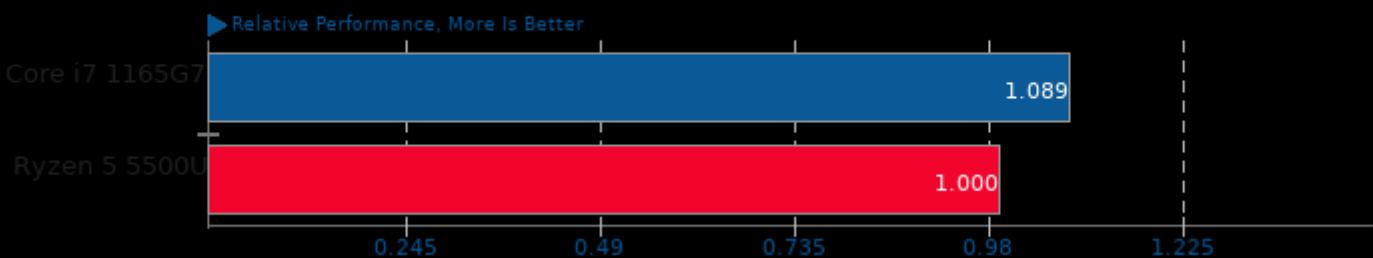
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/numpy, pts/deepspeech, pts/rnnoise and pts/onnx

### Geometric Mean Of Imaging Tests

Result Composite - Laptop Compute

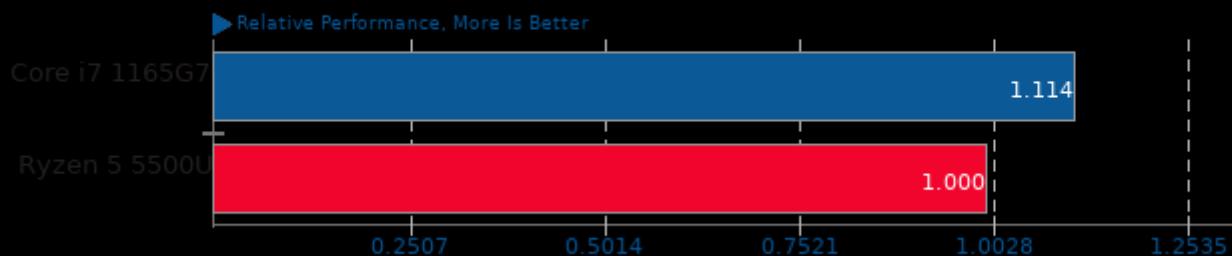


Geometric mean based upon tests: pts/webp, pts/webp2, system/rawtherapee, system/gimp, system/hugin, system/darktable and system/gegl

## Laptop Compute

### Geometric Mean Of Common Kernel Benchmarks Tests

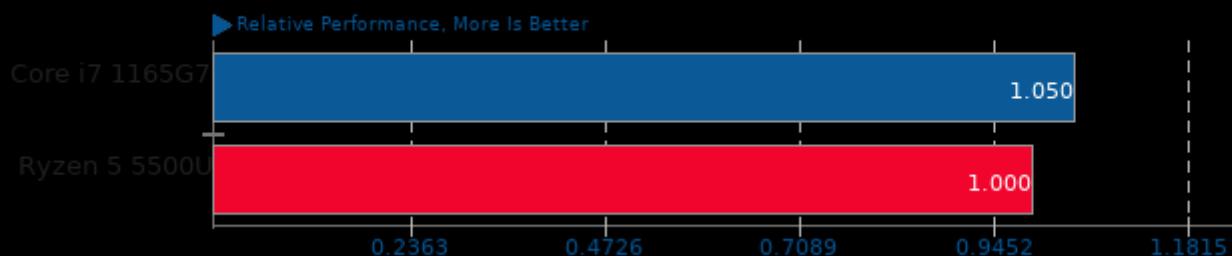
Result Composite - Laptop Compute



Geometric mean based upon tests: system/wireguard and pts/sqlite-speedtest

### Geometric Mean Of Machine Learning Tests

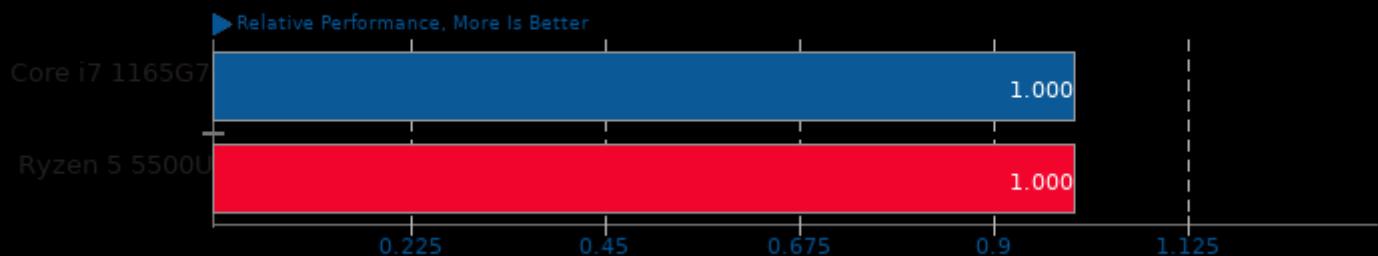
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/numpy, pts/deepspeech, pts/rnnoise and pts/onnx

### Geometric Mean Of NVIDIA GPU Compute Tests

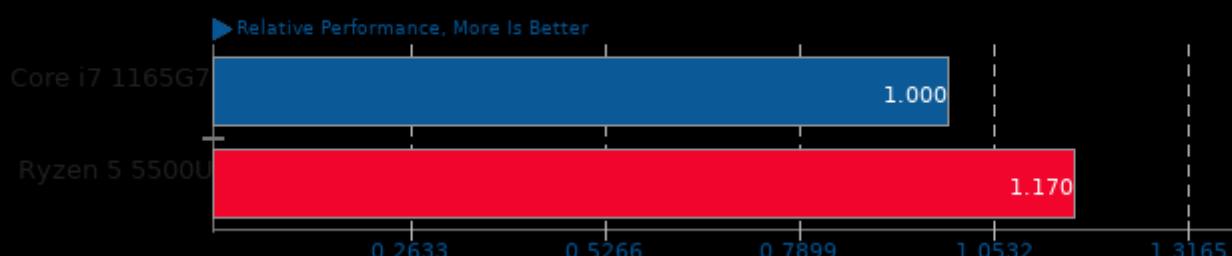
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/indigobench, pts/blender and pts/ncnn

### Geometric Mean Of Intel oneAPI Tests

Result Composite - Laptop Compute

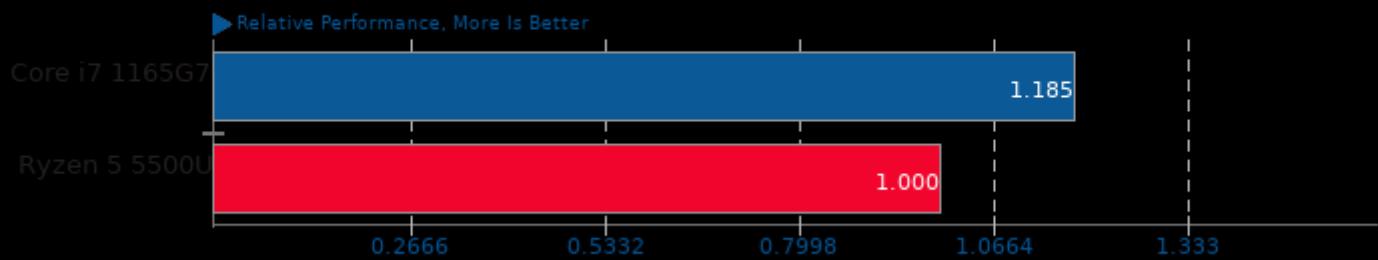


Geometric mean based upon tests: pts/embree, pts/oidn, pts/ospray and pts/openvkl

## Laptop Compute

### Geometric Mean Of Productivity Tests

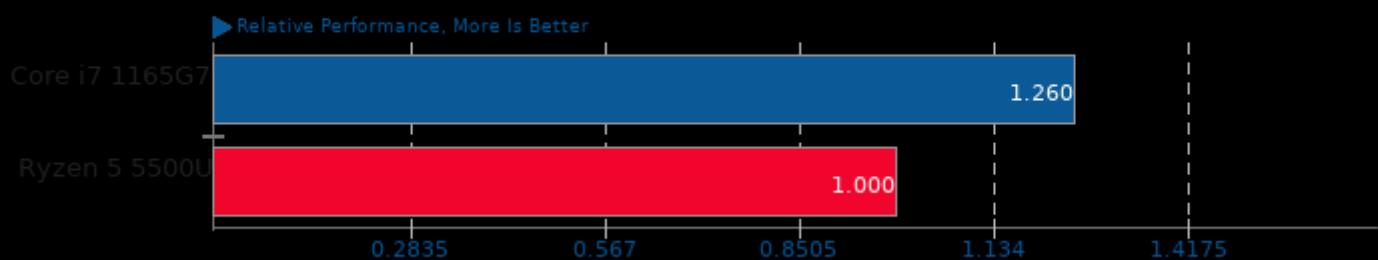
Result Composite - Laptop Compute



Geometric mean based upon tests: system/libreoffice, system/gimp and system/gegl

### Geometric Mean Of Programmer / Developer System Benchmarks Tests

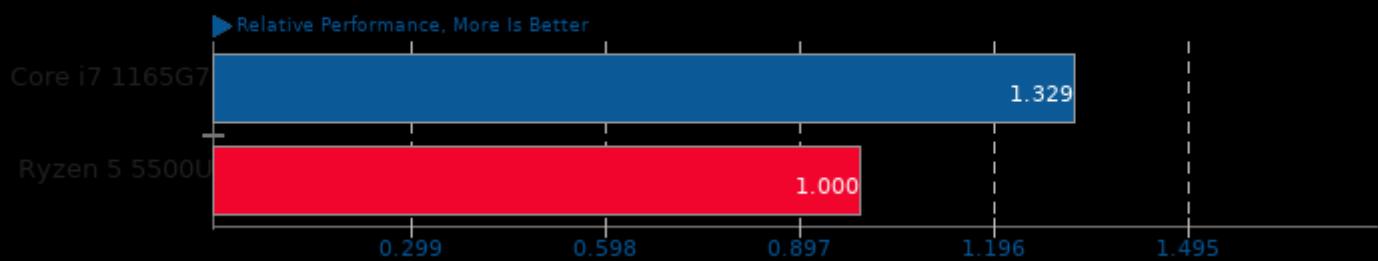
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/sqlite-speedtest, pts/blosc, pts/compress-zstd, pts/pyperformance, pts/pybench, pts/build-linux-kernel, pts/build-gdb, pts/build-godot, pts/build-wasmer and pts/build-mesa

### Geometric Mean Of Python Tests

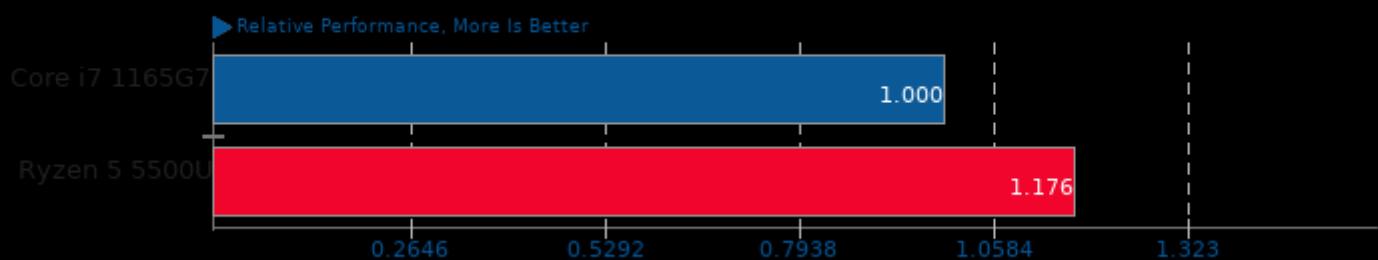
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/pybench, pts/numpy and pts/pyperformance

### Geometric Mean Of Raytracing Tests

Result Composite - Laptop Compute

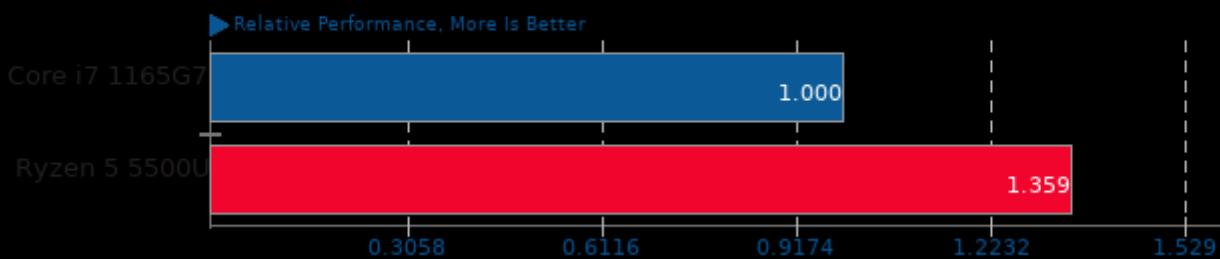


Geometric mean based upon tests: pts/ospray and pts/yafaray

## Laptop Compute

### Geometric Mean Of Renderers Tests

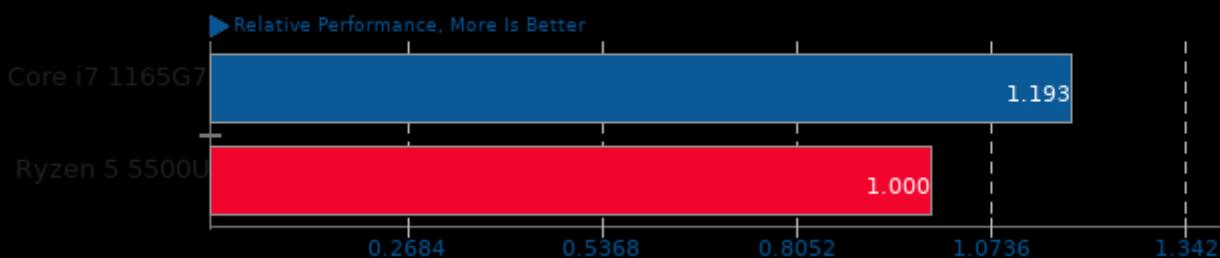
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/ospray, pts/yafaray, pts/blender, pts/appleseed and pts/indigobench

### Geometric Mean Of Software Defined Radio Tests

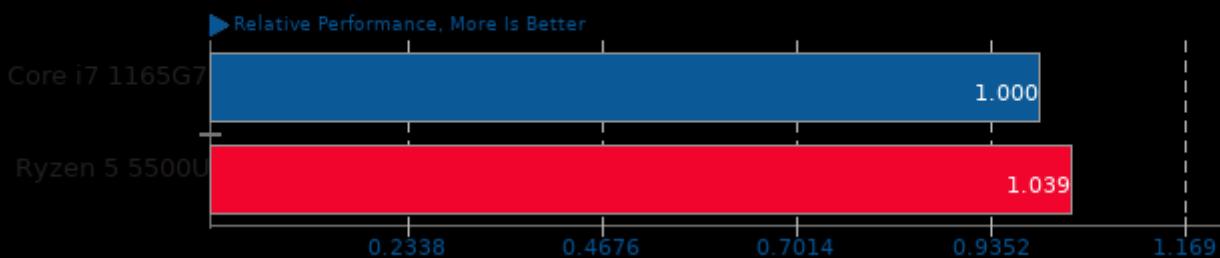
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/liquid-dsp, pts/srsran, pts/luaradio and system/gnuradio

### Geometric Mean Of Server CPU Tests

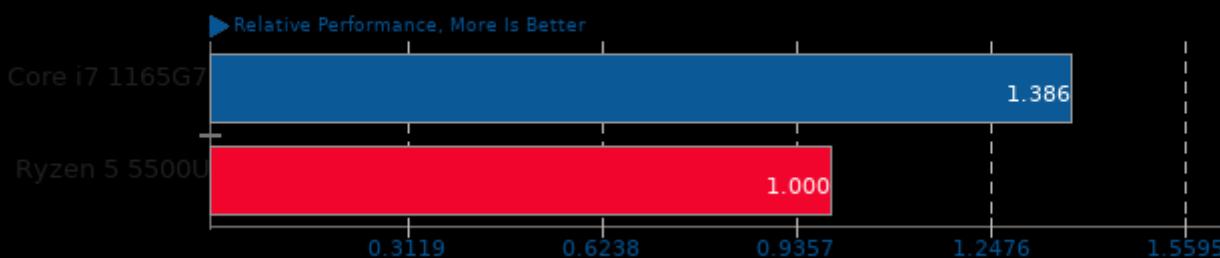
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/x265, pts/dav1d, pts/stockfish, pts/asfmish, pts/build-linux-kernel, pts/compress-zstd, system/gimp, pts/blender, pts/appleseed, pts/pybench and pts/numpy

### Geometric Mean Of Single-Threaded Tests

Result Composite - Laptop Compute

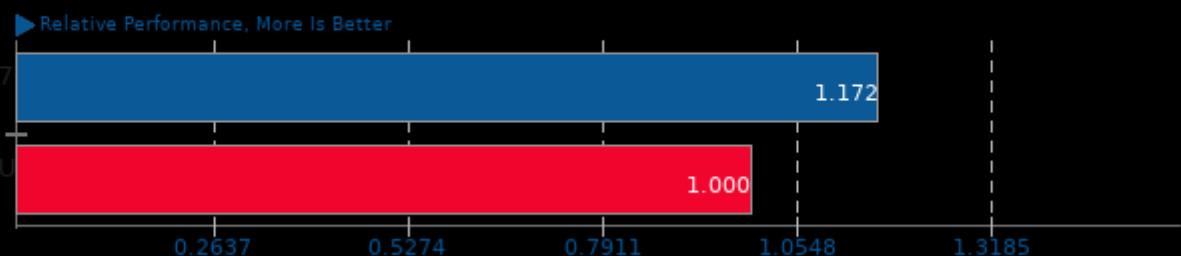


Geometric mean based upon tests: pts/numpy, pts/compress-gzip, pts/deepspeech and pts/pybench

## Laptop Compute

### Geometric Mean Of Speech Tests

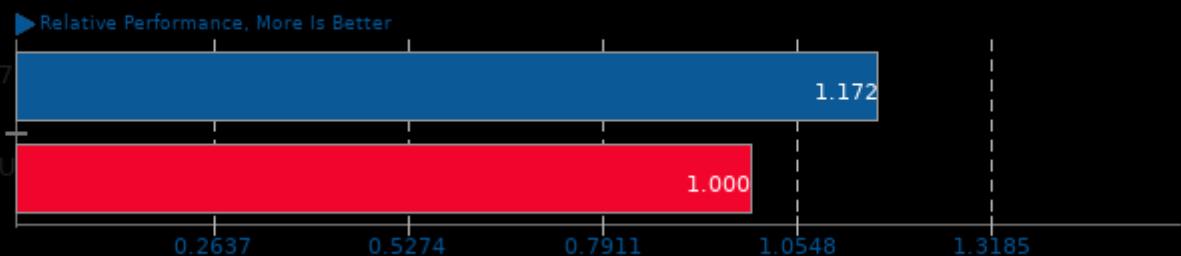
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/deepspeech and pts/rnnoise

### Geometric Mean Of Telephony Tests

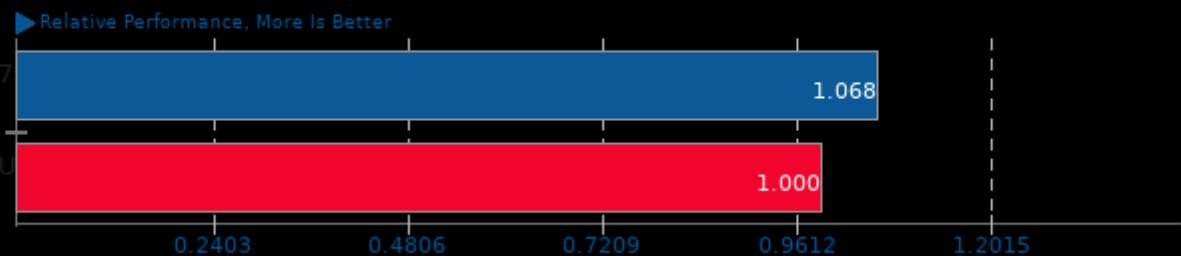
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/deepspeech and pts/rnnoise

### Geometric Mean Of Texture Compression Tests

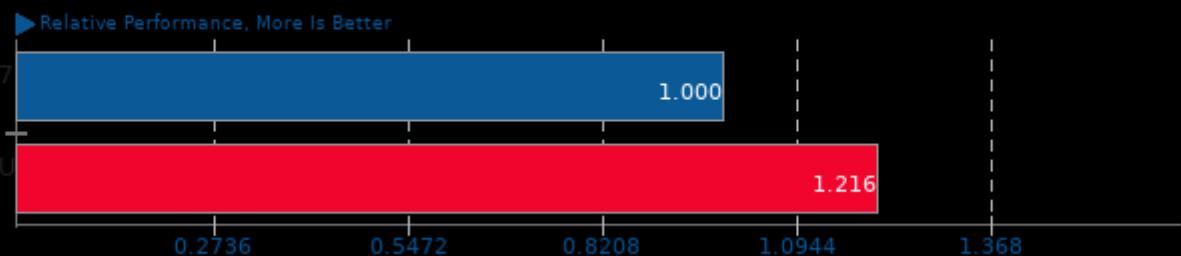
Result Composite - Laptop Compute



Geometric mean based upon tests: pts/etc\_pak, pts/toktx and pts/draco

### Geometric Mean Of Video Encoding Tests

Result Composite - Laptop Compute



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x265, pts/vpxenc, pts/dav1d, pts/aom-av1 and pts/svt-av1



Geometric mean based upon tests: pts/blender and pts/x265

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 02:13.*