



OnLogic Helix 500 Linux benchmarks

OnLogic Helix 500 benchmarks by Michael Larabel.

Automated Executive Summary

OnLogic Helix 500 had the most wins, coming in first place for 76% of the tests.

Based on the geometric mean of all complete results, the fastest (OnLogic Helix 500) was 1.171x the speed of the slowest (OnLogic Karbon 700).

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

CLOMP (Static OMP Speedup) at 2.034x

oneDNN (Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU) at 1.885x

ASKAP (Test: tConvolve OpenMP - Gridding) at 1.87x

oneDNN (Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU) at 1.815x

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU) at 1.807x

HPC Challenge (Test / Class: Random Ring Bandwidth) at 1.799x

OpenFOAM (Input: Motorbike 30M) at 1.762x

ASKAP (Test: Hogbom Clean OpenMP) at 1.76x

Algebraic Multi-Grid Benchmark at 1.748x

NAS Parallel Benchmarks (Test / Class: MG.C) at 1.717x.

Test Systems:

OnLogic Helix 500

Processor: Intel Core i7-10700T @ 4.50GHz (8 Cores / 16 Threads), Motherboard: Logic Supply RXM-181 (Z01-0002A026 BIOS), Chipset: Intel Comet Lake PCH, Memory: 32GB, Disk: 256GB TS256GMTS800, Graphics: Intel UHD 630 3GB (1200MHz), Audio: Realtek ALC233, Monitor: DELL P2415Q, Network: Intel I219-LM + Intel I210

OS: Ubuntu 20.10, Kernel: 5.8.0-41-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, 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-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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgc-n-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xe0 - Thermal 2.3

Java Notes: OpenJDK Runtime Environment (build 11.0.9.1+1-Ubuntu-0ubuntu1.20.10)

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + I1tf: 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 + srbds: Not affected + tsx_async_abort: Not affected

OnLogic Karbon 700

Processor: Intel Xeon E-2278GEL @ 3.90GHz (8 Cores / 16 Threads), Motherboard: Logic Supply RXM-181 (Z01-0001A027 BIOS), Chipset: Intel Cannon Lake PCH, Memory: 16GB, Disk: 512GB TS512GMTE510T, Graphics: Intel UHD P630 3GB (1150MHz), Audio: Realtek ALC233, Monitor: DELL P2415Q, Network: Intel I219-LM + 2 x Intel I210

OS: Ubuntu 20.10, Kernel: 5.8.0-41-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, Display Driver: intel, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, 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-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-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgc-n-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/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-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

Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xde - Thermal 2.3

Java Notes: OpenJDK Runtime Environment (build 11.0.9.1+1-Ubuntu-0ubuntu1.20.10)

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + I1tf: 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 + srbds: Mitigation of TSX disabled + tsx_async_abort: Mitigation of TSX disabled

OnLogic Helix 500 Linux benchmarks

WebP2 Image Encode - Q.1.C.E.5 (sec)	20.392	21.395
Normalized	100%	95.31%
Standard Deviation	4%	3%
ASKAP - tConvolve MPI - Degriding (Mpix/sec)	1679	1288
Normalized	100%	76.72%
Standard Deviation	2.4%	0.3%
ASKAP - tConvolve MPI - Gridding (Mpix/sec)	1834	1168
Normalized	100%	63.69%
Standard Deviation	2.6%	0.3%
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	1272	680.389
Normalized	100%	53.47%
Standard Deviation	0.5%	0.4%
ASKAP - H.C.O (Iterations/sec)	184.389	104.786
Normalized	100%	56.83%
Standard Deviation	0.1%	0.4%
NAS Parallel Benchmarks - FT.C (Mop/s)	11017	7383
Normalized	100%	67.02%
Standard Deviation	1.6%	0.2%
NAS Parallel Benchmarks - LU.C (Mop/s)	21135	15484
Normalized	100%	73.26%
Standard Deviation	2.1%	0.2%
NAS Parallel Benchmarks - MG.C (Mop/s)	9748	5678
Normalized	100%	58.25%
Standard Deviation	0.7%	0.4%
NAS Parallel Benchmarks - CG.C (Mop/s)	4511	2903
Normalized	100%	64.36%
Standard Deviation	1%	0.1%
Izbench - Zstd 1 - Compression (MB/s)	459	453
Normalized	100%	98.69%
Izbench - Zstd 1 - Decompression (MB/s)	1563	1611
Normalized	97.02%	100%
Standard Deviation		0.1%
Izbench - Zstd 8 - Compression (MB/s)	80	81
Normalized	98.77%	100%
Izbench - Zstd 8 - Decompression (MB/s)	1683	1738
Normalized	96.84%	100%
Standard Deviation	0.5%	0.5%
Izbench - Brotli 0 - Compression (MB/s)	421	420
Normalized	100%	99.76%
Standard Deviation		0.2%
Izbench - Brotli 0 - Decompression (MB/s)	576	562
Normalized	100%	97.57%
Standard Deviation	0.1%	
Izbench - Crush 0 - Decompression (MB/s)	456	450
Normalized	100%	98.68%
FinanceBench - Bonds OpenMP (ms)	78160	70482
Normalized	90.18%	100%
Standard Deviation	1.7%	2.1%
FinanceBench - Repo OpenMP (ms)	55140	49773
Normalized	90.27%	100%
Standard Deviation	1.9%	0.6%
GnuPG - 2.7.S.F.E (sec)	73.925	72.714
Normalized	98.36%	100%
Standard Deviation	2.2%	1.6%

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Cpuminer-Opt - T.S.2.O (kH/s)	63503	61289
Normalized	100%	96.51%
Standard Deviation	0.8%	10.4%
QuantLib (MFLOPS)	2089	2182
Normalized	95.76%	100%
Standard Deviation	2.4%	1.4%
Etcpak - ETC1 (Mpx/s)	285.568	298.346
Normalized	95.72%	100%
Standard Deviation	0.3%	0.4%
Etcpak - ETC1 + Dithering (Mpx/s)	266.700	280.579
Normalized	95.05%	100%
Standard Deviation	0.7%	0.1%
Etcpak - ETC2 (Mpx/s)	158.318	165.029
Normalized	95.93%	100%
Standard Deviation	0.2%	0.2%
Etcpak - DXT1 (Mpx/s)	1146	1211
Normalized	94.6%	100%
Standard Deviation	0.3%	0.1%
ONNX Runtime - yolov4 - OpenMP CPU	272	263
Normalized	100%	96.69%
Standard Deviation	0.7%	0.7%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU	43	45
(Inferences/min)		
Normalized	95.56%	100%
Standard Deviation	1.3%	0.6%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU	12412	14173
(Inferences/min)		
Normalized	87.57%	100%
Standard Deviation	1.1%	0.6%
ONNX Runtime - super-resolution-10 - OpenMP CPU	2839	3293
(Inferences/min)		
Normalized	86.21%	100%
Standard Deviation	1.6%	0.3%
ONNX Runtime - bertsquad-10 - OpenMP CPU	382	400
(Inferences/min)		
Normalized	95.5%	100%
Standard Deviation	1.1%	0.5%
Google SynthMark - VoiceMark_100 (Voices)	590.243	616.100
Normalized	95.8%	100%
Standard Deviation	0%	0.2%
rav1e - 10 (FPS)	3.189	3.164
Normalized	100%	99.22%
Standard Deviation	0.8%	0.4%
LAMMPS Molecular Dynamics Simulator - Rhodopsin	5.421	4.896
Protein (ns/day)		
Normalized	100%	90.32%
Standard Deviation	3.3%	4.4%
Algebraic Multi-Grid Benchmark (Figure Of Merit)	213962927	122416800
Normalized	100%	57.21%
Standard Deviation	2.4%	0%
OpenFOAM - Motorbike 30M (sec)	263.49	464.34
Normalized	100%	56.75%
Standard Deviation	0.5%	0.2%
dav1d - S.N.1 (FPS)	496.82	438.06

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	Normalized	100%	88.17%
	Standard Deviation	0.9%	0.1%
dav1d - Summer Nature 4K (FPS)		128.88	102.30
	Normalized	100%	79.38%
	Standard Deviation	2.4%	0.4%
dav1d - Chimera 1080p (FPS)		553.32	456.52
	Normalized	100%	82.51%
	Standard Deviation	2.4%	0.2%
VKMark - 1920 x 1080 (VKMark Score)		833	513
	Normalized	100%	61.58%
	Standard Deviation	0.4%	0.4%
GLmark2 - 1920 x 1080 (Score)		849	525
	Normalized	100%	61.84%
oneDNN - C.B.S.A - f32 - CPU (ms)		17.6683	31.9318
	Normalized	100%	55.33%
	Standard Deviation	0.3%	0.2%
oneDNN - IP Shapes 3D - f32 - CPU (ms)		8.81906	16.6276
	Normalized	100%	53.04%
	Standard Deviation	1.5%	0.6%
oneDNN - M.M.B.S.T - f32 - CPU (ms)		3.79616	6.88996
	Normalized	100%	55.1%
	Standard Deviation	1%	0.7%
CLOMP - Static OMP Speedup (Speedup)		5.9	2.9
	Normalized	100%	49.15%
	Standard Deviation	4%	3%
NCNN - CPU - mobilenet (ms)		25.95	27.52
	Normalized	100%	94.3%
	Standard Deviation	1.2%	0.1%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)		6.47	7.79
	Normalized	100%	83.06%
	Standard Deviation	2.5%	0.9%
NCNN - CPU - efficientnet-b0 (ms)		9.41	10.06
	Normalized	100%	93.54%
	Standard Deviation	3.1%	0.6%
NCNN - CPU - googlenet (ms)		19.18	22.06
	Normalized	100%	86.94%
	Standard Deviation	0.1%	2.5%
NCNN - CPU - vgg16 (ms)		68.42	116.92
	Normalized	100%	58.52%
	Standard Deviation	0.1%	0.2%
NCNN - CPU - resnet18 (ms)		18.17	24.18
	Normalized	100%	75.14%
	Standard Deviation	0.2%	0.2%
NCNN - CPU - alexnet (ms)		15.31	21.08
	Normalized	100%	72.63%
	Standard Deviation	0.8%	0.4%
NCNN - CPU - resnet50 (ms)		36.39	43.37
	Normalized	100%	83.91%
	Standard Deviation	0.9%	0.3%
NCNN - CPU - yolov4-tiny (ms)		35.02	40.74
	Normalized	100%	85.96%
	Standard Deviation	1.9%	0.2%
NCNN - CPU - squeezenet_ssd (ms)		26.80	28.56
	Normalized	100%	93.84%
	Standard Deviation	0.7%	0.1%

OnLogic Helix 500 Linux benchmarks

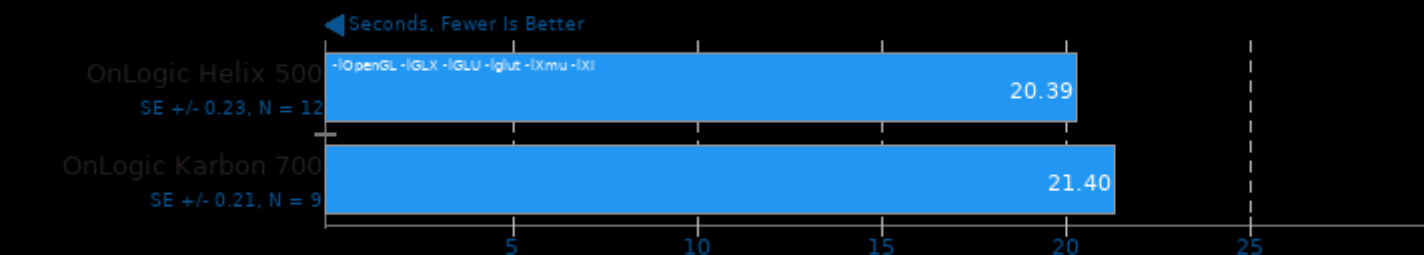
TNN - CPU - MobileNet v2 (ms)	366.518	368.053
Normalized	100%	99.58%
Standard Deviation	0.2%	0.2%
simdjson - PartialTweets (GB/s)	0.65	0.6
Normalized	100%	92.31%
Standard Deviation	0%	0%
simdjson - LargeRand (GB/s)	0.38	0.37
Normalized	100%	97.37%
Standard Deviation	0%	0%
simdjson - Kostya (GB/s)	0.59	0.48
Normalized	100%	81.36%
Standard Deviation	0%	0%
simdjson - DistinctUserID (GB/s)	0.67	0.61
Normalized	100%	91.04%
Standard Deviation	0%	0%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	63.361	61.284
Normalized	96.72%	100%
Standard Deviation	0.2%	0.2%
Timed HMMer Search - P.D.S (sec)	123.573	131.315
Normalized	100%	94.1%
Standard Deviation	0.1%	0%
HPC Challenge - R.R.B (GB/s)	1.70442	0.94729
Normalized	100%	55.58%
Standard Deviation	1.7%	0.6%
GROMACS - Water Benchmark (Ns/Day)	0.640	0.518
Normalized	100%	80.94%
Standard Deviation	0.5%	0.8%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	9.4193	8.9213
Normalized	100%	94.71%
Standard Deviation	2.4%	0.9%
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)	8.4878	7.9607
Normalized	100%	93.79%
Standard Deviation	1.8%	0.4%
ASTC Encoder - Fast (sec)	6.83	7.12
Normalized	100%	95.93%
Standard Deviation	1.6%	0.2%
WebP Image Encode - Q.1.L (Encode Time - sec)	19.703	20.246
Normalized	100%	97.32%
Standard Deviation	0.1%	0%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	41.117	43.409
Normalized	100%	94.72%
Standard Deviation	0.1%	0.1%
AI Benchmark Alpha - D.I.S (Score)	751	740
Normalized	100%	98.54%
AI Benchmark Alpha - D.T.S (Score)	857	684
Normalized	100%	79.81%
AI Benchmark Alpha - Device AI Score (Score)	1608	1424
Normalized	100%	88.56%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	70.533	79.264
Normalized	100%	88.98%
Standard Deviation	1%	0.3%
Waifu2x-NCNN Vulkan - 2x - 3 - No (sec)	9.693	10.765
Normalized	100%	90.04%
Standard Deviation	0.1%	0.1%
RealSR-NCNN - 4x - Yes (sec)	1442	1762

OnLogic Helix 500 Linux benchmarks

	Normalized	100%	81.82%
	Standard Deviation	0%	0%
RealSR-NCNN - 4x - No (sec)		182.998	223.166
	Normalized	100%	82%
	Standard Deviation	0%	0%
DeepSpeech - CPU (sec)		78.40240	115.72795
	Normalized	100%	67.75%
	Standard Deviation	0.9%	0.8%
InfluxDB - 4 - 10000 - 2,5000,1 - 10000 (val/sec)		1118525	1061688
	Normalized	100%	94.92%
	Standard Deviation	0.8%	3%
LibRaw - P.P.B (Mpix/sec)		28.35	26.91
	Normalized	100%	94.92%
	Standard Deviation	1.8%	0.4%
Unpacking Firefox - firefox-84.0.source.tar.xz (sec)		20.722	21.947
	Normalized	100%	94.42%
	Standard Deviation	0.4%	5.1%
LevelDB - Seq Fill (MB/s)		32.9	33.2
	Normalized	99.1%	100%
	Standard Deviation	2.2%	6%
LevelDB - Seq Fill (us/Op)		53.895	53.437
	Normalized	99.15%	100%
	Standard Deviation	2.2%	6.3%
LevelDB - Rand Fill (MB/s)		33.6	27.6
	Normalized	100%	82.14%
	Standard Deviation	2.5%	18.5%
LevelDB - Rand Delete (us/Op)		53.394	48.851
	Normalized	91.49%	100%
	Standard Deviation	1.3%	0.9%
LevelDB - Hot Read (us/Op)		9.381	10.365
	Normalized	100%	90.51%
	Standard Deviation	5%	4.8%
LevelDB - Seek Rand (us/Op)		12.591	14.420
	Normalized	100%	87.32%
	Standard Deviation	4.2%	2.9%

WebP2 Image Encode 20210126

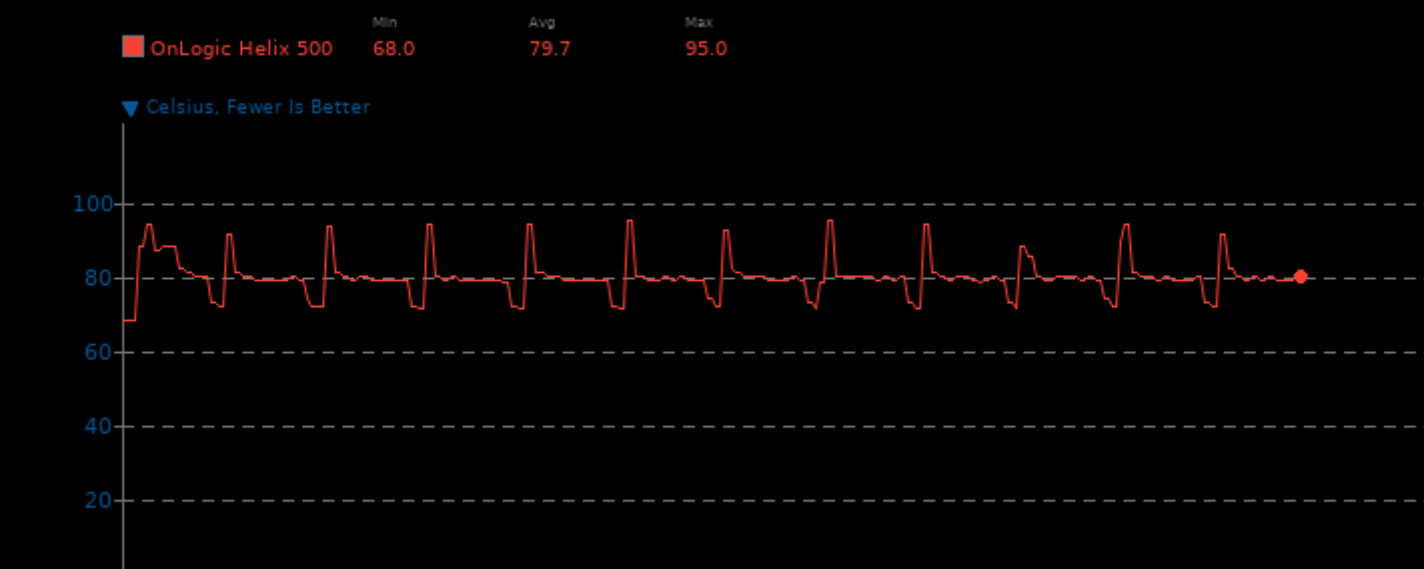
Encode Settings: Quality 100, Compression Effort 5



1. (CXX) g++ options: -mssse4.2 -fno-rtti -O3 -rdynamic -lpthread -ljpeg

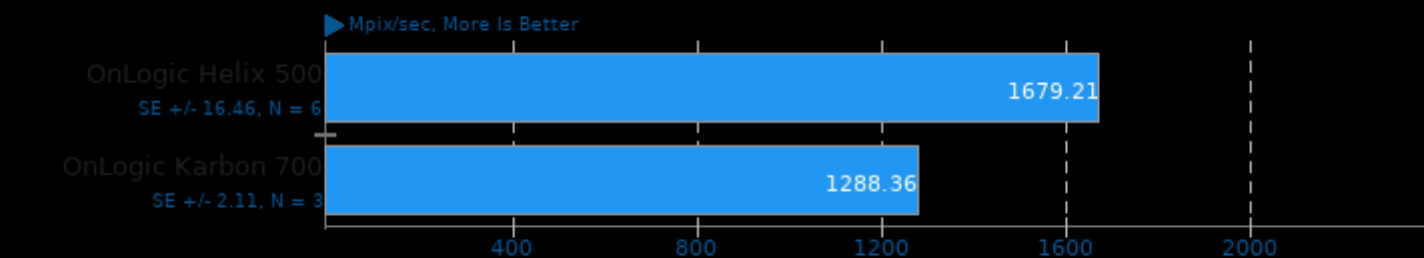
WebP2 Image Encode 20210126

CPU Temperature Monitor



ASKAP 1.0

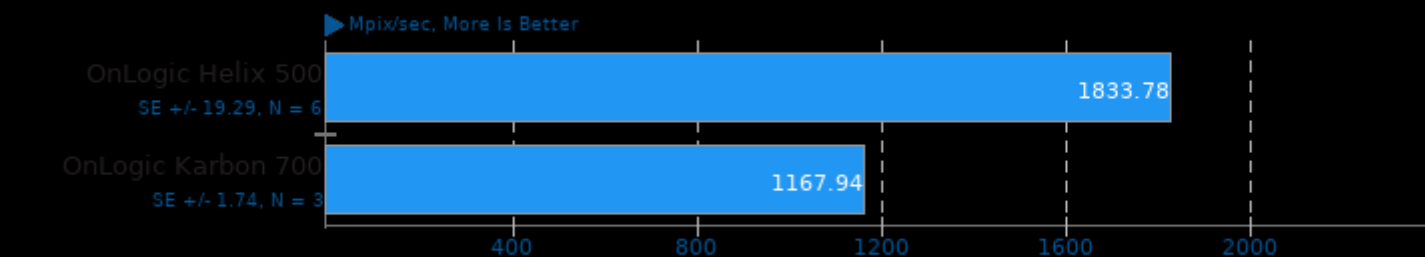
Test: tConvolve MPI - Degriding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

ASKAP 1.0

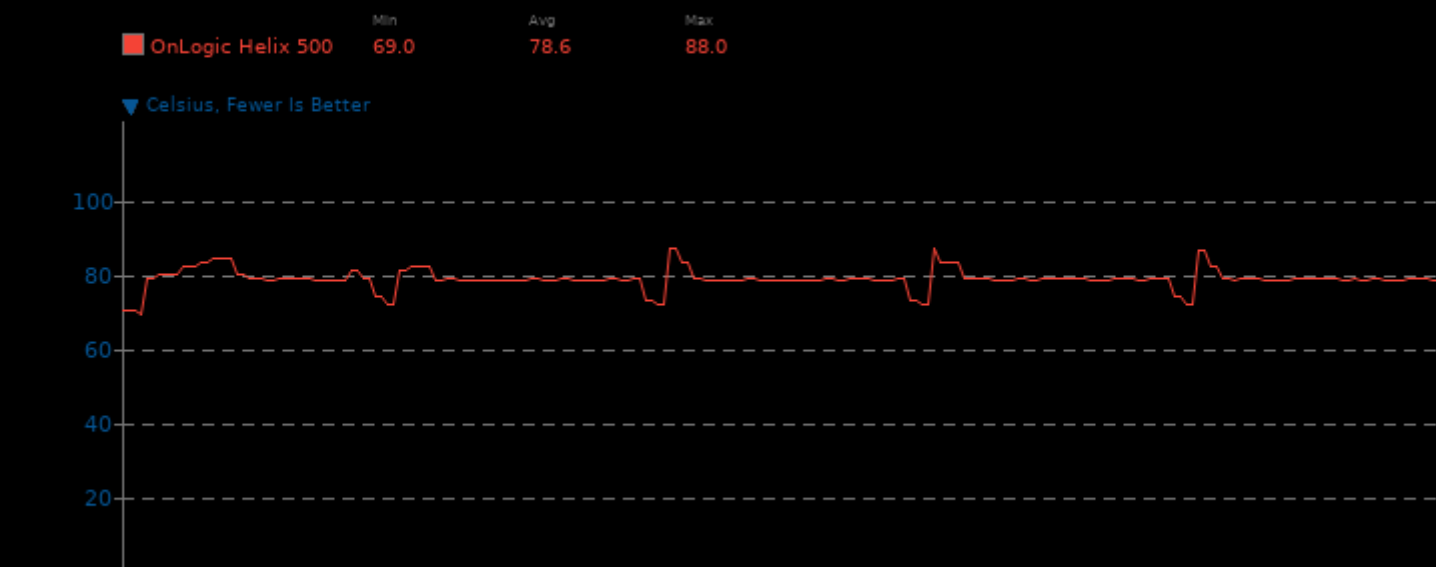
Test: tConvolve MPI - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

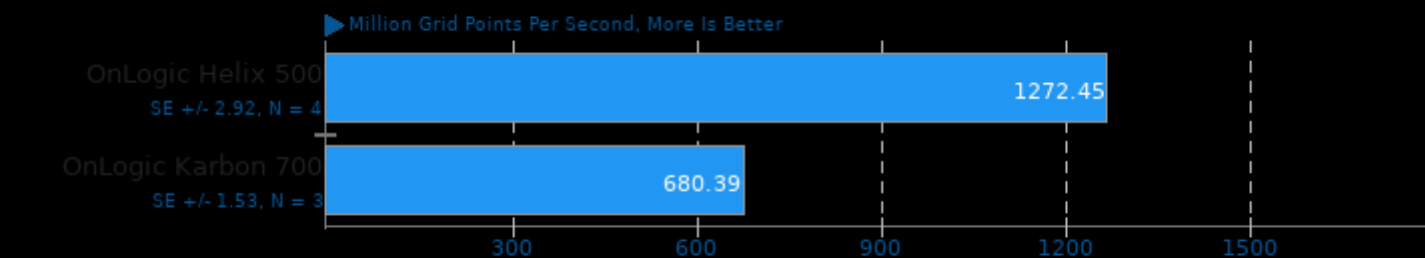
ASKAP 1.0

CPU Temperature Monitor



ASKAP 1.0

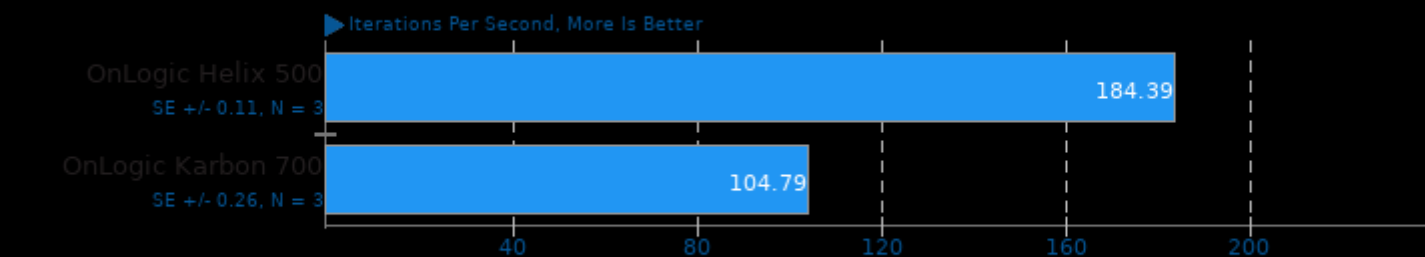
Test: tConvolve OpenMP - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

ASKAP 1.0

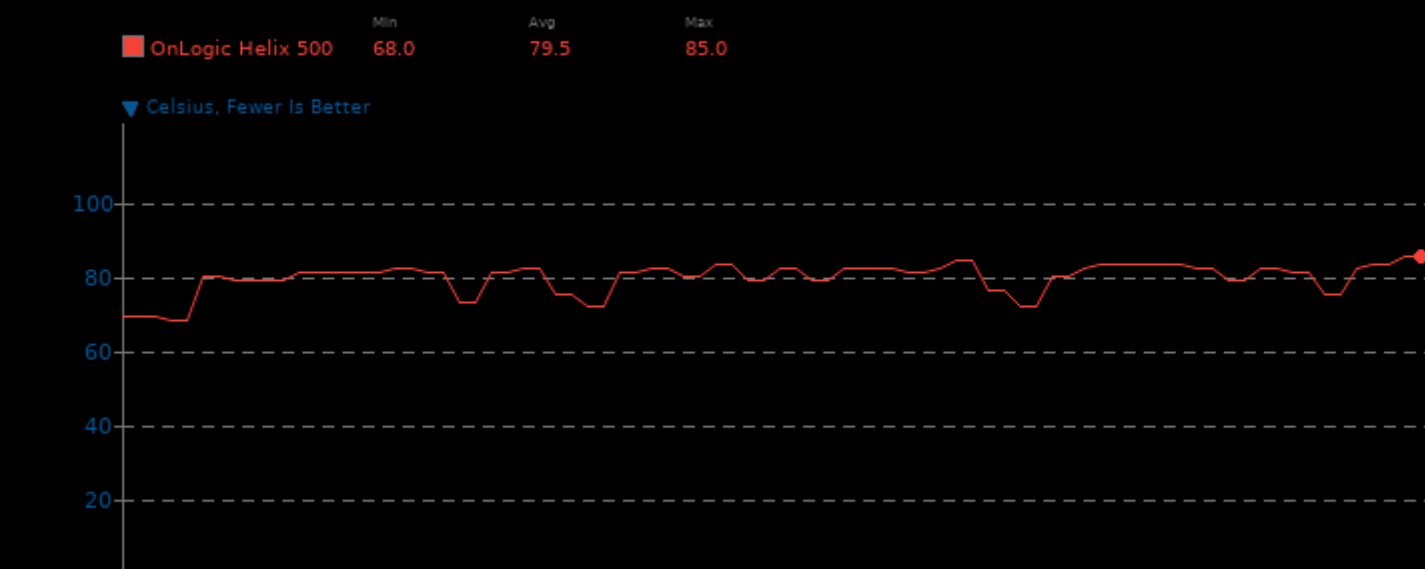
Test: Hogbom Clean OpenMP



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

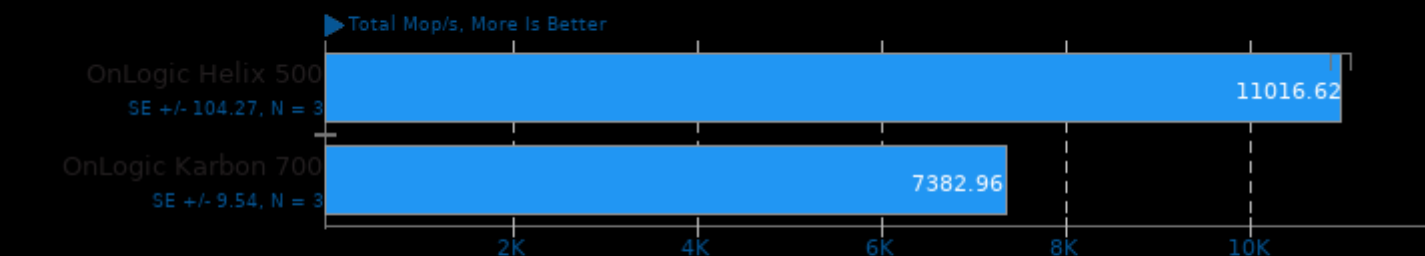
ASKAP 1.0

CPU Temperature Monitor



NAS Parallel Benchmarks 3.4

Test / Class: FT.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti

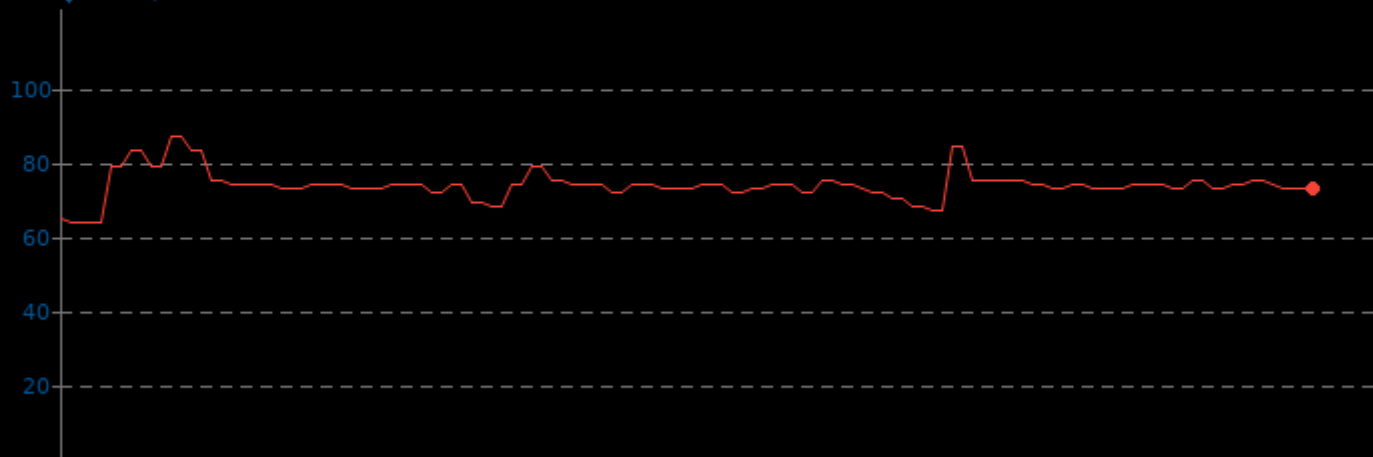
2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

OnLogic Helix 500 Min 64.0 Avg 73.8 Max 87.0

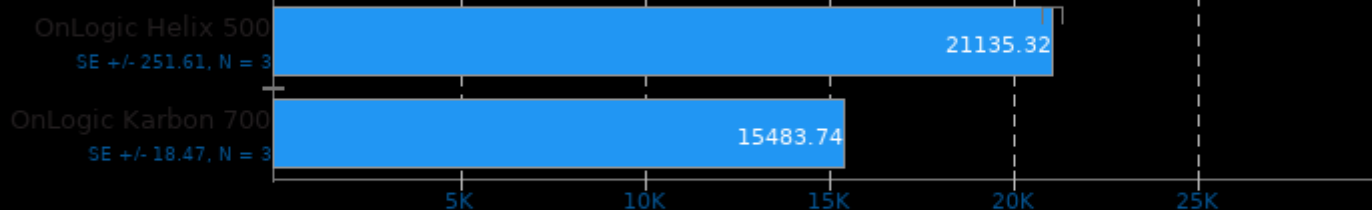
▼ Celsius, Fewer Is Better



NAS Parallel Benchmarks 3.4

Test / Class: LU.C

► Total Mop/s, More Is Better



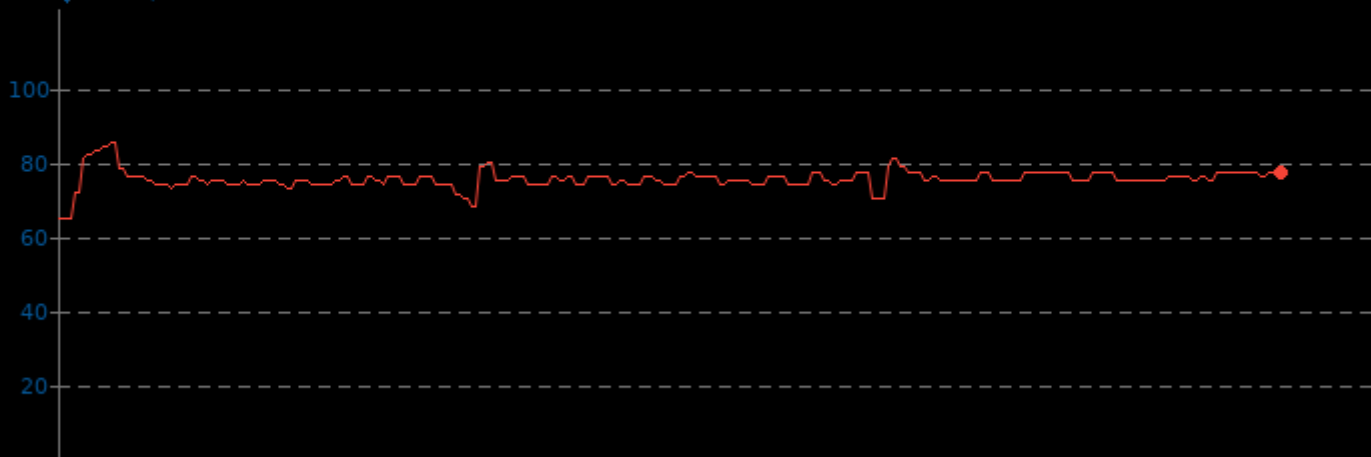
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwcloc -ldl -levent -levent_pthreads -lutil
2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	65.0	75.3	85.0

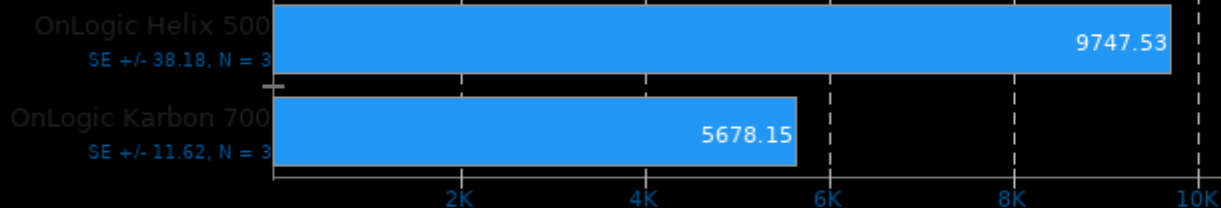
▼ Celsius, Fewer Is Better



NAS Parallel Benchmarks 3.4

Test / Class: MG.C

► Total Mop/s, More Is Better



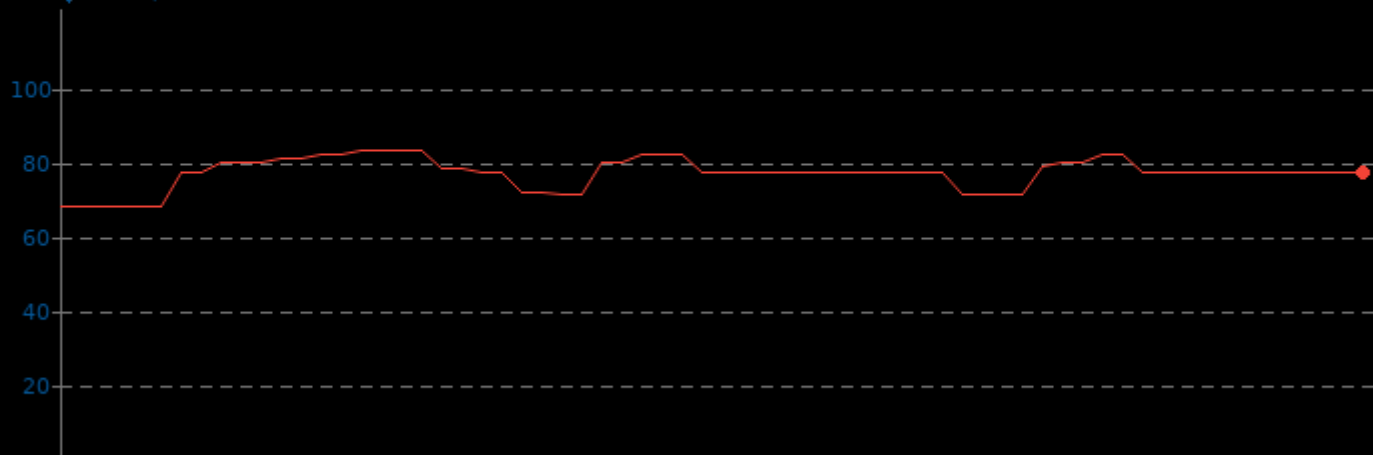
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwcloc -ldl -levent -levent_pthreads -lutil
2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	68.0	76.9	83.0

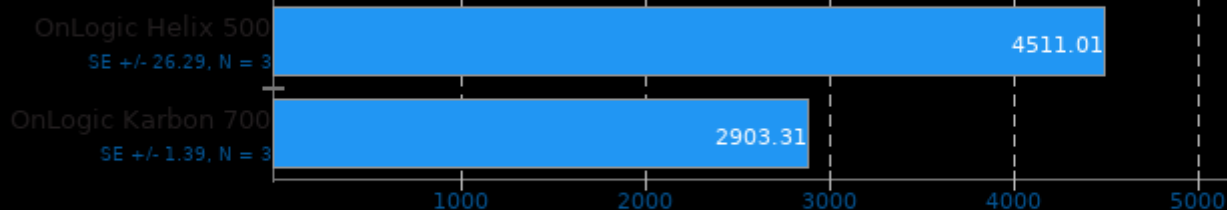
▼ Celsius, Fewer Is Better



NAS Parallel Benchmarks 3.4

Test / Class: CG.C

► Total Mop/s, More Is Better



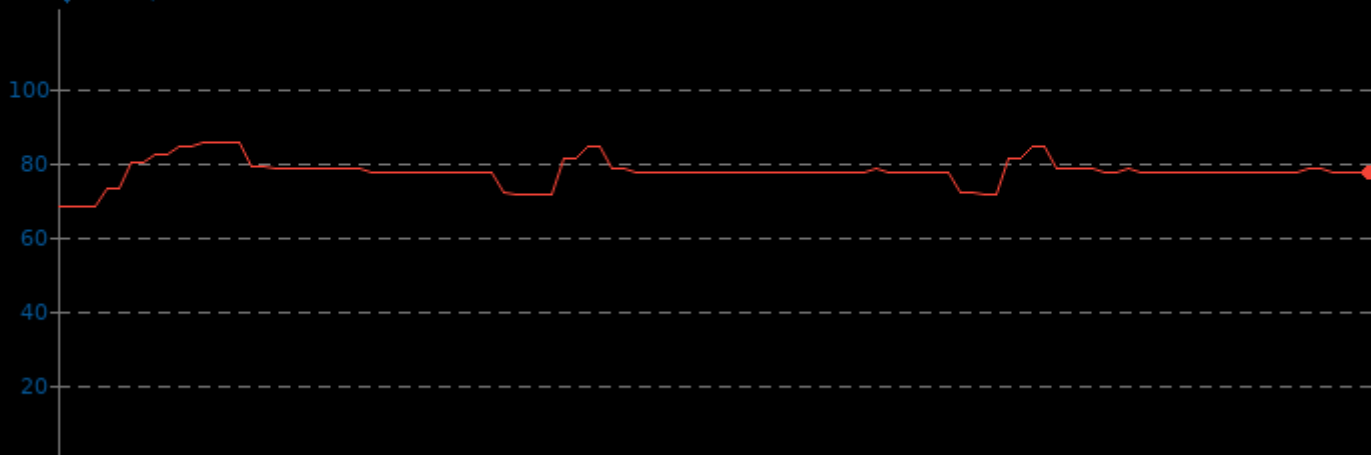
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwcloc -ldl -levent -levent_pthreads -lutil
2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

OnLogic Helix 500 Min 68.0 Avg 77.3 Max 85.0

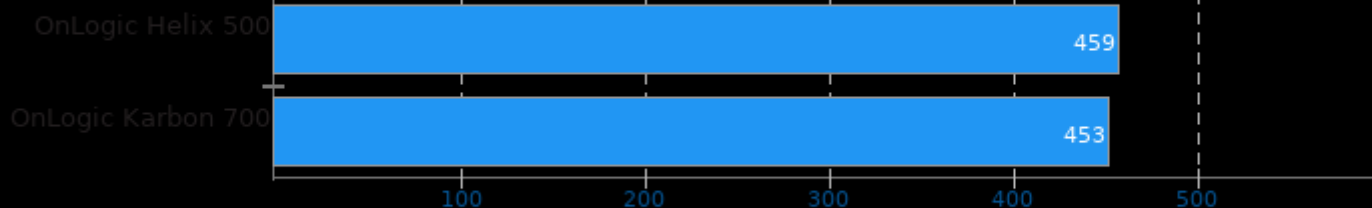
▼ Celsius, Fewer Is Better



Izbench 1.8

Test: Zstd 1 - Process: Compression

► MB/s, More Is Better

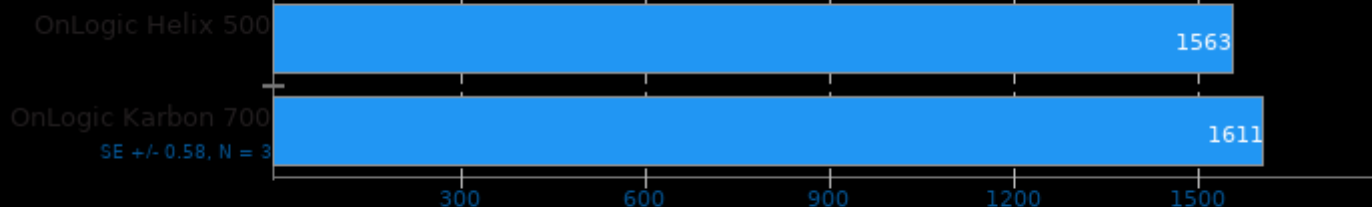


1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

Test: Zstd 1 - Process: Decompression

► MB/s, More Is Better



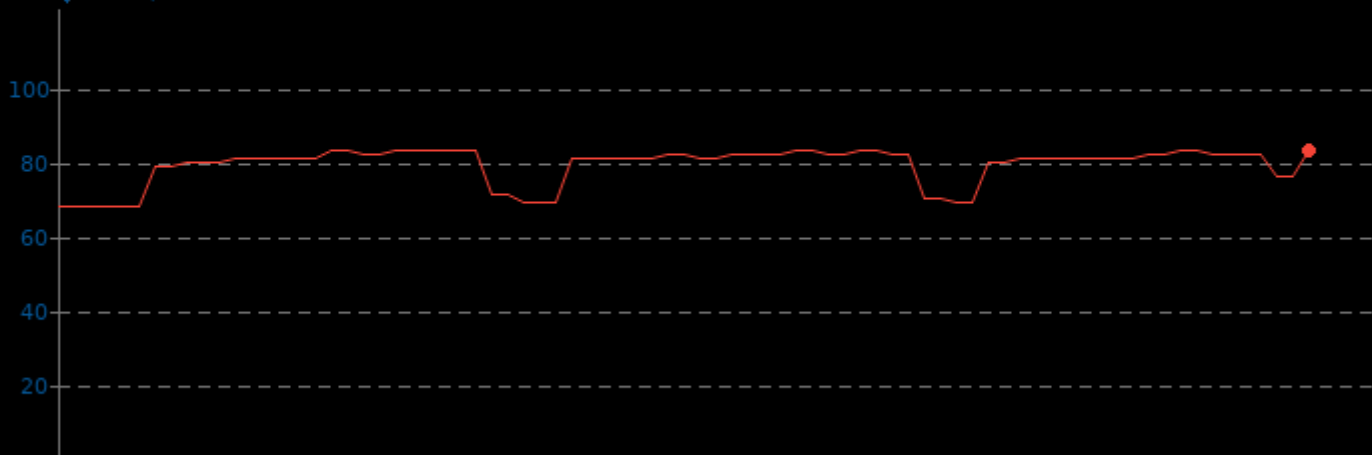
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

CPU Temperature Monitor

■ OnLogic Helix 500 Min 68.0 Avg 79.1 Max 83.0

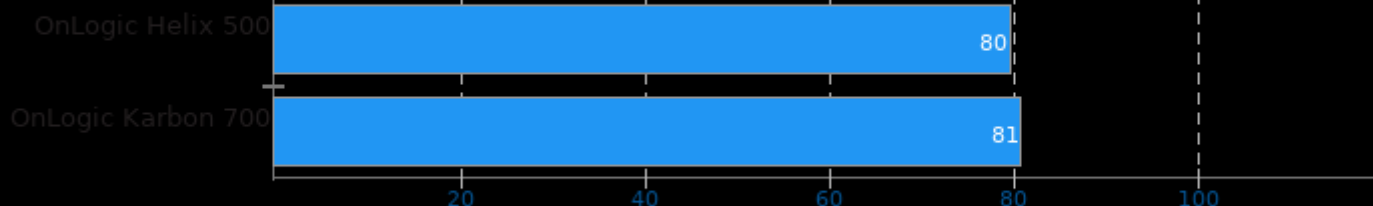
▼ Celsius, Fewer Is Better



Izbench 1.8

Test: Zstd 8 - Process: Compression

► MB/s, More Is Better

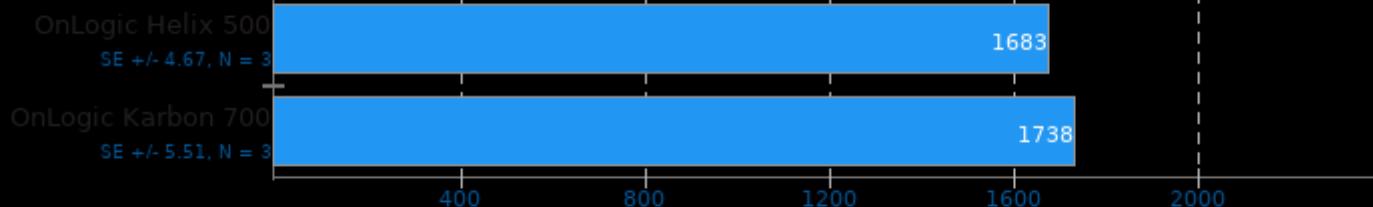


1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

Test: Zstd 8 - Process: Decompression

► MB/s, More Is Better



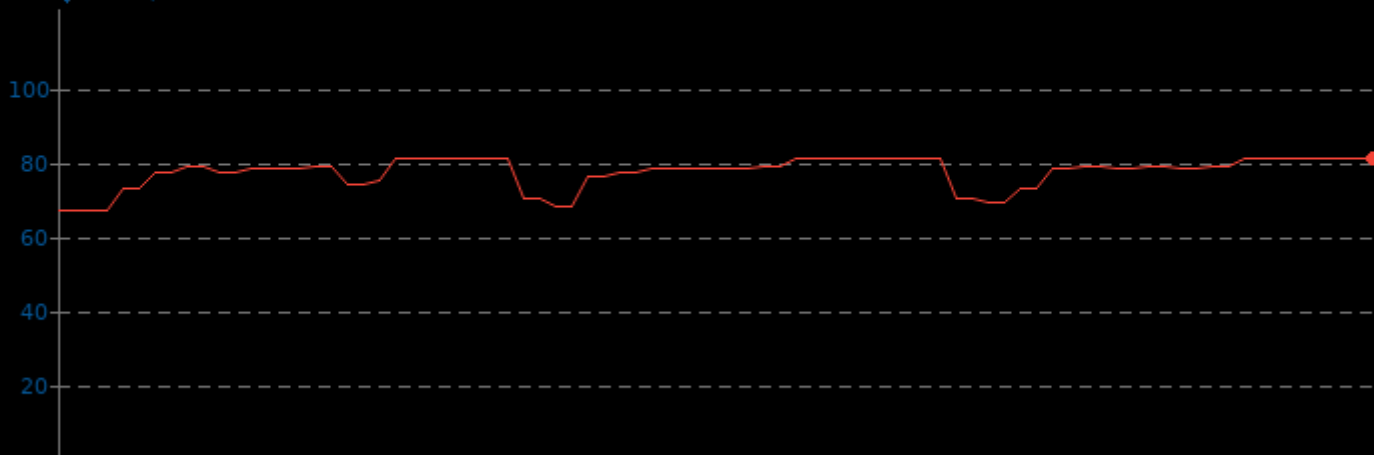
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

CPU Temperature Monitor

■ OnLogic Helix 500 Min 67.0 Avg 77.3 Max 81.0

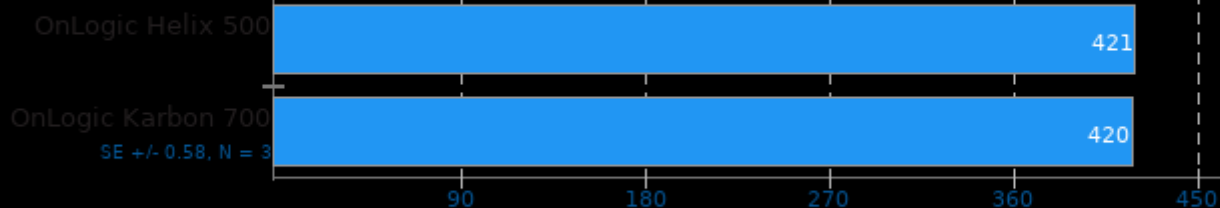
▼ Celsius, Fewer Is Better



Izbench 1.8

Test: Brotli 0 - Process: Compression

► MB/s, More Is Better

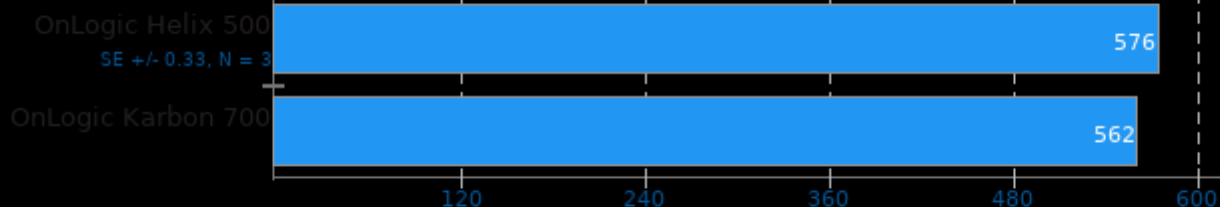


1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

Test: Brotli 0 - Process: Decompression

► MB/s, More Is Better



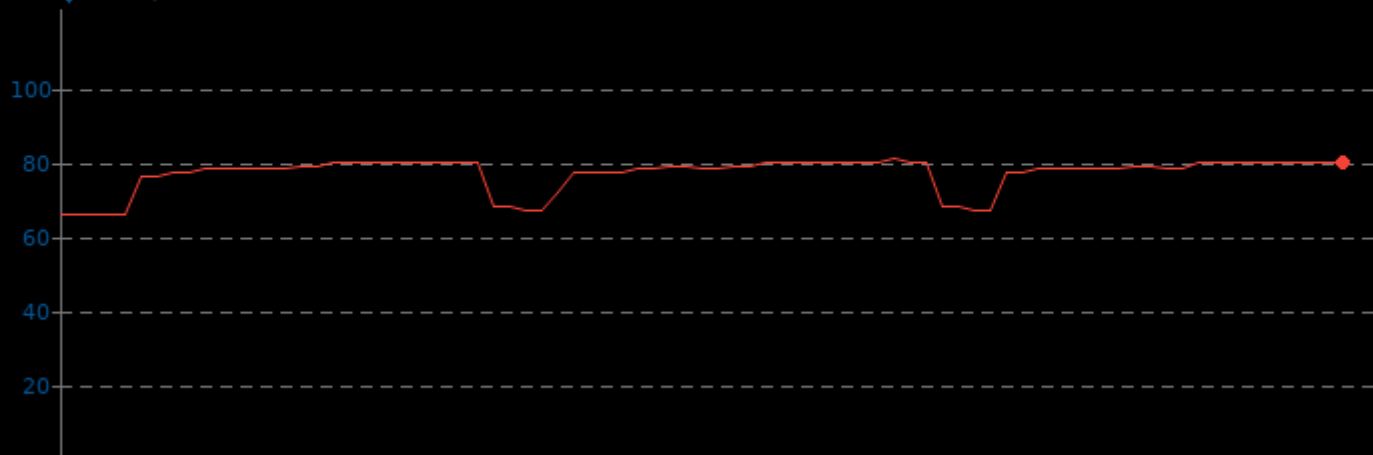
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

CPU Temperature Monitor

■ OnLogic Helix 500 Min 66.0 Avg 76.9 Max 81.0

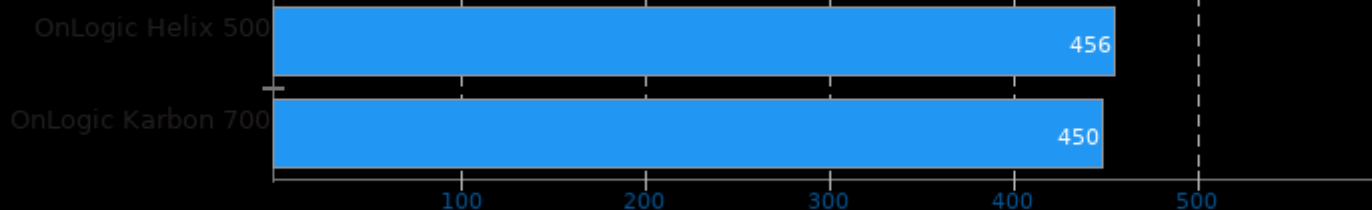
▼ Celsius, Fewer Is Better



Izbench 1.8

Test: Crush 0 - Process: Decompression

► MB/s, More Is Better



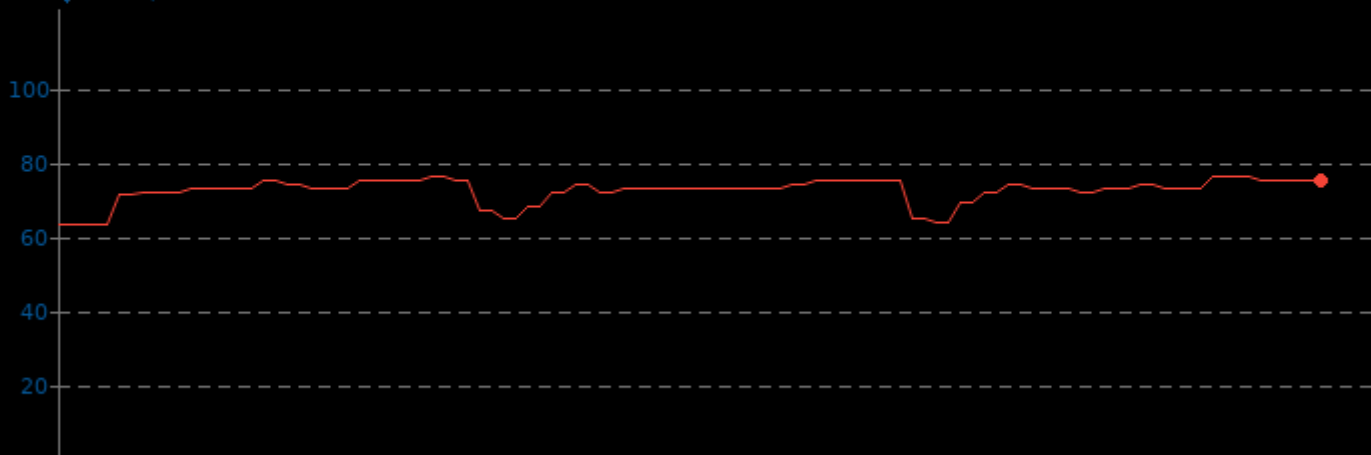
1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	63.0	72.3	76.0

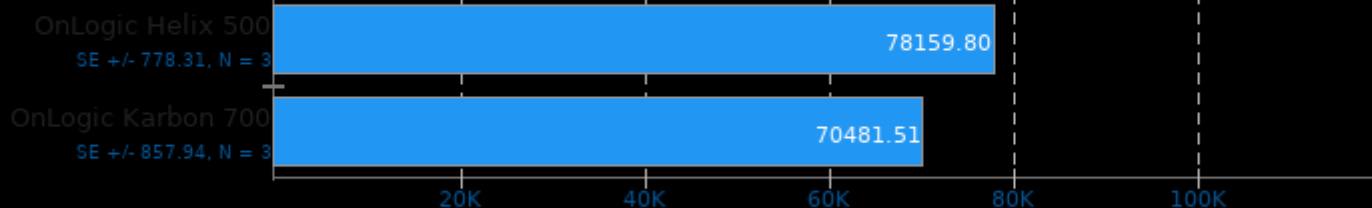
▼ Celsius, Fewer Is Better



FinanceBench 2016-07-25

Benchmark: Bonds OpenMP

◀ ms, Fewer Is Better



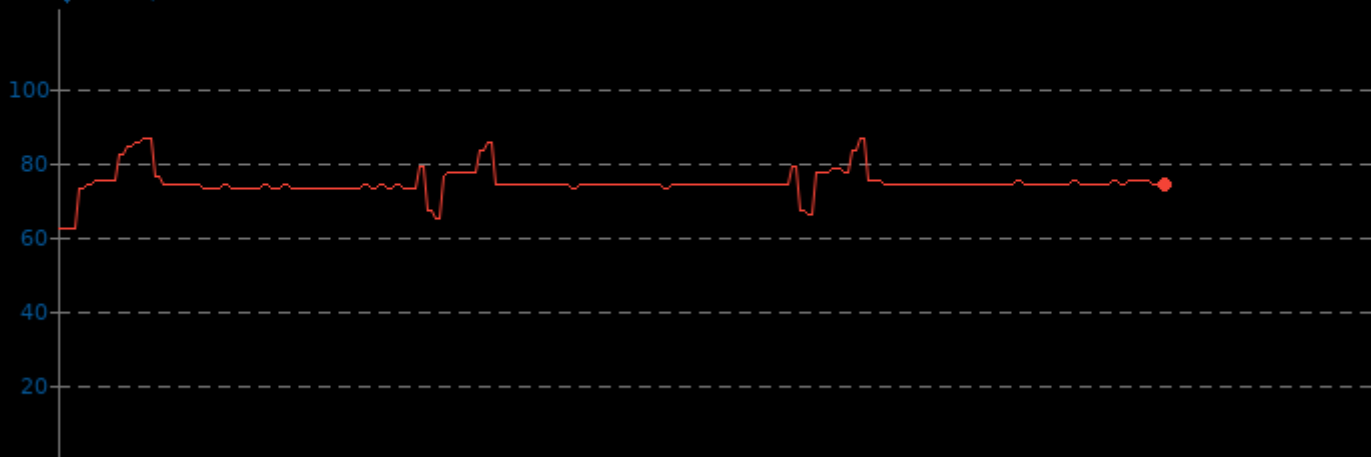
1. (CXX) g++ options: -O3 -march=native -fopenmp

FinanceBench 2016-07-25

CPU Temperature Monitor

■ OnLogic Helix 500 Min 62.0 Avg 74.4 Max 86.0

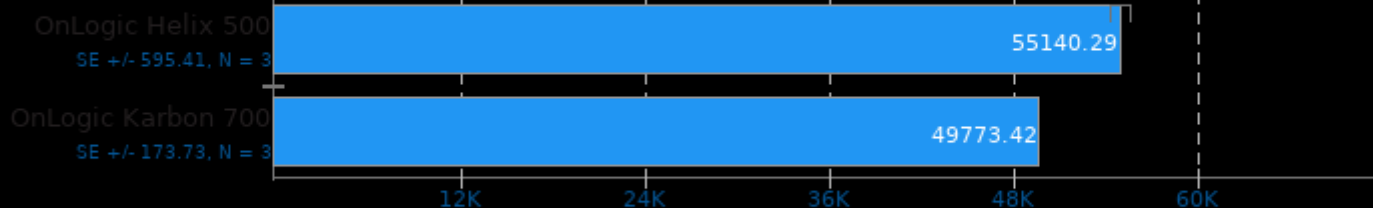
▼ Celsius, Fewer Is Better



FinanceBench 2016-07-25

Benchmark: Repo OpenMP

◀ ms, Fewer Is Better



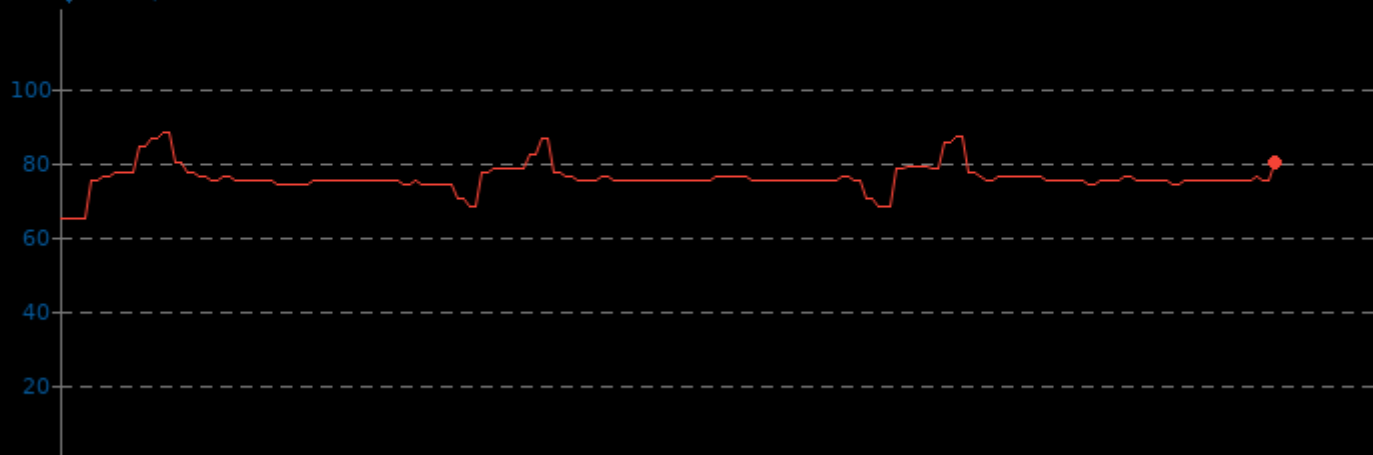
1. (CXX) g++ options: -O3 -march=native -fopenmp

FinanceBench 2016-07-25

CPU Temperature Monitor

OnLogic Helix 500 Min 65.0 Avg 75.7 Max 88.0

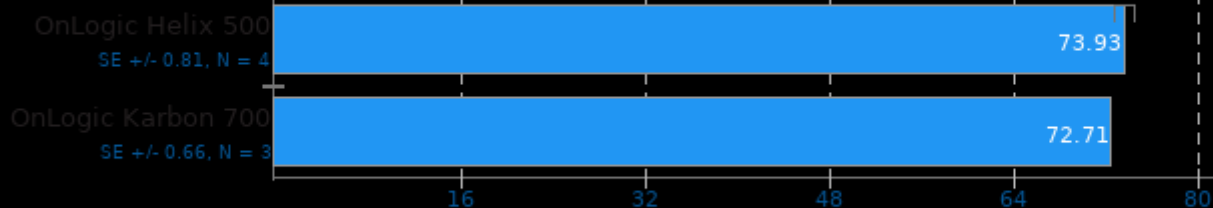
▼ Celsius, Fewer Is Better



GnuPG 2.2.27

2.7GB Sample File Encryption

◀ Seconds, Fewer Is Better



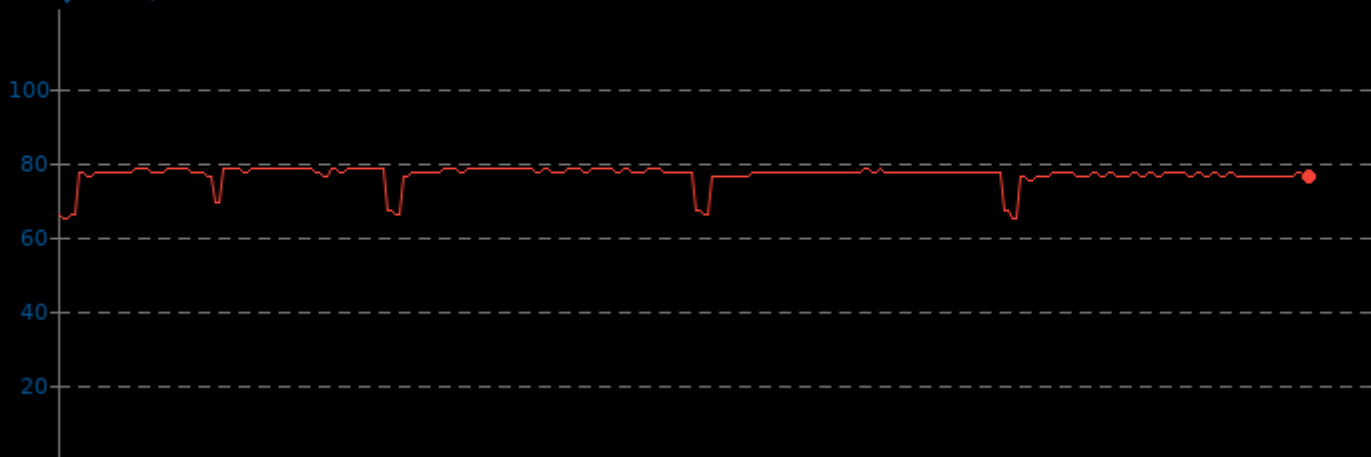
1. (CO) gcc options: -O2

GnuPG 2.2.27

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	65.0	76.4	78.0

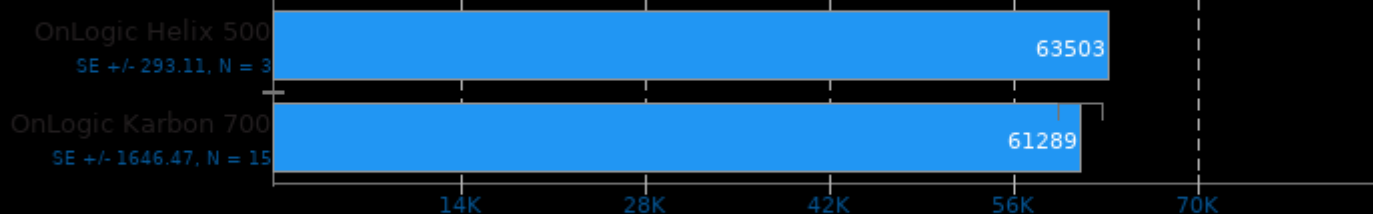
▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.15.5

Algorithm: Triple SHA-256, Onecoin

► kH/s, More Is Better



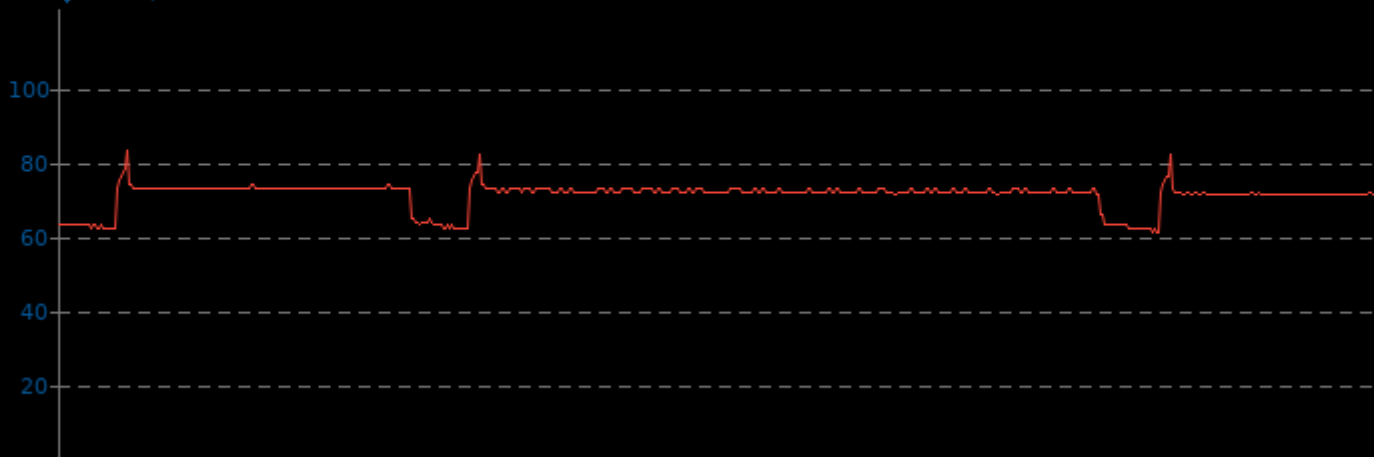
1. (CXX) g++ options: -O2 -fcurl -fz -fpthread -fssl -fcrypto -fgmp

Cpuminer-Opt 3.15.5

CPU Temperature Monitor

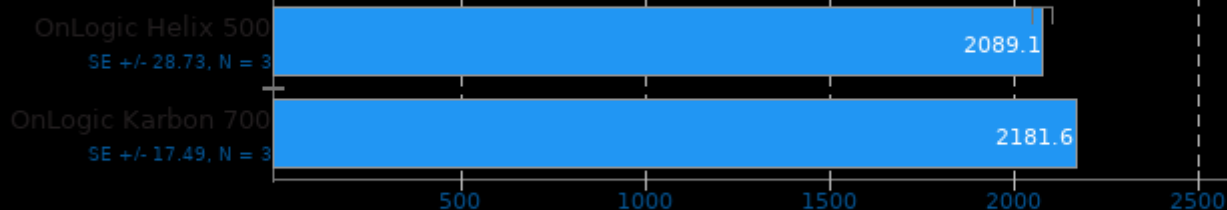
OnLogic Helix 500 Min 61.0 Avg 71.2 Max 83.0

▼ Celsius, Fewer Is Better



QuantLib 1.21

► MFLOPS, More Is Better



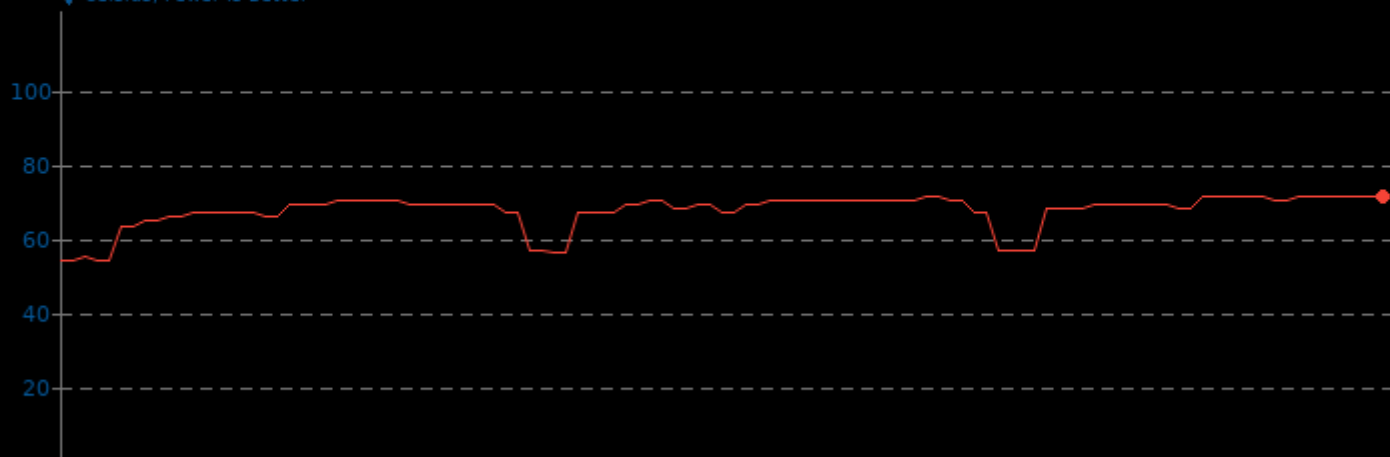
1. (CXX) g++ options: -O3 -march=native -rdynamic

QuantLib 1.21

CPU Temperature Monitor

OnLogic Helix 500 Min 54.0 Avg 67.4 Max 71.0

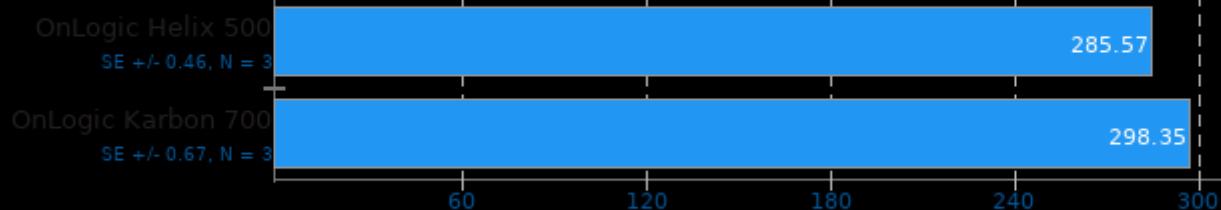
▼ Celsius, Fewer Is Better



Etcpak 0.7

Configuration: ETC1

► Mpx/s, More Is Better



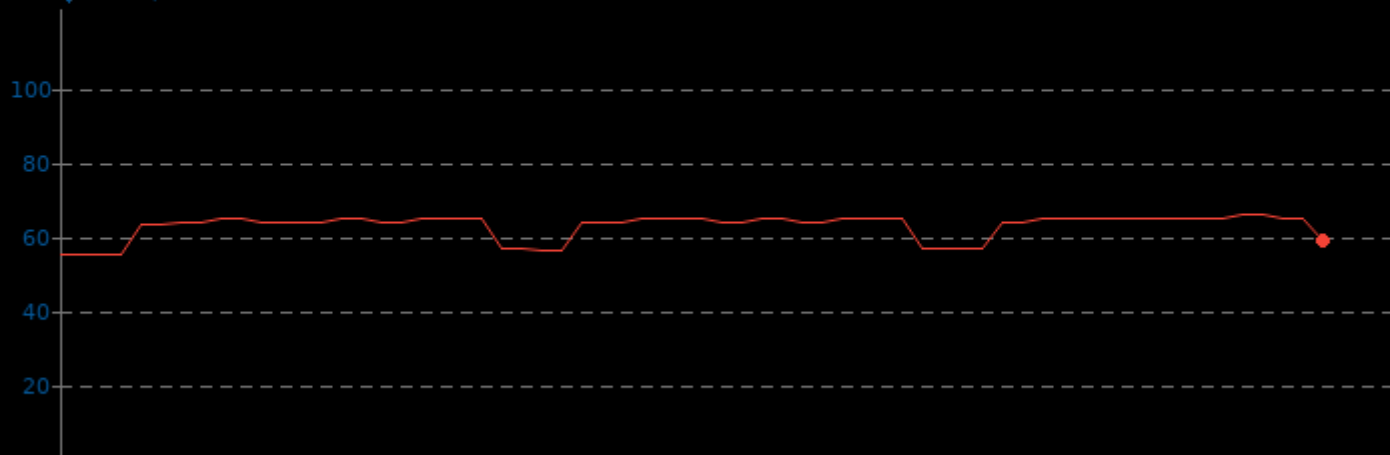
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	55.0	63.0	66.0

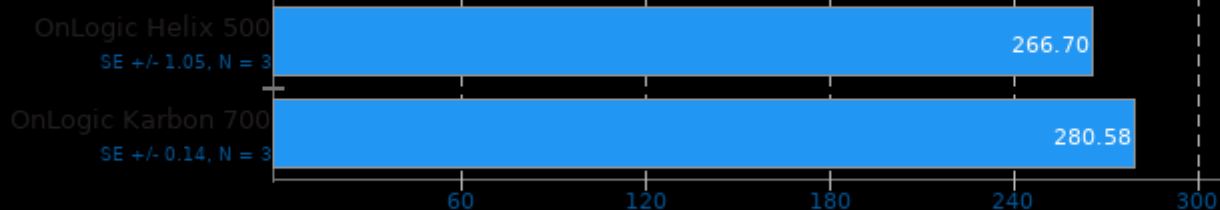
▼ Celsius, Fewer Is Better



Etcpak 0.7

Configuration: ETC1 + Dithering

► Mpx/s, More Is Better



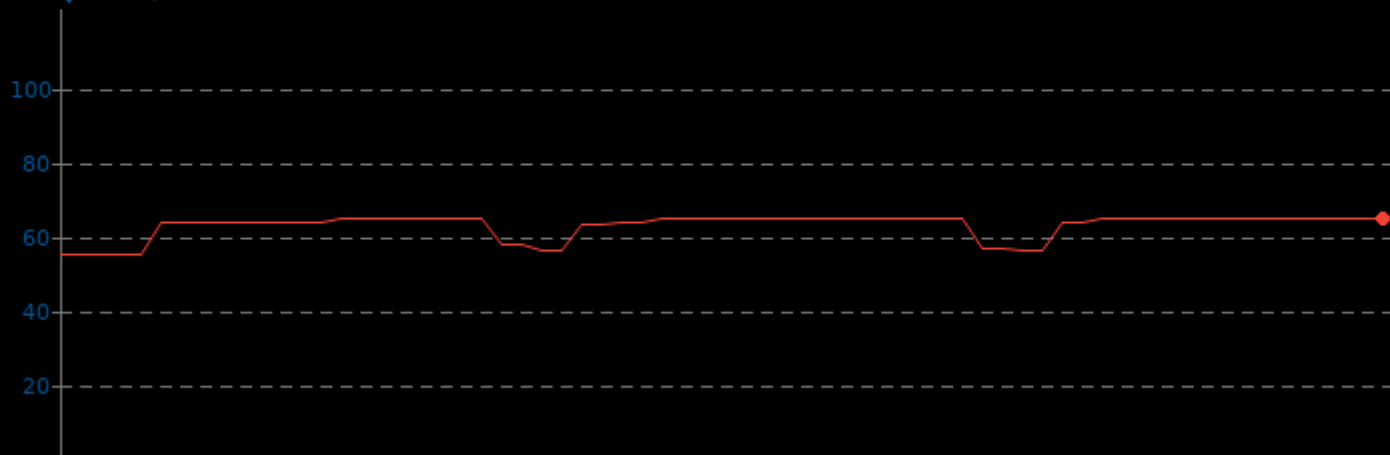
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	55.0	63.0	65.0

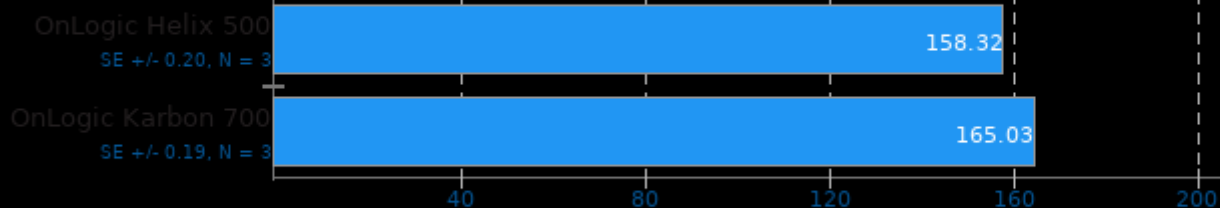
▼ Celsius, Fewer Is Better



Etcpak 0.7

Configuration: ETC2

► Mpx/s, More Is Better



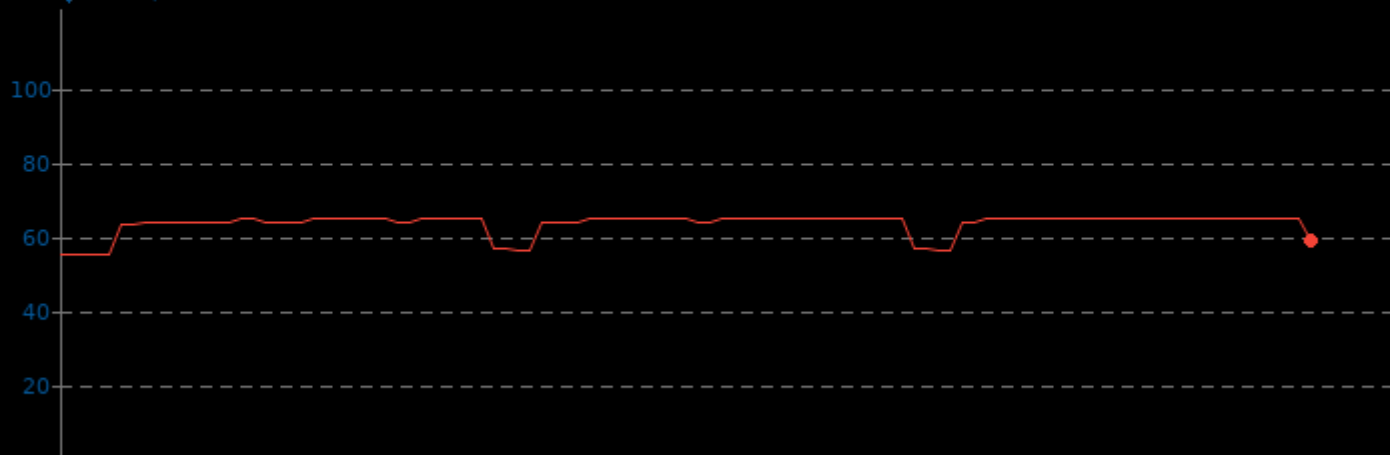
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

CPU Temperature Monitor

OnLogic Helix 500 Min 55.0 Avg 63.6 Max 65.0

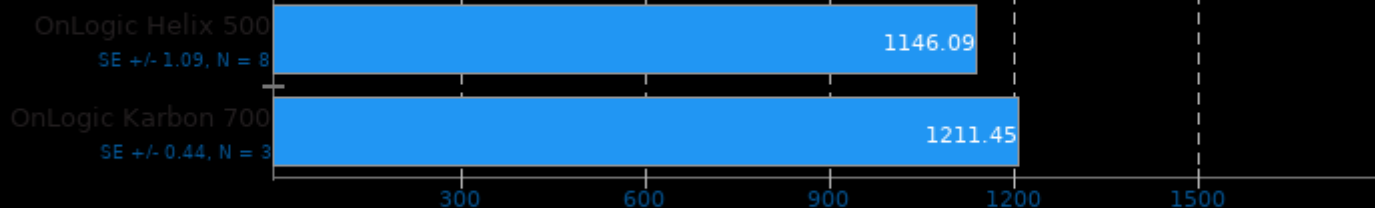
▼ Celsius, Fewer Is Better



Etcpak 0.7

Configuration: DXT1

► Mpx/s, More Is Better



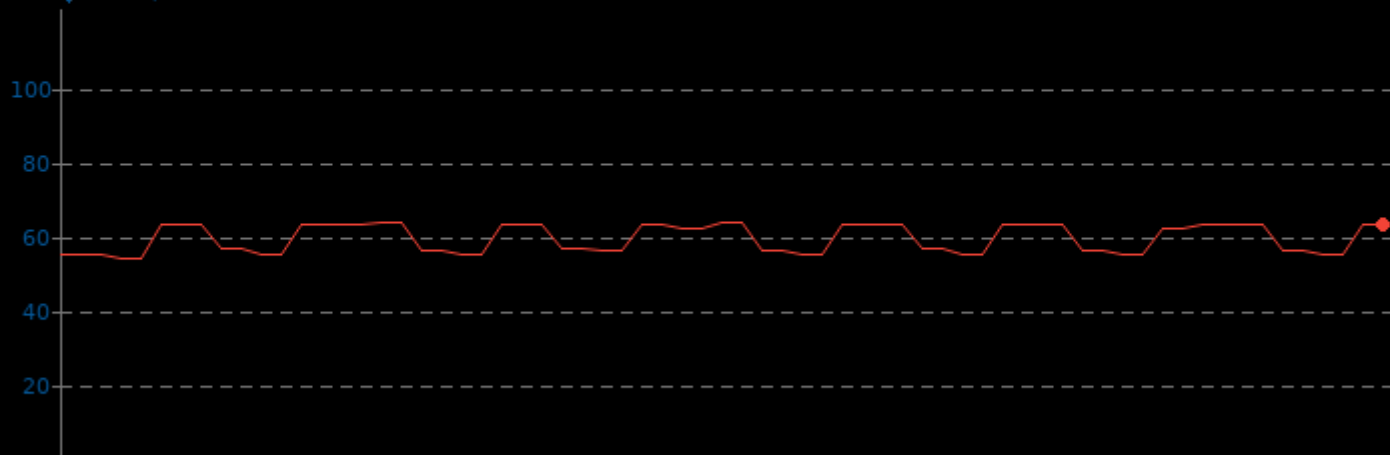
1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

Etcpak 0.7

CPU Temperature Monitor

OnLogic Helix 500 Min 54.0 Avg 59.4 Max 64.0

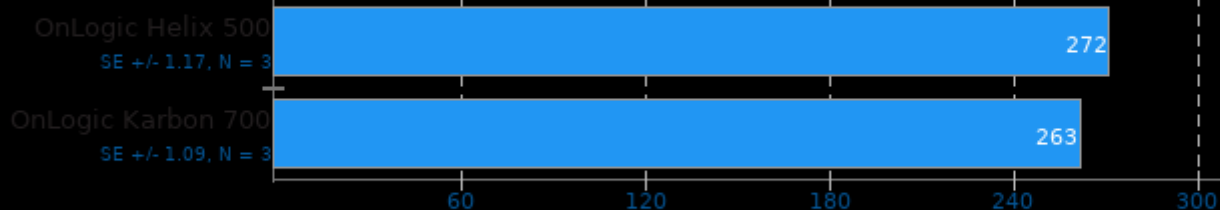
▼ Celsius, Fewer Is Better



ONNX Runtime 1.6

Model: yolov4 - Device: OpenMP CPU

► Inferences Per Minute, More Is Better



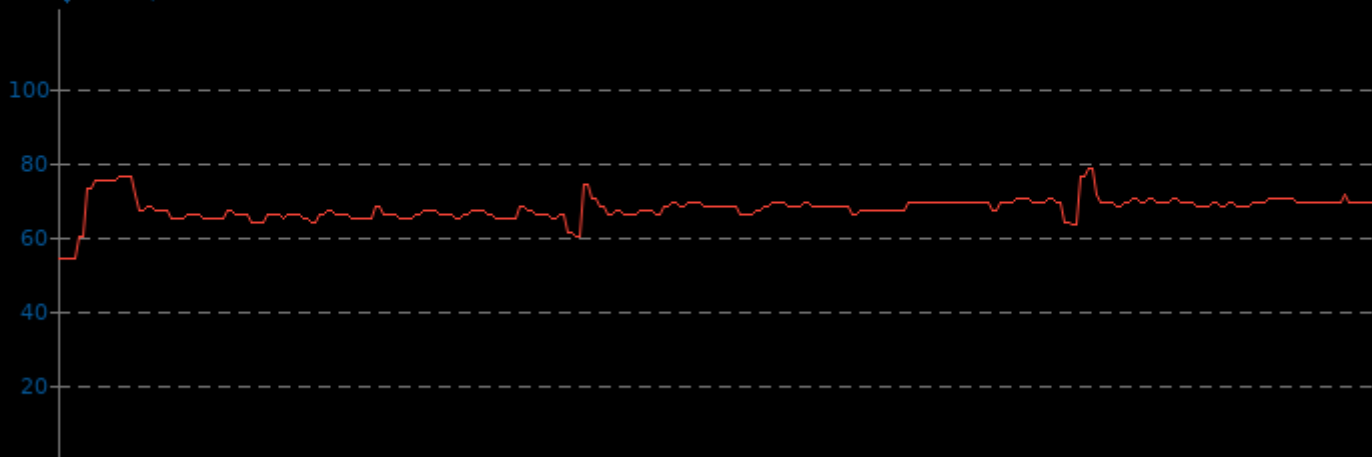
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

CPU Temperature Monitor

OnLogic Helix 500 Min: 54.0 Avg: 67.8 Max: 78.0

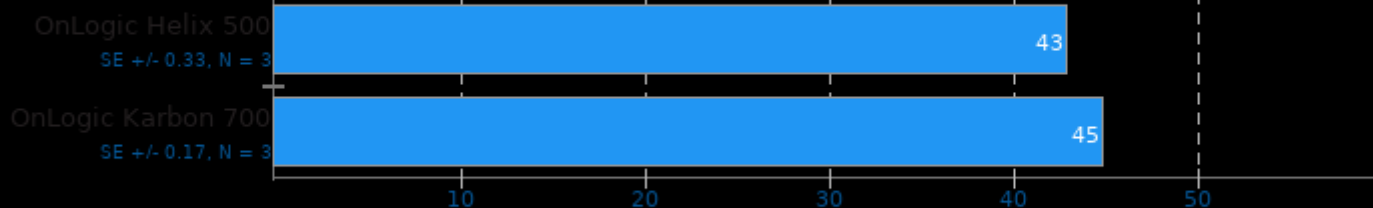
▼ Celsius, Fewer Is Better



ONNX Runtime 1.6

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

► Inferences Per Minute, More Is Better



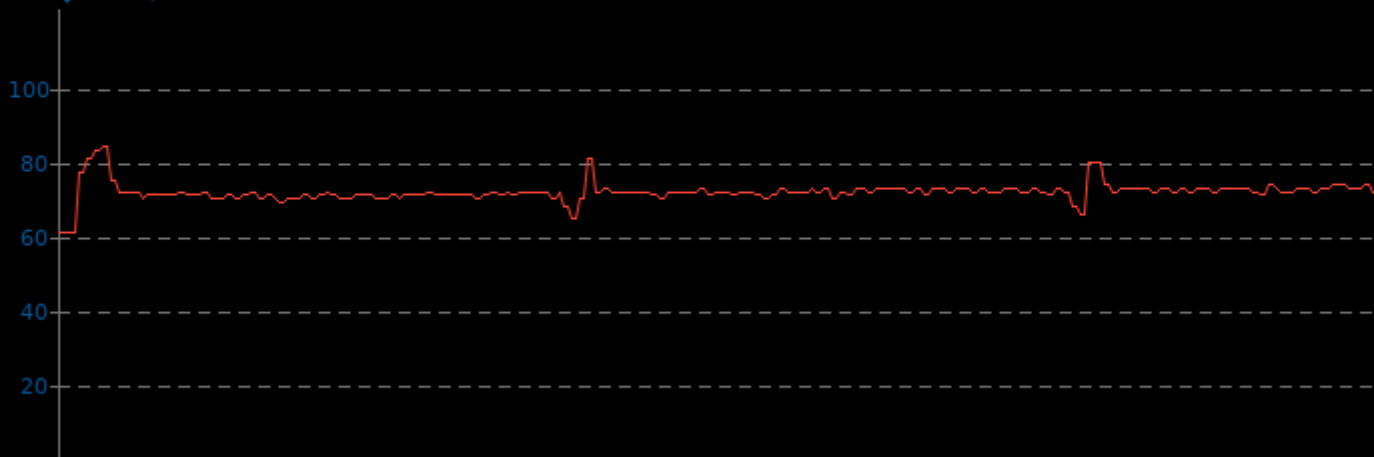
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	61.0	72.1	84.0

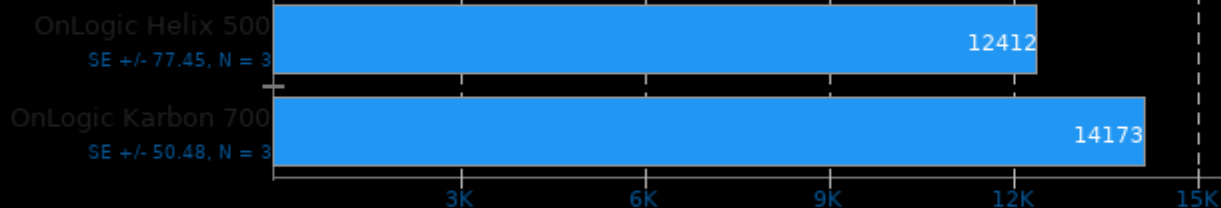
▼ Celsius, Fewer Is Better



ONNX Runtime 1.6

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

► Inferences Per Minute, More Is Better



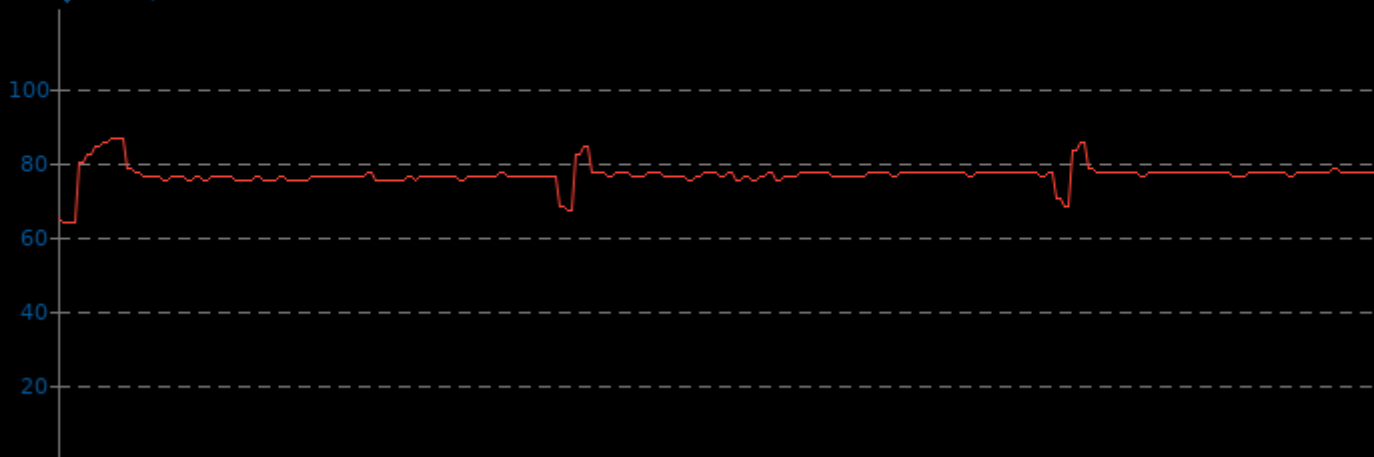
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	64.0	76.4	86.0

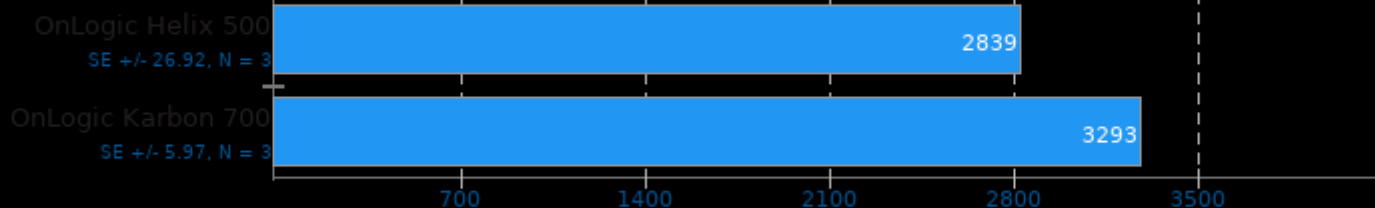
▼ Celsius, Fewer Is Better



ONNX Runtime 1.6

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

► Inferences Per Minute, More Is Better



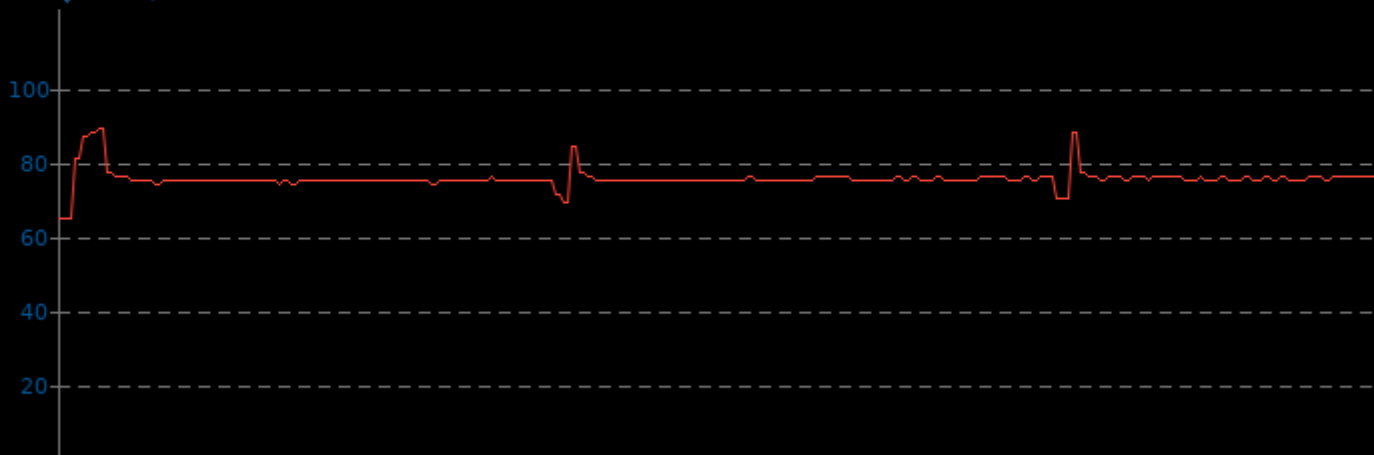
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	65.0	75.5	89.0

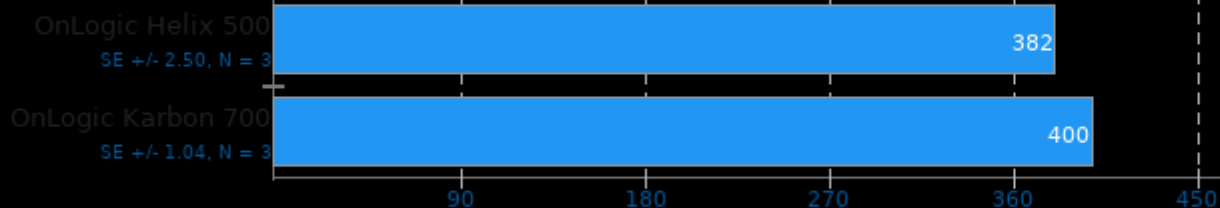
▼ Celsius, Fewer Is Better



ONNX Runtime 1.6

Model: bert squad-10 - Device: OpenMP CPU

► Inferences Per Minute, More Is Better



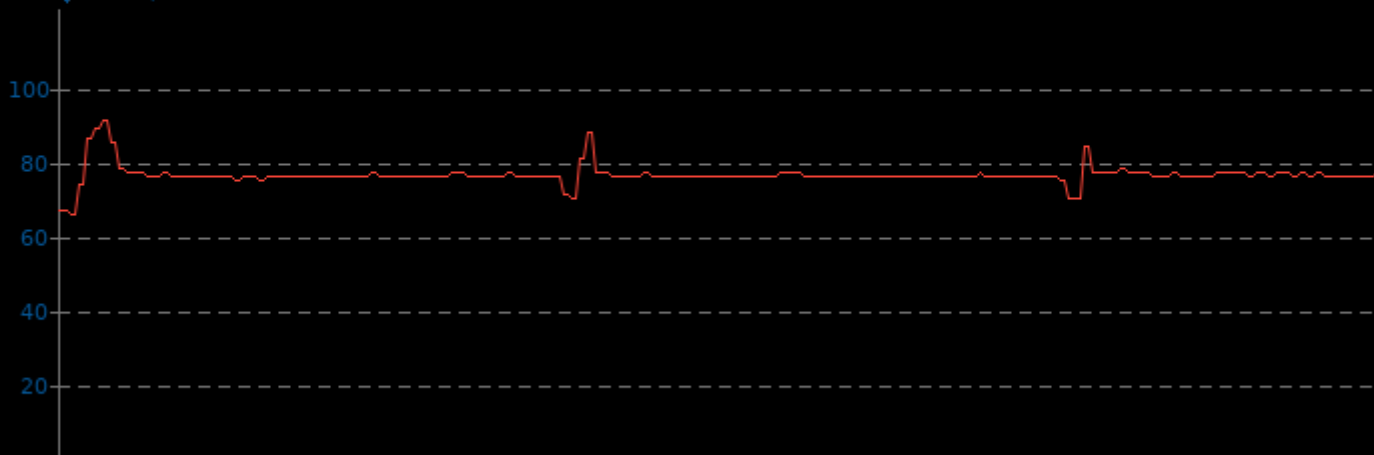
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	66.0	76.4	91.0

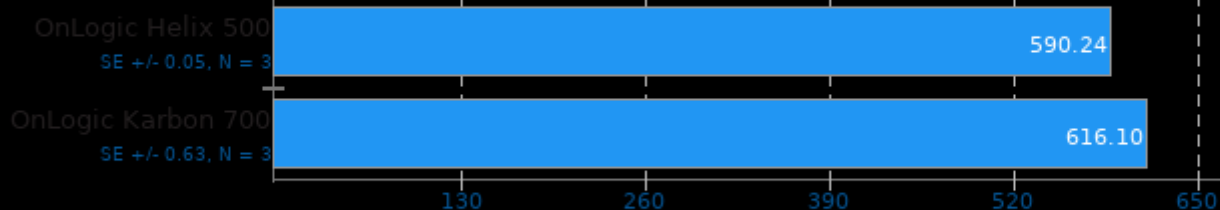
▼ Celsius, Fewer Is Better



Google SynthMark 20201109

Test: VoiceMark_100

► Voices, More Is Better



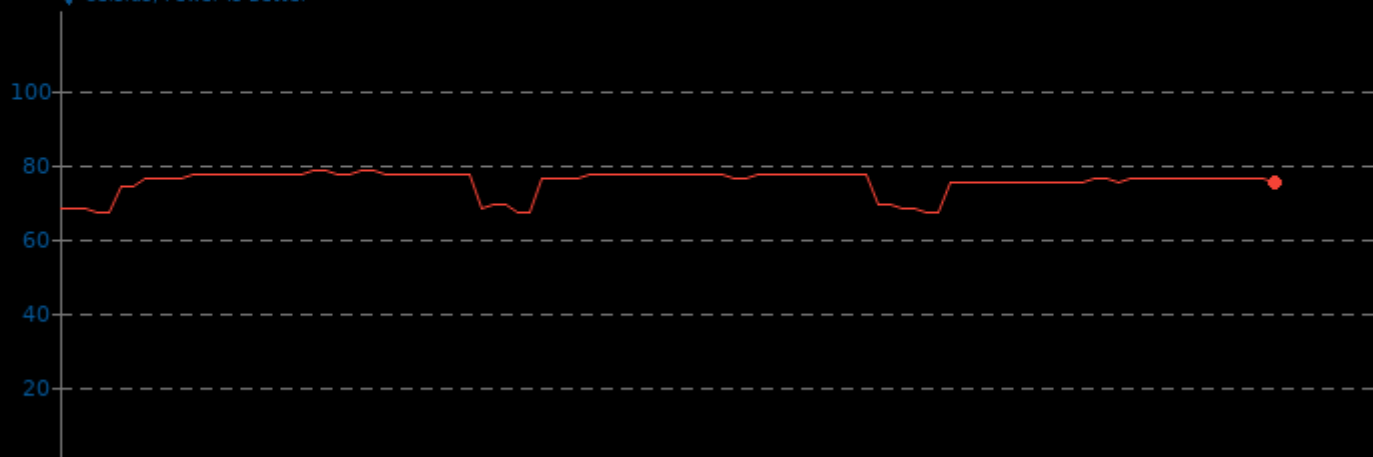
1. (CXX) g++ options: -lm -lpthread -std=c++11 -Ofast

Google SynthMark 20201109

CPU Temperature Monitor

OnLogic Helix 500 Min 67.0 Avg 75.0 Max 78.0

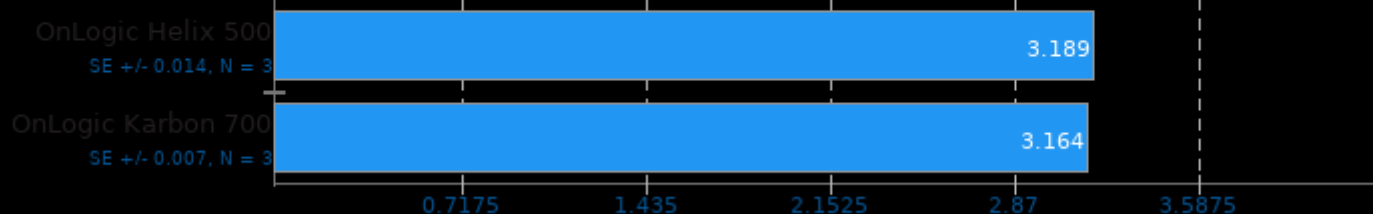
▼ Celsius, Fewer Is Better



rav1e 0.4

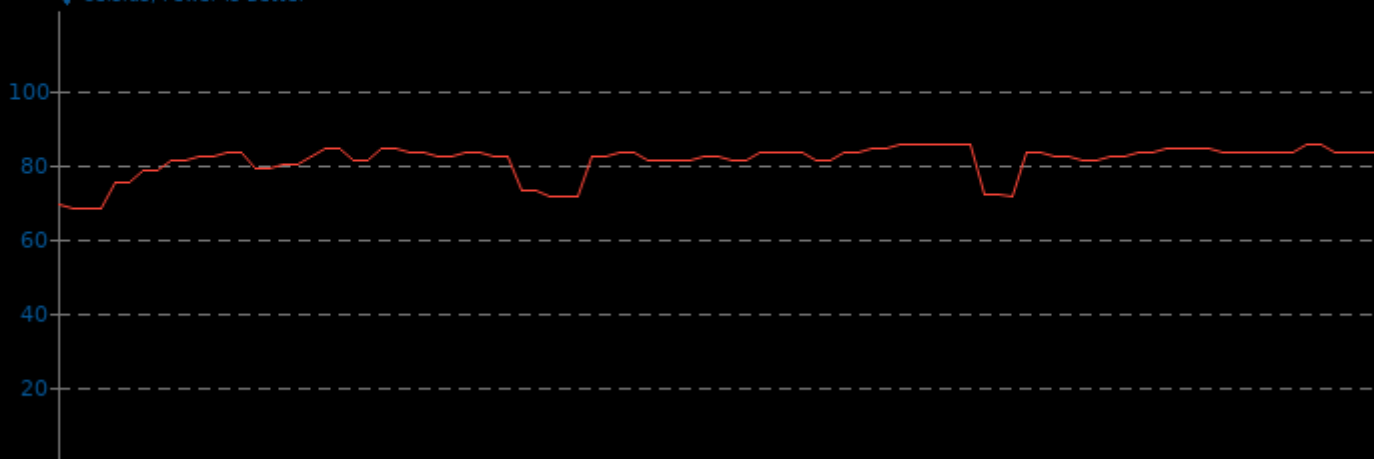
Speed: 10

► Frames Per Second, More Is Better



rav1e 0.4

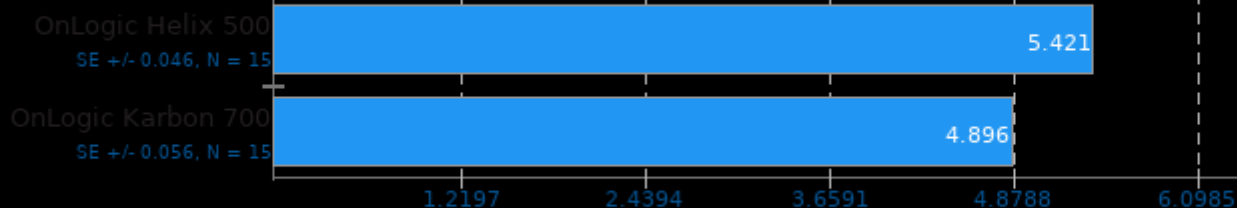
CPU Temperature Monitor



LAMMPS Molecular Dynamics Simulator 29Oct2020

Model: Rhodopsin Protein

ns/day, More Is Better

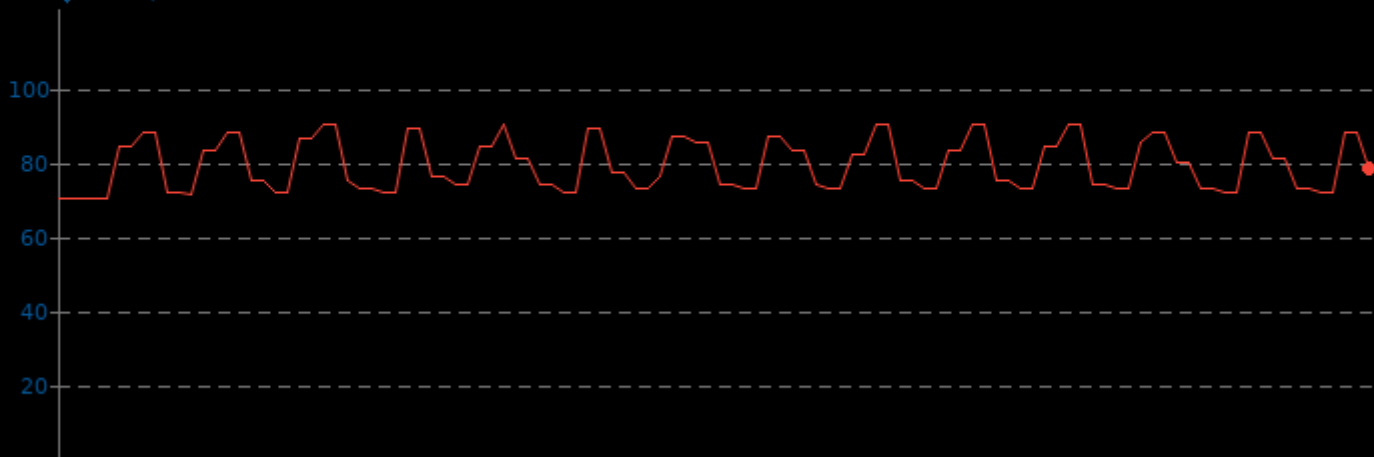


LAMMPS Molecular Dynamics Simulator 29Oct2020

CPU Temperature Monitor

OnLogic Helix 500 Min 70.0 Avg 79.2 Max 90.0

▼ Celsius, Fewer Is Better



Algebraic Multi-Grid Benchmark 1.2

► Figure Of Merit, More Is Better

OnLogic Helix 500
SE +/- 1557444.52, N = 11

213962927

OnLogic Karbon 700
SE +/- 15952.12, N = 3

122416800

50M 100M 150M 200M 250M

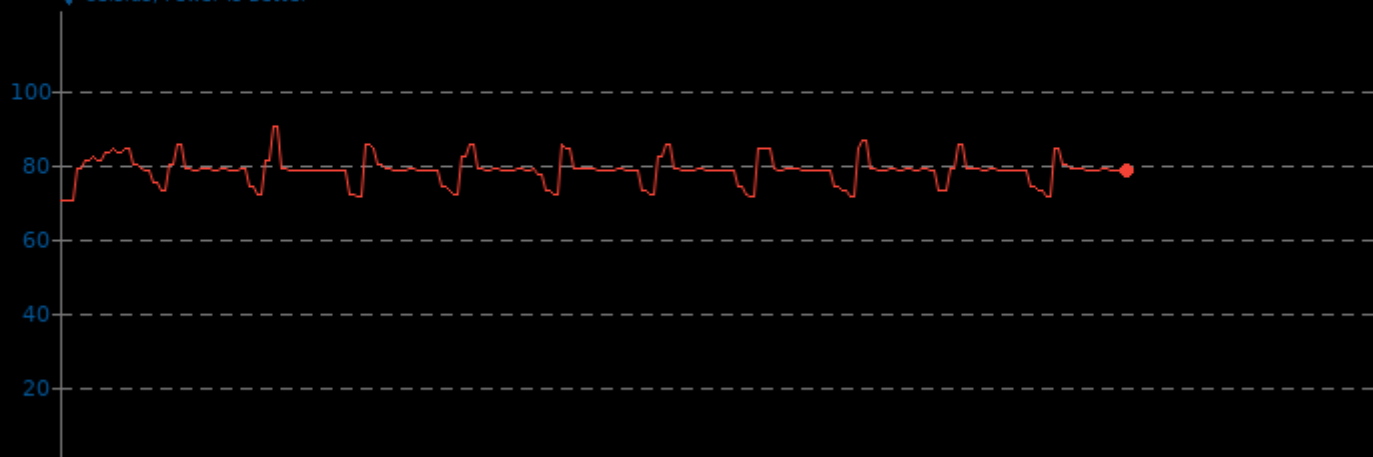
1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -llj_mv -lkrylov -lhypre_utilities -lm -fopenmp -pthread -lmpi

Algebraic Multi-Grid Benchmark 1.2

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	70.0	78.2	90.0

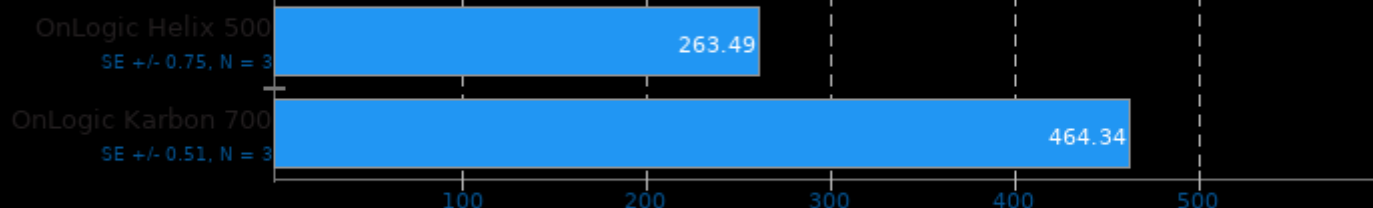
▼ Celsius, Fewer Is Better



OpenFOAM 8

Input: Motorbike 30M

◀ Seconds, Fewer Is Better



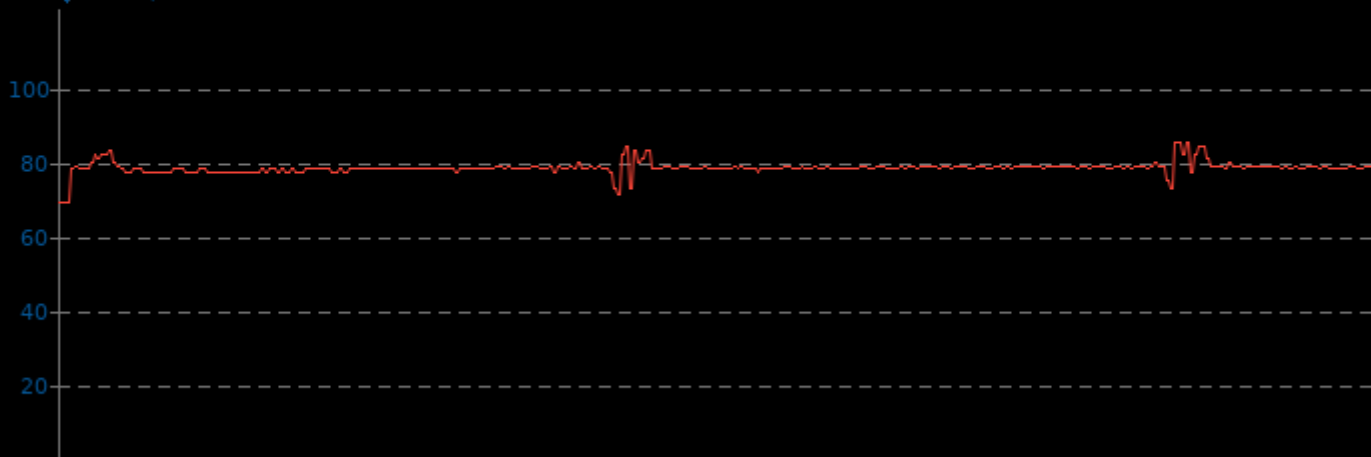
1. (CXX) g++ options: -std=c++11 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-lld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh -

OpenFOAM 8

CPU Temperature Monitor

OnLogic Helix 500 Min: 69.0 Avg: 78.5 Max: 85.0

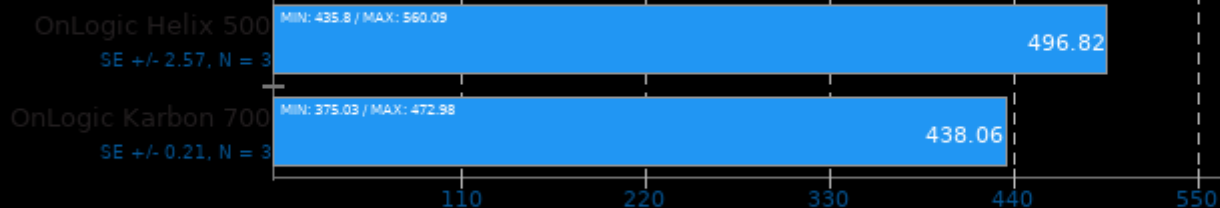
▼ Celsius, Fewer Is Better



dav1d 0.8.1

Video Input: Summer Nature 1080p

► FPS, More Is Better



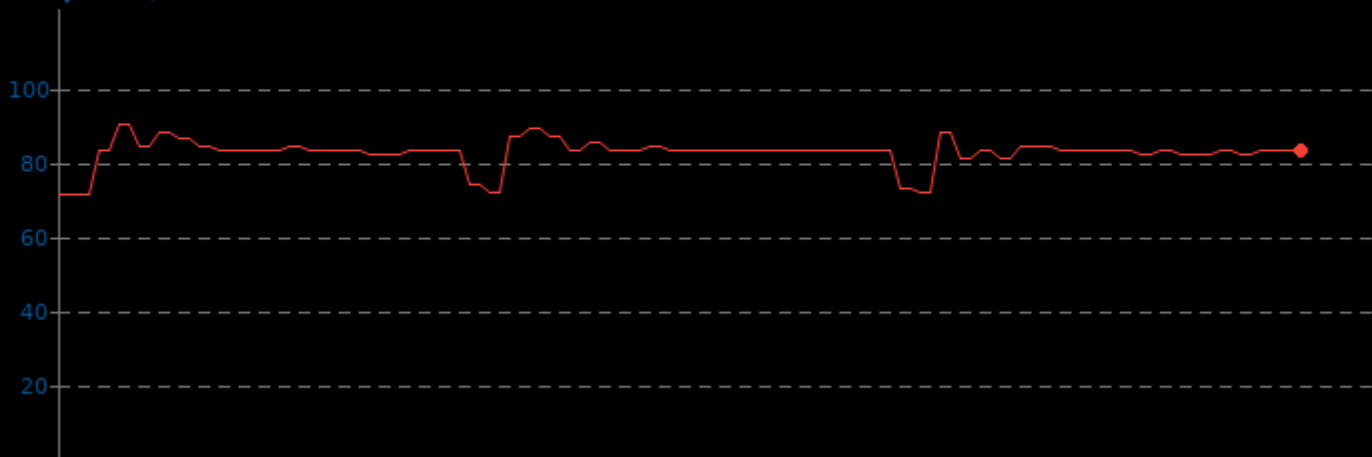
1. (CO) gcc options: -pthread

dav1d 0.8.1

CPU Temperature Monitor

OnLogic Helix 500 Min: 71.0 Avg: 82.5 Max: 90.0

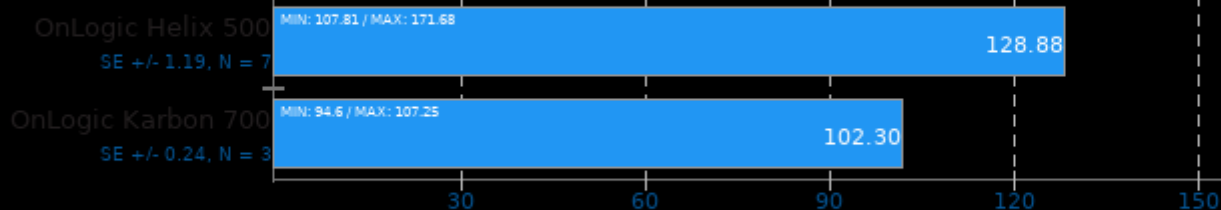
▼ Celsius, Fewer Is Better



dav1d 0.8.1

Video Input: Summer Nature 4K

► FPS, More Is Better



1. (CO) gcc options: -pthread

dav1d 0.8.1

CPU Temperature Monitor

OnLogic Helix 500 Min: 70.0 Avg: 81.3 Max: 94.0

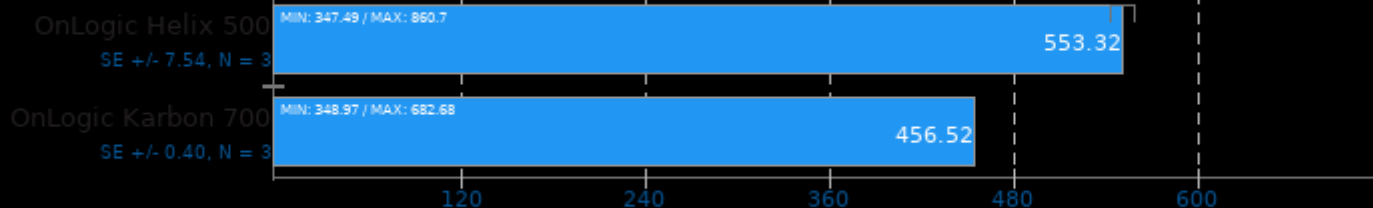
▼ Celsius, Fewer Is Better



dav1d 0.8.1

Video Input: Chimera 1080p

► FPS, More Is Better

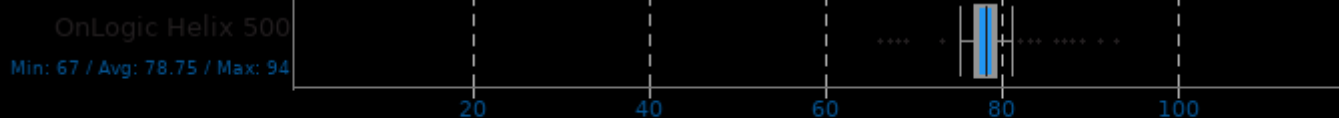


1. (CO) gcc options: -pthread

dav1d 0.8.1

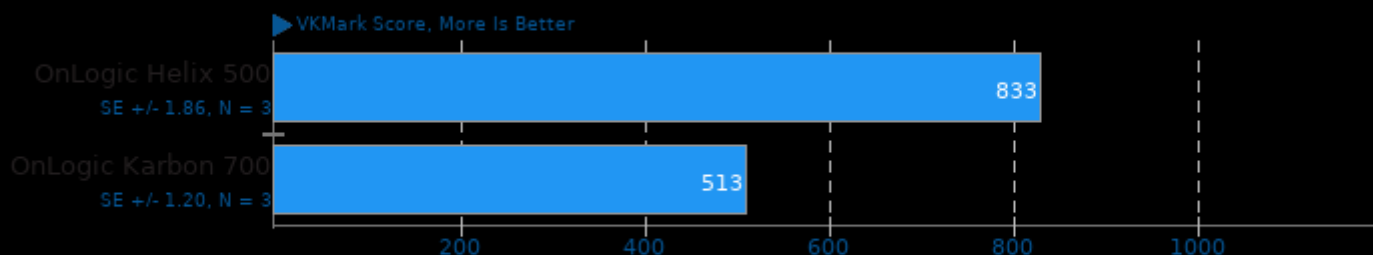
CPU Temperature Monitor

◀ Celsius, Fewer Is Better



VKMark 2020-05-21

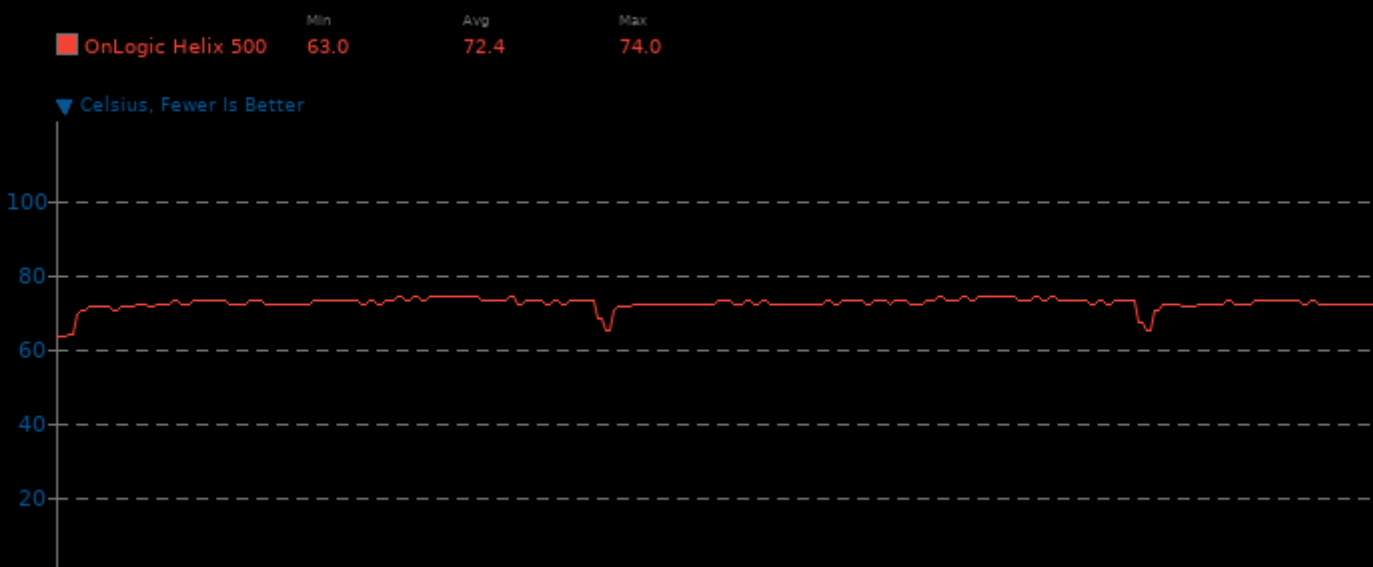
Resolution: 1920 x 1080



1. (CXX) g++ options: -pthread -ldl -pipe -std=c++14 -MD -MQ -MF

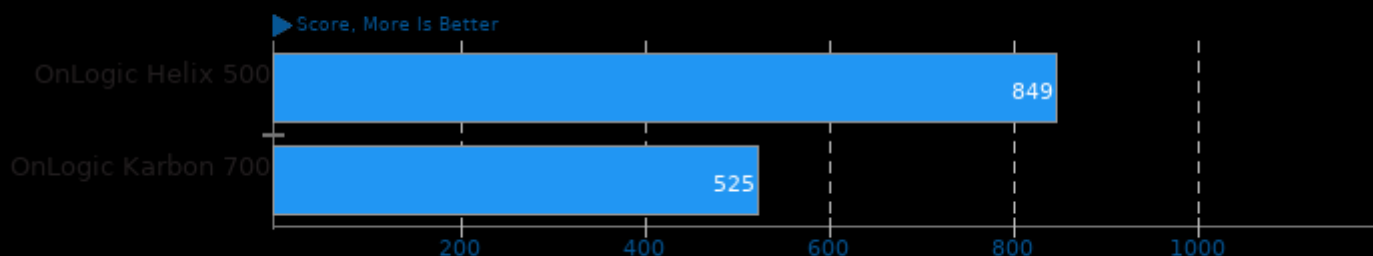
VKMark 2020-05-21

CPU Temperature Monitor



GLmark2 2020.04

Resolution: 1920 x 1080

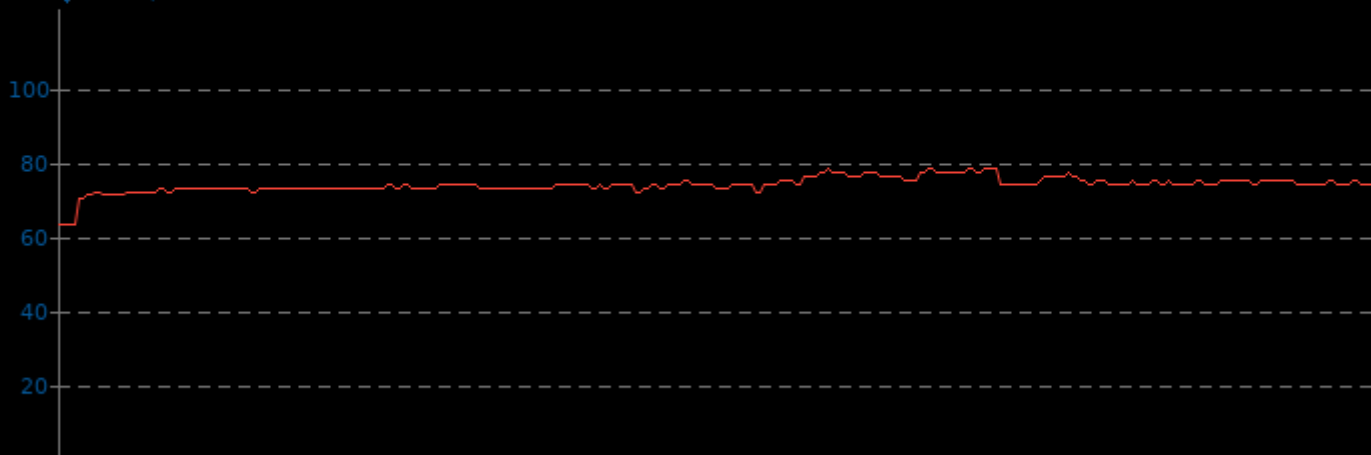


GLmark2 2020.04

CPU Temperature Monitor

OnLogic Helix 500 Min: 63.0 Avg: 73.9 Max: 78.0

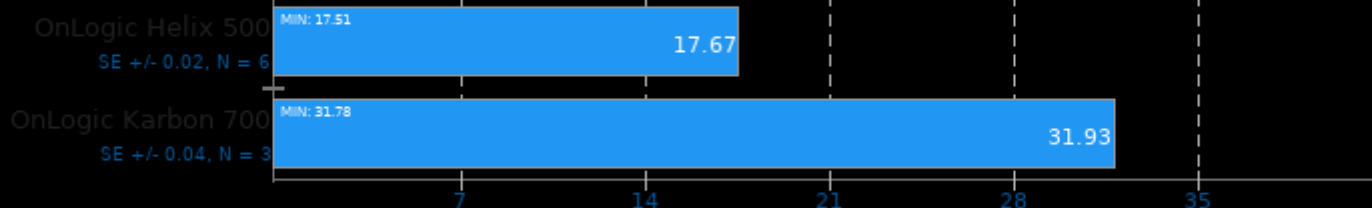
▼ Celsius, Fewer Is Better



oneDNN 2.0

Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU

ms, Fewer Is Better



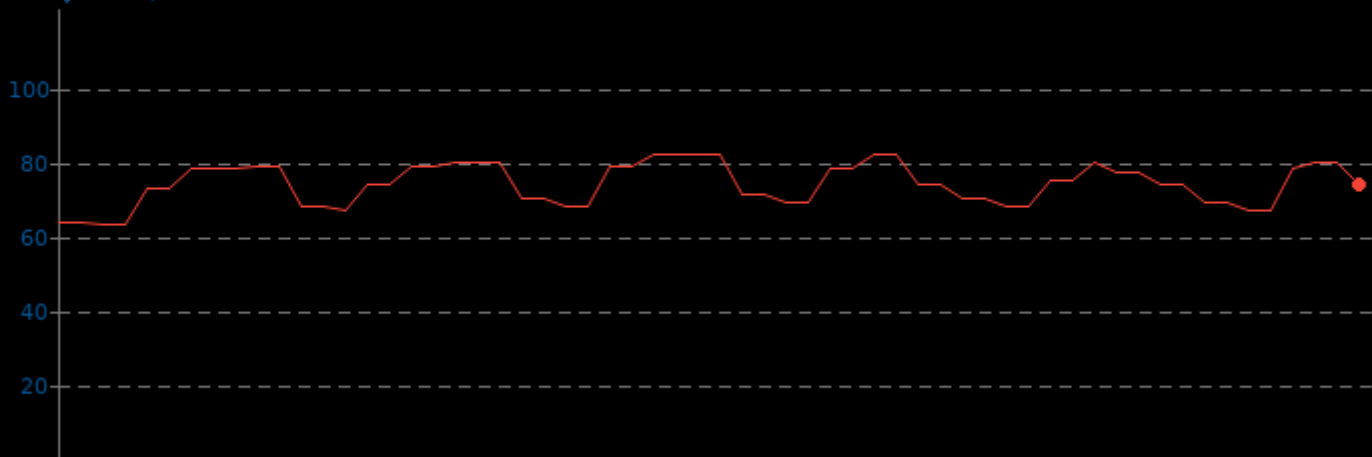
1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

CPU Temperature Monitor

OnLogic Helix 500 Min: 63.0 Avg: 74.0 Max: 82.0

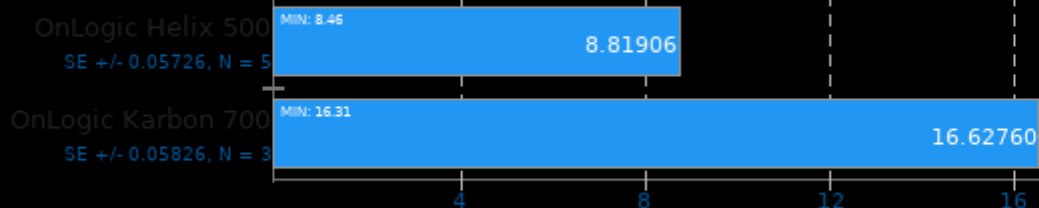
▼ Celsius, Fewer Is Better



oneDNN 2.0

Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU

ms, Fewer Is Better



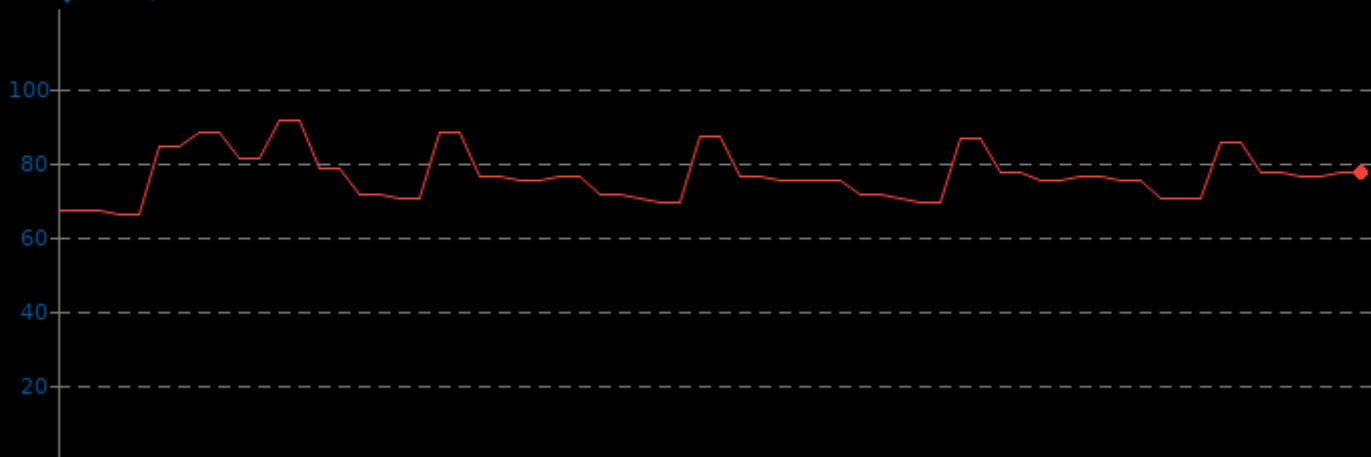
1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

oneDNN 2.0

CPU Temperature Monitor

OnLogic Helix 500 Min: 66.0 Avg: 76.3 Max: 91.0

▼ Celsius, Fewer Is Better



oneDNN 2.0

Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU

ms, Fewer Is Better

OnLogic Helix 500
SE +/- 0.01932, N = 4

MIN: 3.65
3.79616

OnLogic Karbon 700
SE +/- 0.02873, N = 3

MIN: 6.76
6.88996

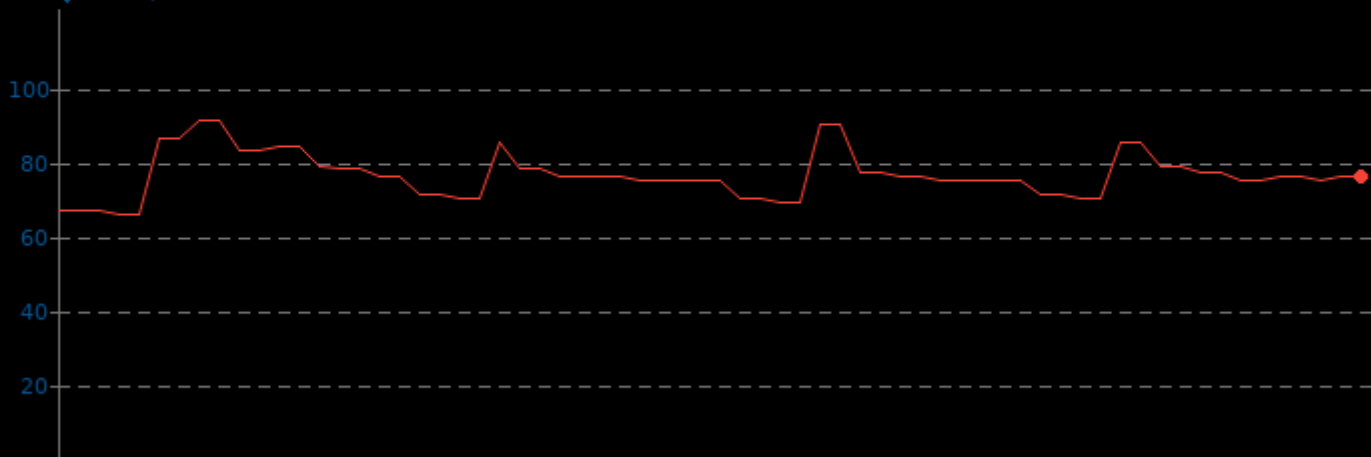
1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	66.0	76.4	91.0

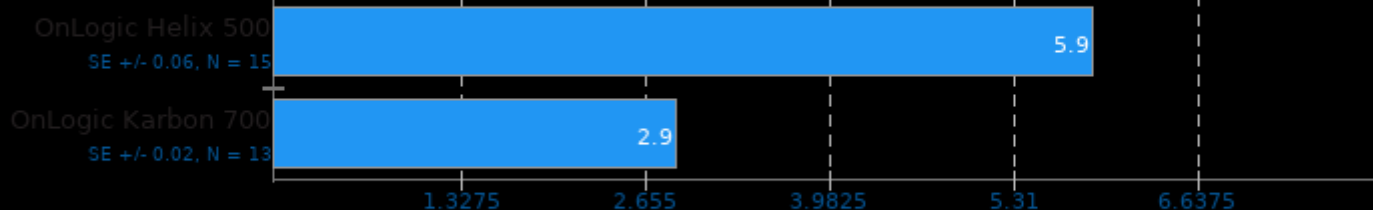
▼ Celsius, Fewer Is Better



CLOMP 1.2

Static OMP Speedup

► Speedup, More Is Better



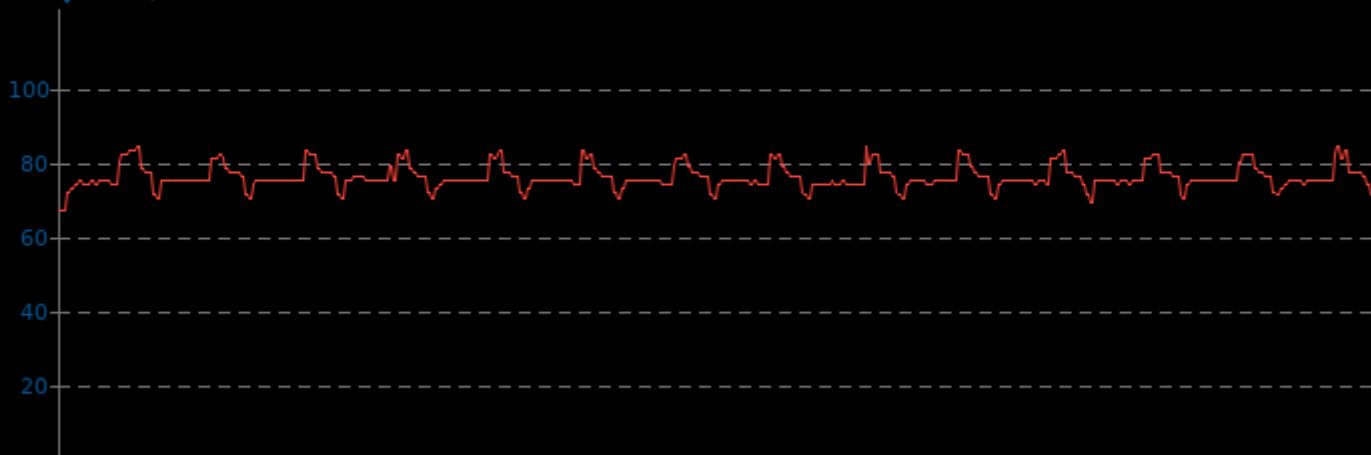
1. (CO) gcc options: -fopenmp -O3 -lm

CLOMP 1.2

CPU Temperature Monitor

OnLogic Helix 500 Min: 67.0 Avg: 75.9 Max: 84.0

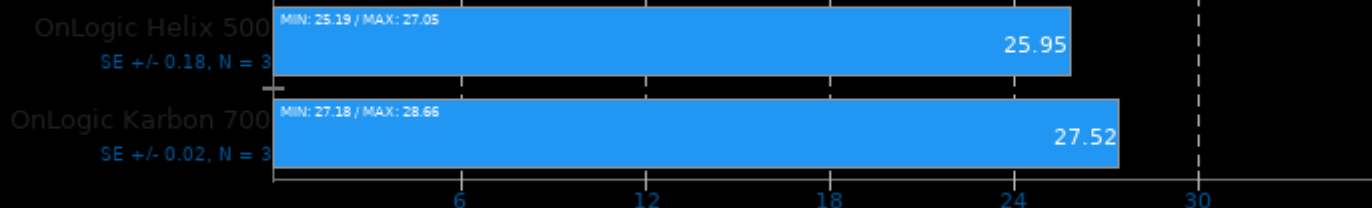
▼ Celsius, Fewer Is Better



NCNN 20201218

Target: CPU - Model: mobilenet

ms, Fewer Is Better

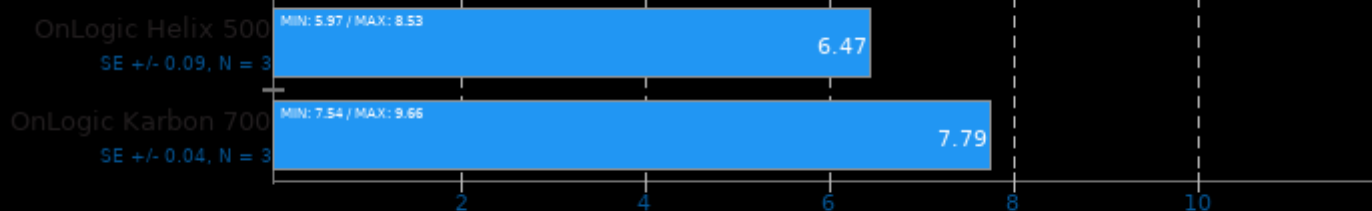


1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

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

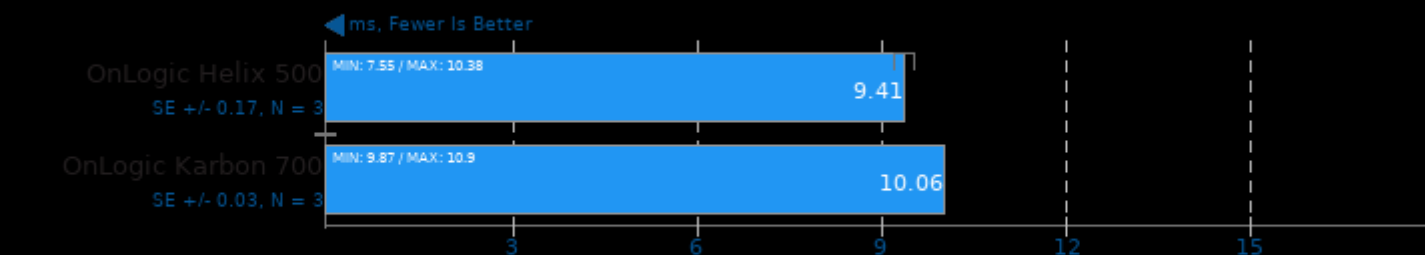
ms, Fewer Is Better



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

NCNN 20201218

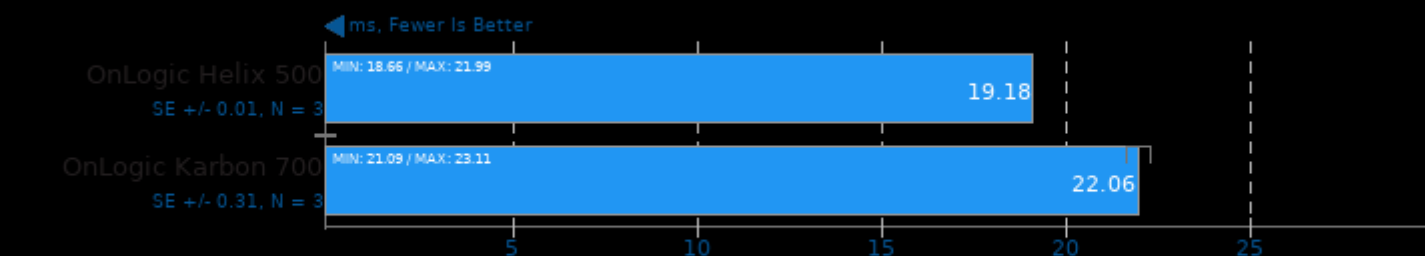
Target: CPU - Model: efficientnet-b0



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

NCNN 20201218

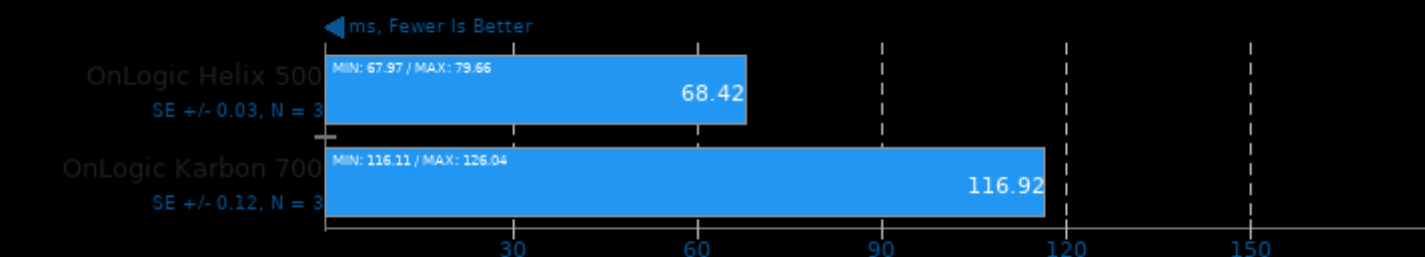
Target: CPU - Model: googlenet



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

NCNN 20201218

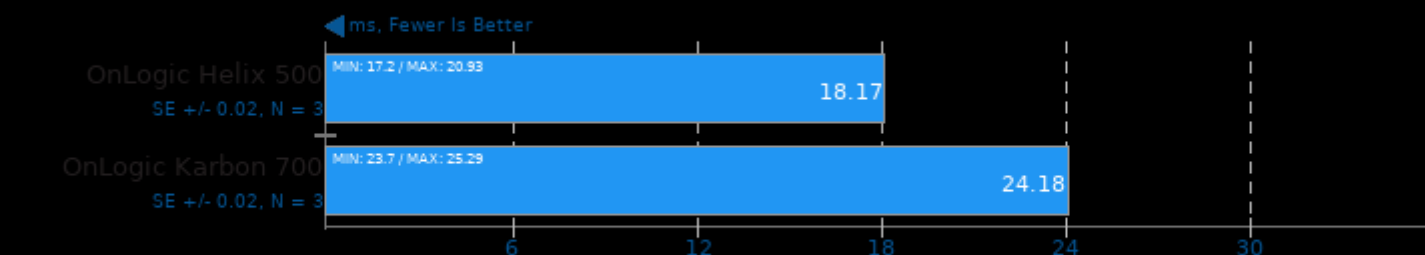
Target: CPU - Model: vgg16



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

NCNN 20201218

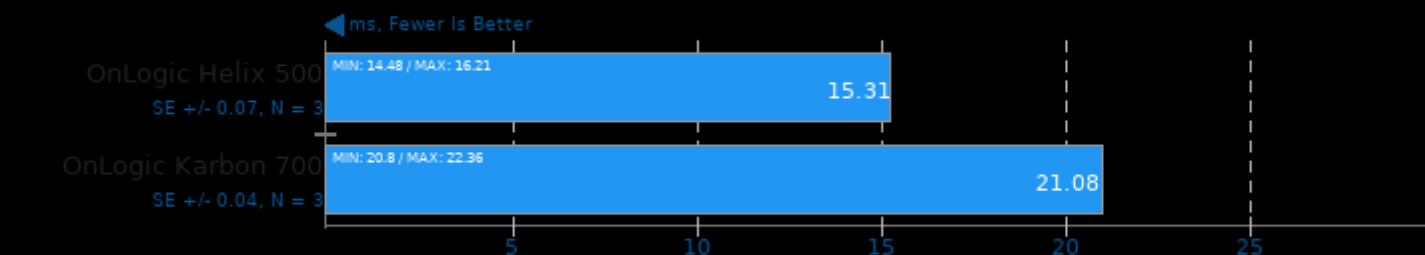
Target: CPU - Model: resnet18



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

NCNN 20201218

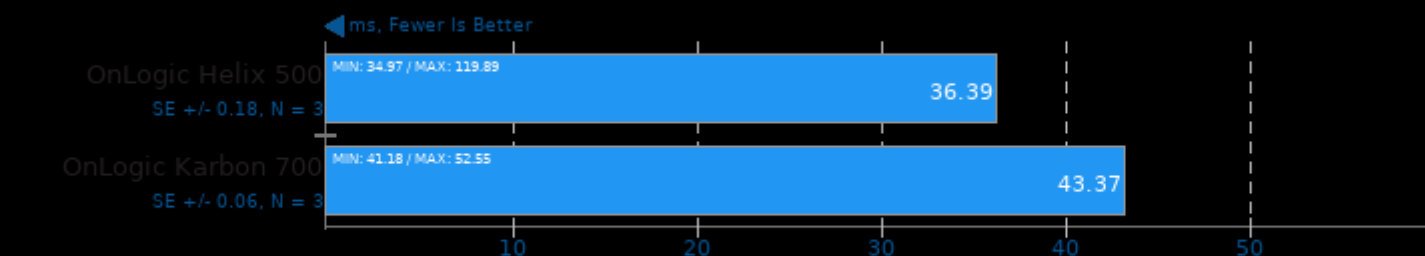
Target: CPU - Model: alexnet



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

NCNN 20201218

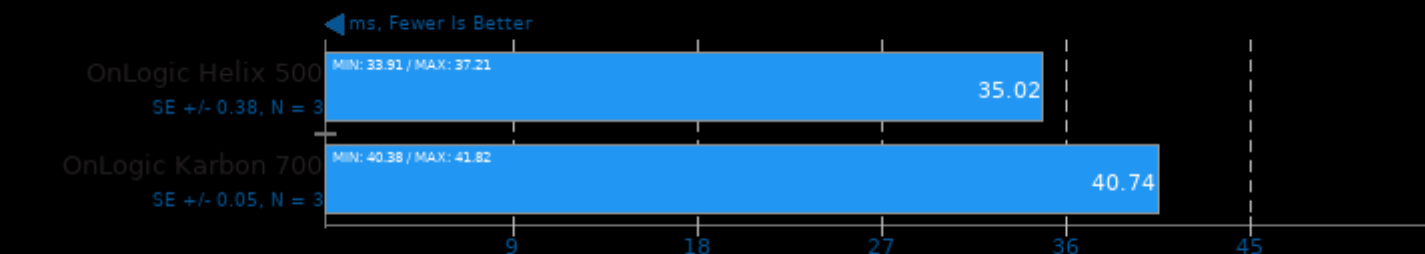
Target: CPU - Model: resnet50



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

NCNN 20201218

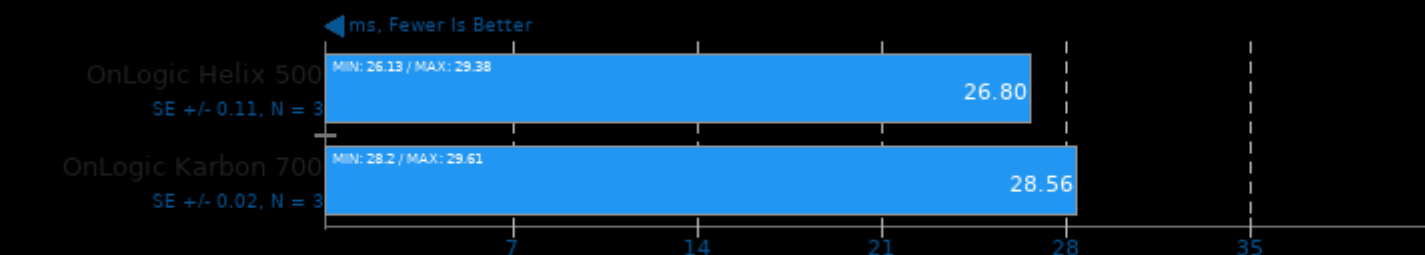
Target: CPU - Model: yolov4-tiny



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

NCNN 20201218

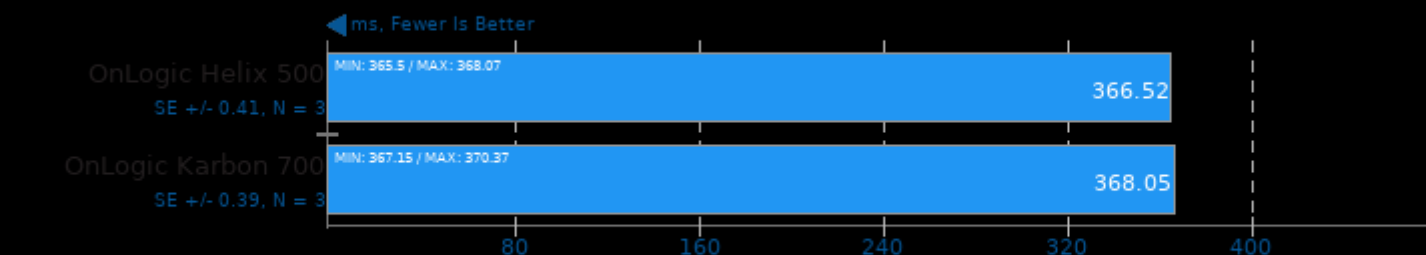
Target: CPU - Model: squeezenet_ssd



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

TNN 0.2.3

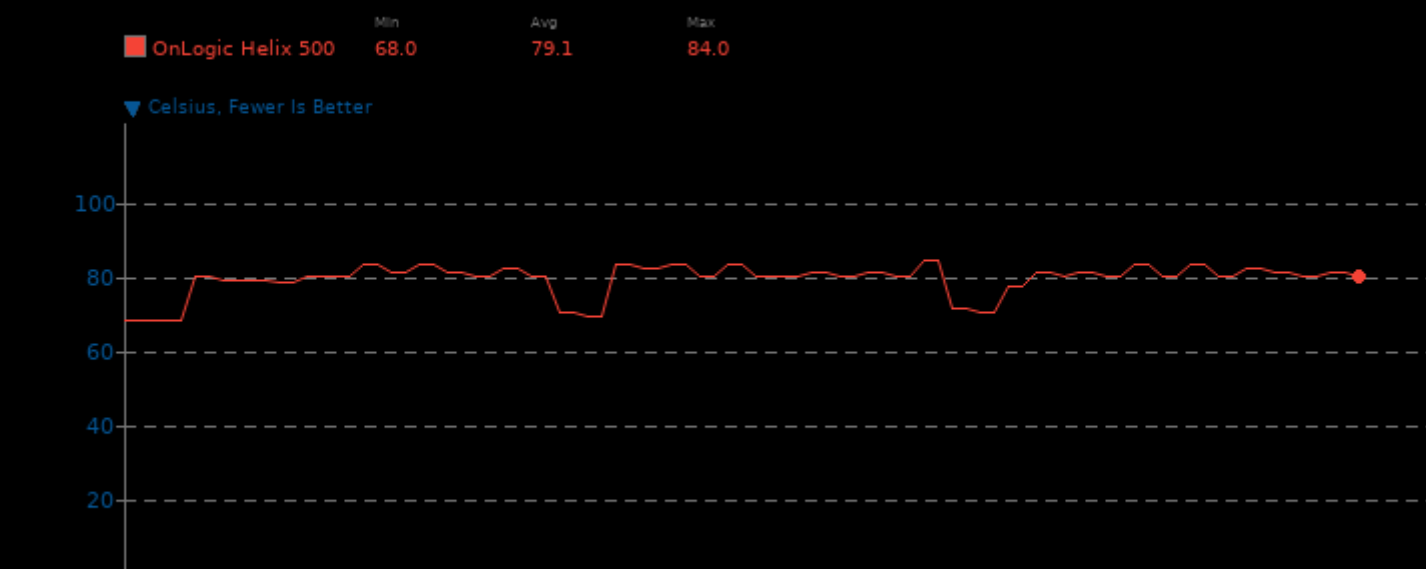
Target: CPU - Model: MobileNet v2



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

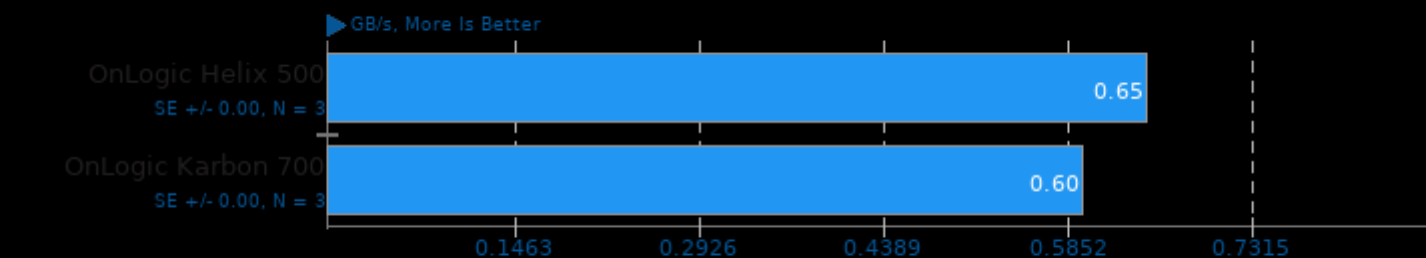
TNN 0.2.3

CPU Temperature Monitor



simdjson 0.7.1

Throughput Test: PartialTweets



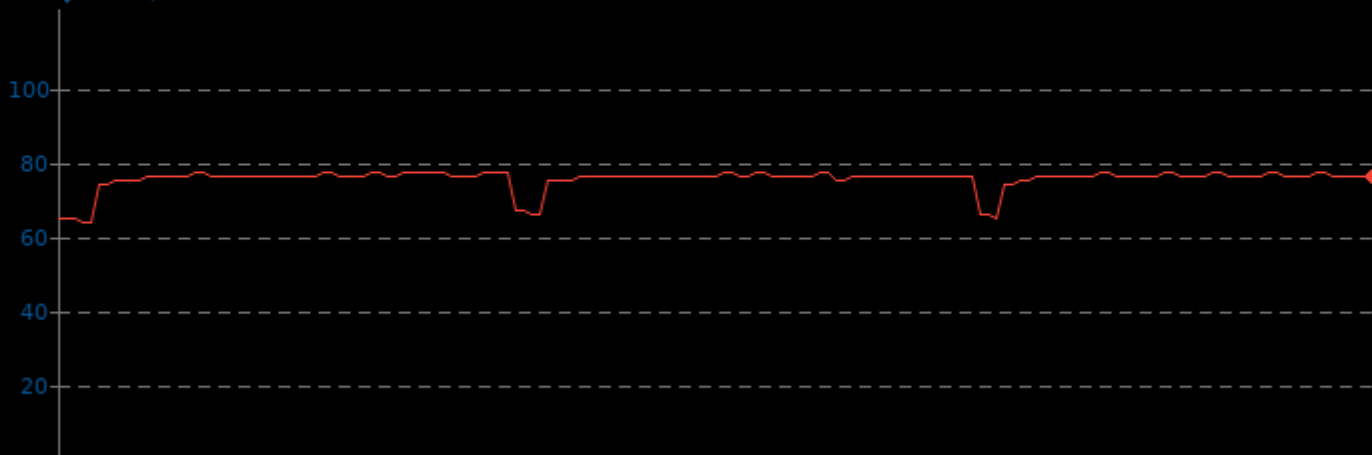
1. (CXX) g++ options: -O3 -pthread

simdjson 0.7.1

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	64.0	75.3	77.0

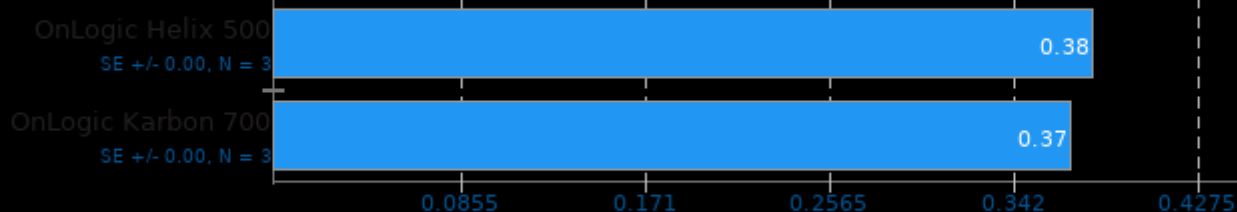
▼ Celsius, Fewer Is Better



simdjson 0.7.1

Throughput Test: LargeRandom

► GB/s, More Is Better



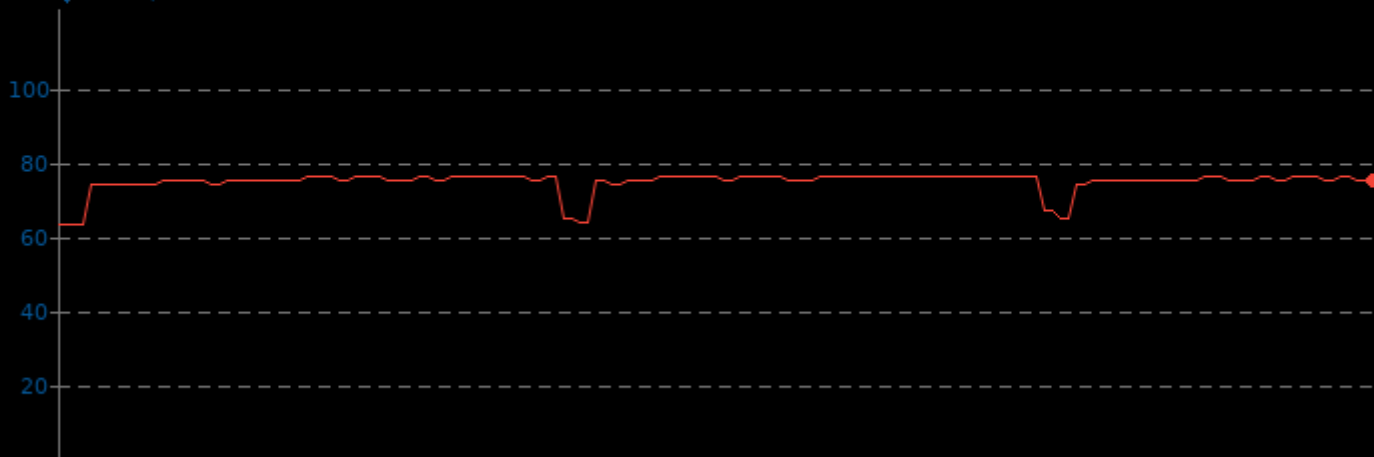
1. (CXX) g++ options: -O3 -pthread

simdjson 0.7.1

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	63.0	74.7	76.0

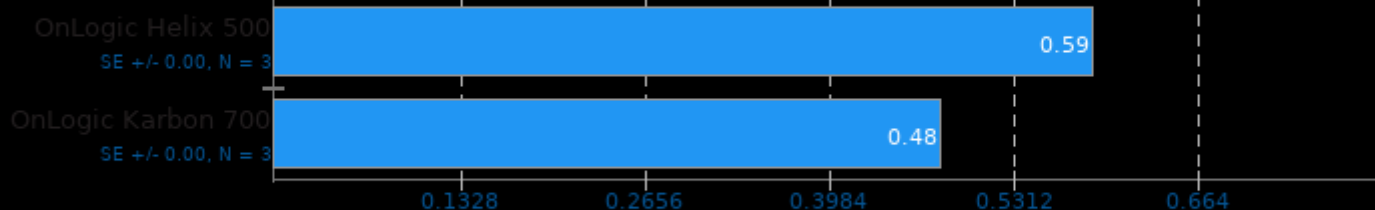
▼ Celsius, Fewer Is Better



simdjson 0.7.1

Throughput Test: Kostya

► GB/s, More Is Better



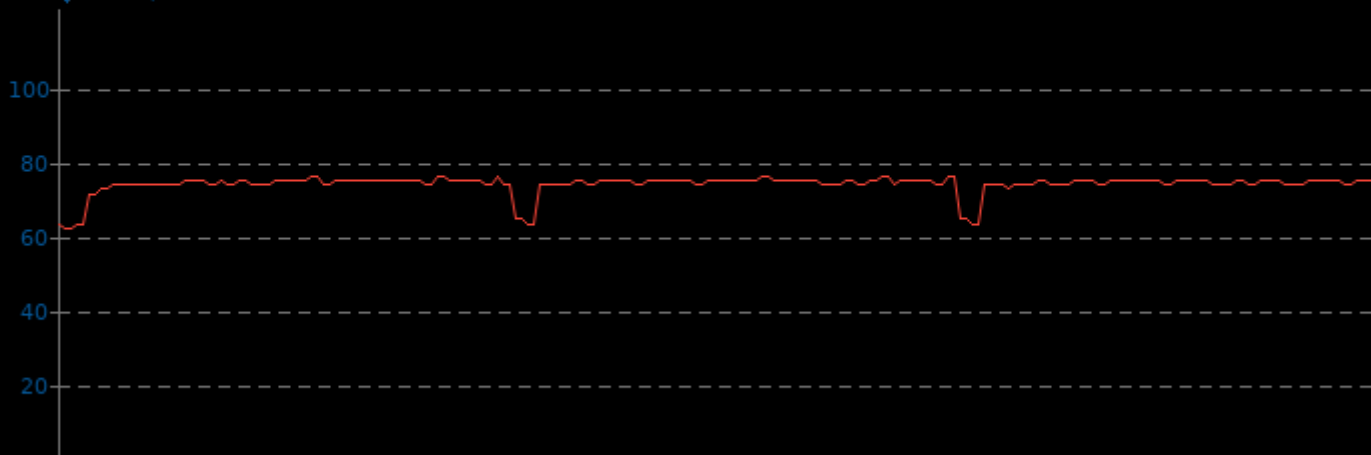
1. (CXX) g++ options: -O3 -pthread

simdjson 0.7.1

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	62.0	74.0	76.0

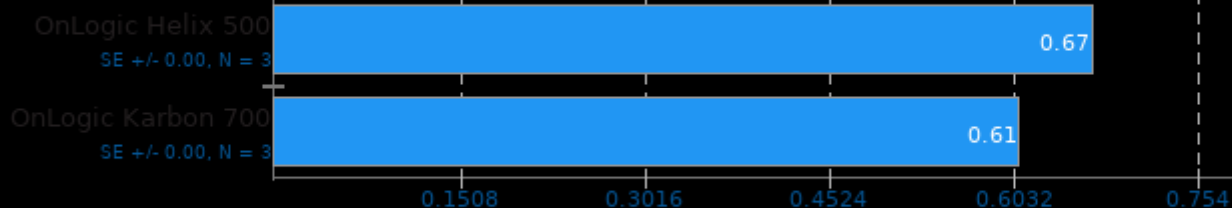
▼ Celsius, Fewer Is Better



simdjson 0.7.1

Throughput Test: DistinctUserID

► GB/s, More Is Better



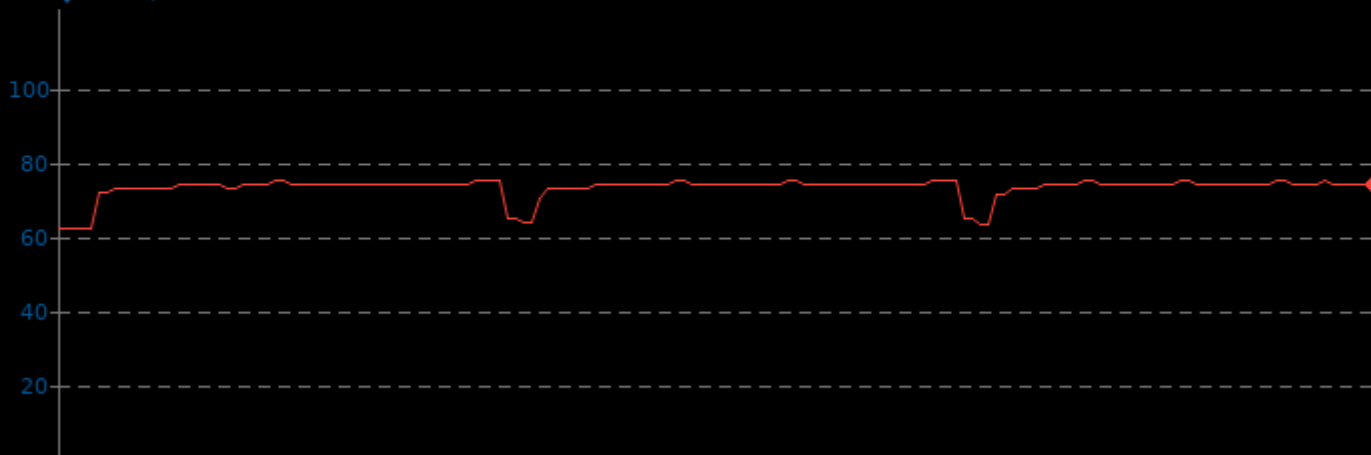
1. (CXX) g++ options: -O3 -pthread

simdjson 0.7.1

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	62.0	73.1	75.0

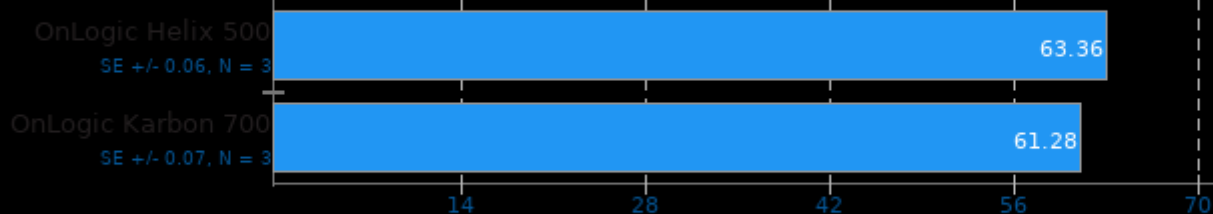
▼ Celsius, Fewer Is Better



SQLite Speedtest 3.30

Timed Time - Size 1,000

◀ Seconds, Fewer Is Better



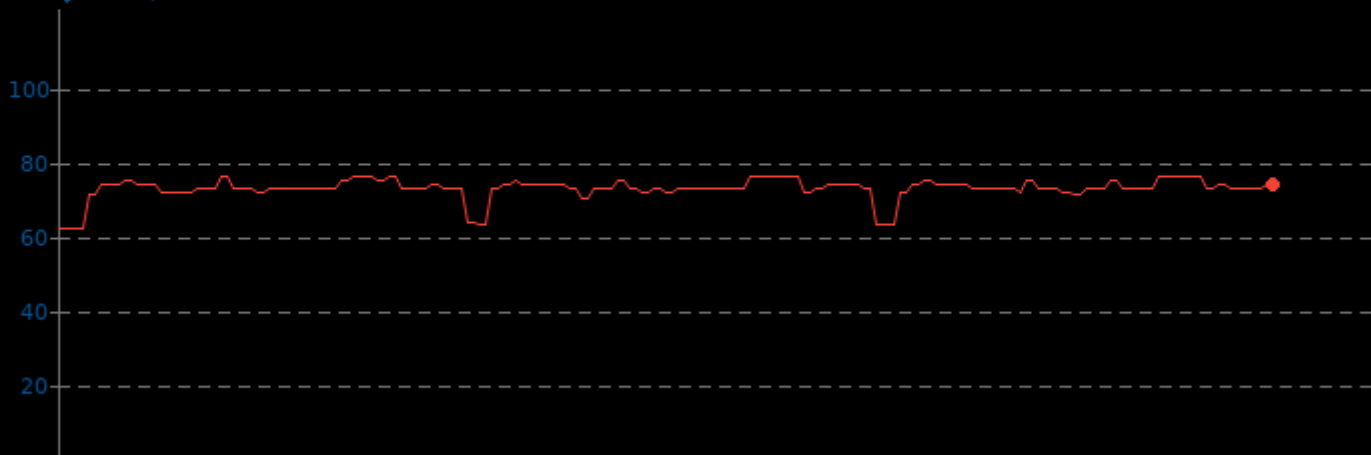
1. (CO) gcc options: -O2 -ldl -lz -lpthread

SQLite Speedtest 3.30

CPU Temperature Monitor

	Min	Avg	Max
OnLogic Helix 500	62.0	72.9	76.0

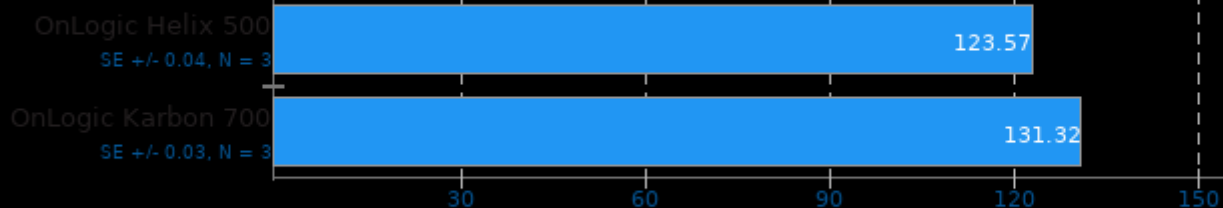
▼ Celsius, Fewer Is Better



Timed HMMer Search 3.3.1

Pfam Database Search

◀ Seconds, Fewer Is Better



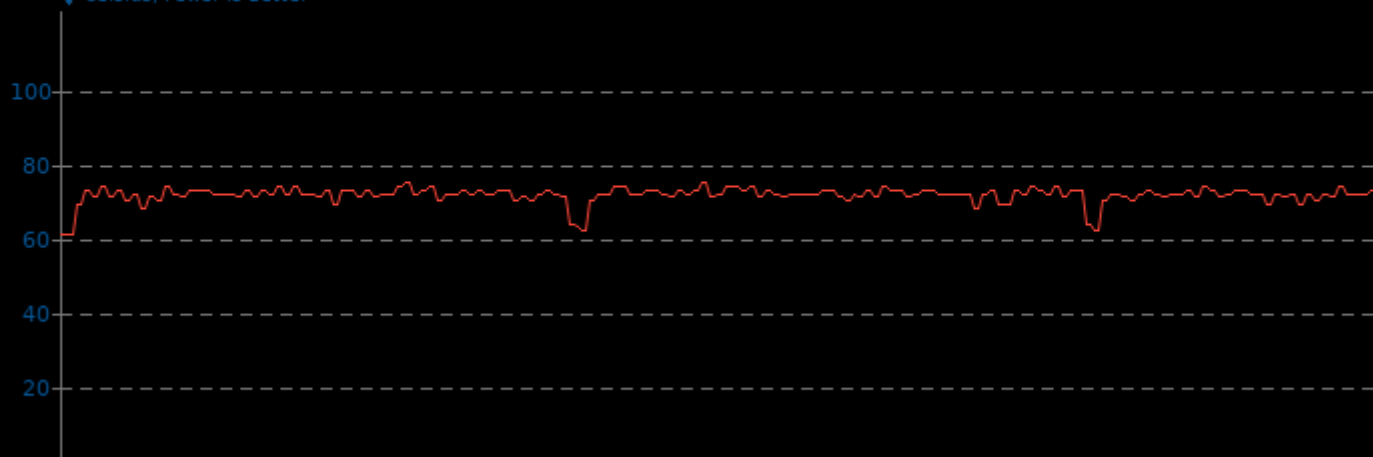
1. (CO) gcc options: -O3 -pthread -lhmmmer -leasel -lm

Timed HMMer Search 3.3.1

CPU Temperature Monitor

OnLogic Helix 500 Min 61.0 Avg 71.7 Max 75.0

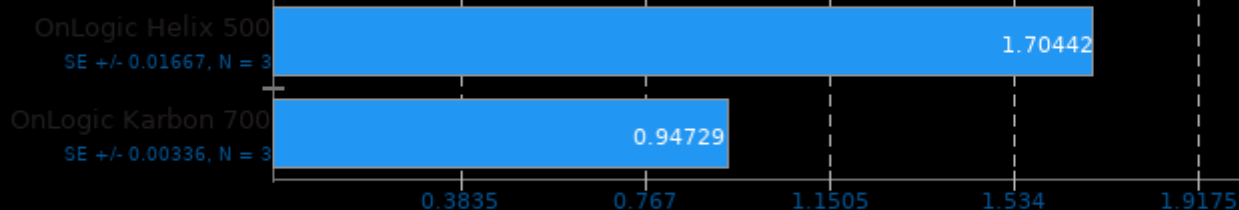
▼ Celsius, Fewer Is Better



HPC Challenge 1.5.0

Test / Class: Random Ring Bandwidth

► GB/s, More Is Better

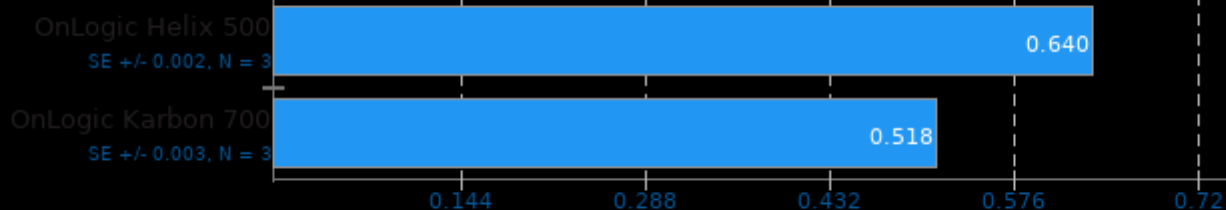


1. (CO) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops
2. ATLAS + Open MPI 4.0.3

GROMACS 2020.3

Water Benchmark

► Ns Per Day, More Is Better



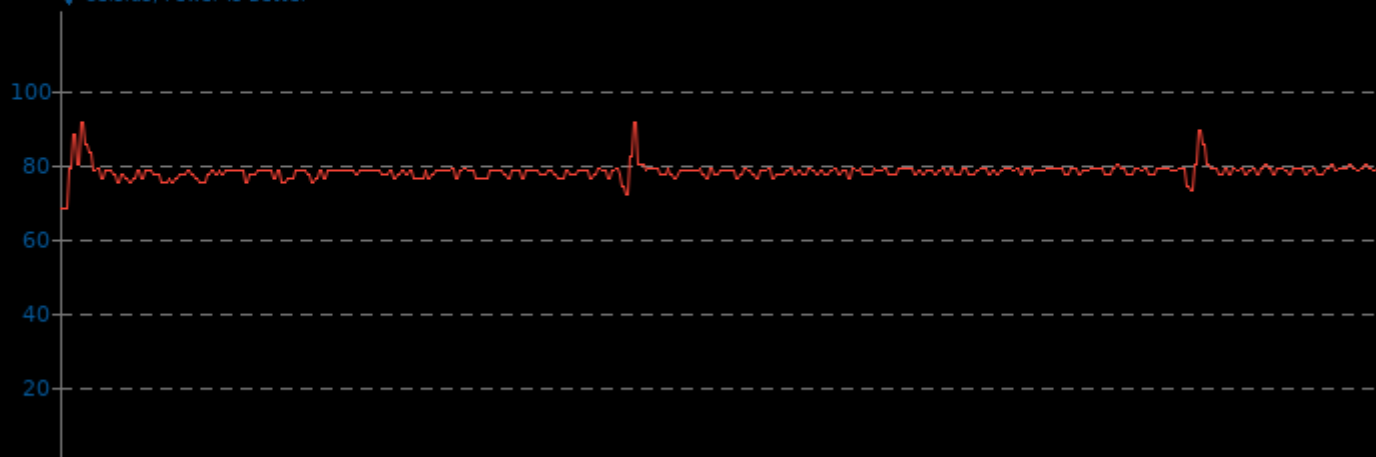
1. (CXX) g++ options: -O3 -pthread -lrt -lpthread -lm

GROMACS 2020.3

CPU Temperature Monitor

OnLogic Helix 500 Min: 68.0 Avg: 78.1 Max: 91.0

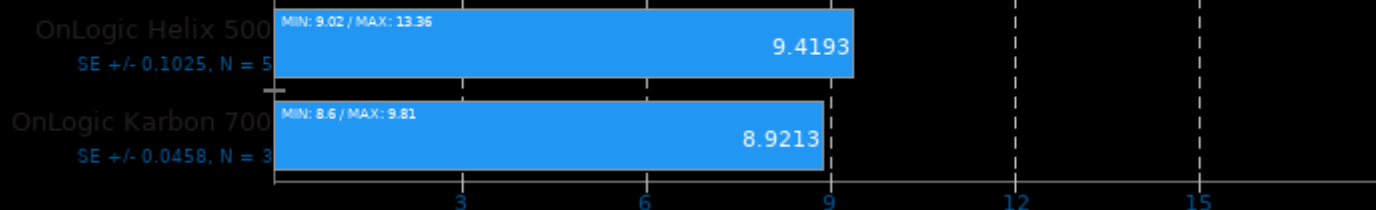
▼ Celsius, Fewer Is Better



Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon

► Frames Per Second, More Is Better

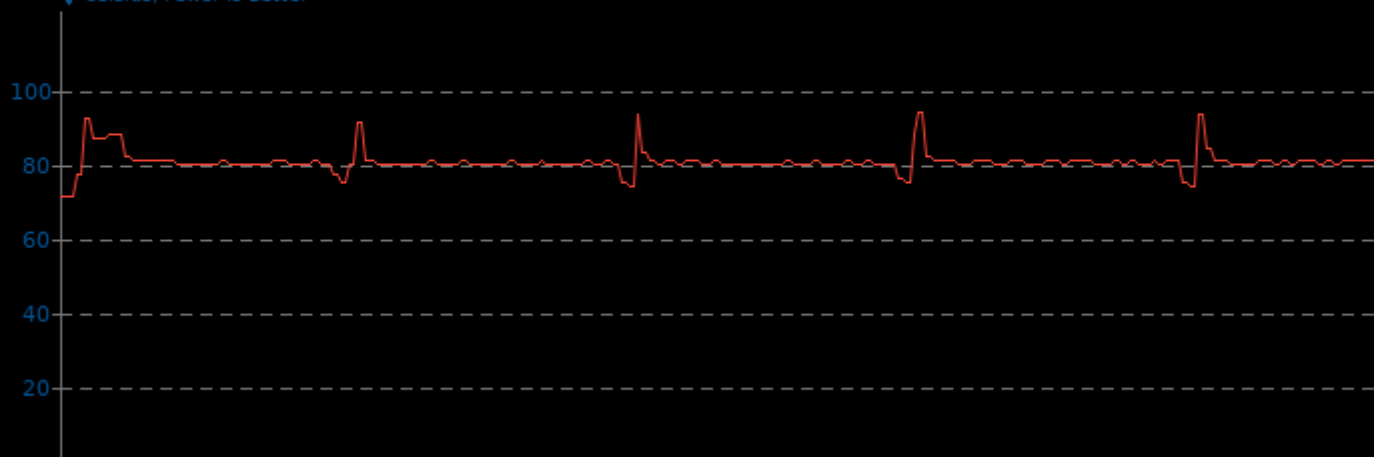


Embree 3.9.0

CPU Temperature Monitor

OnLogic Helix 500 Min: 71.0 Avg: 80.6 Max: 94.0

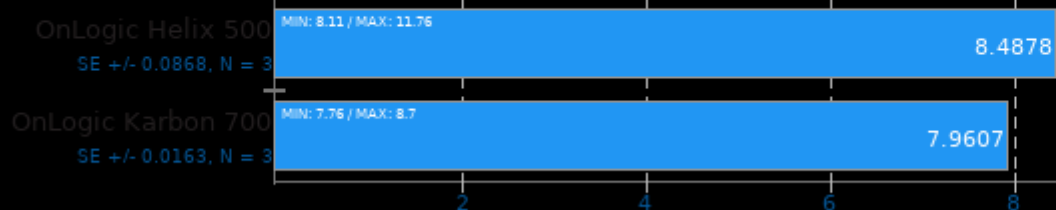
▼ Celsius, Fewer Is Better



Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj

► Frames Per Second, More Is Better

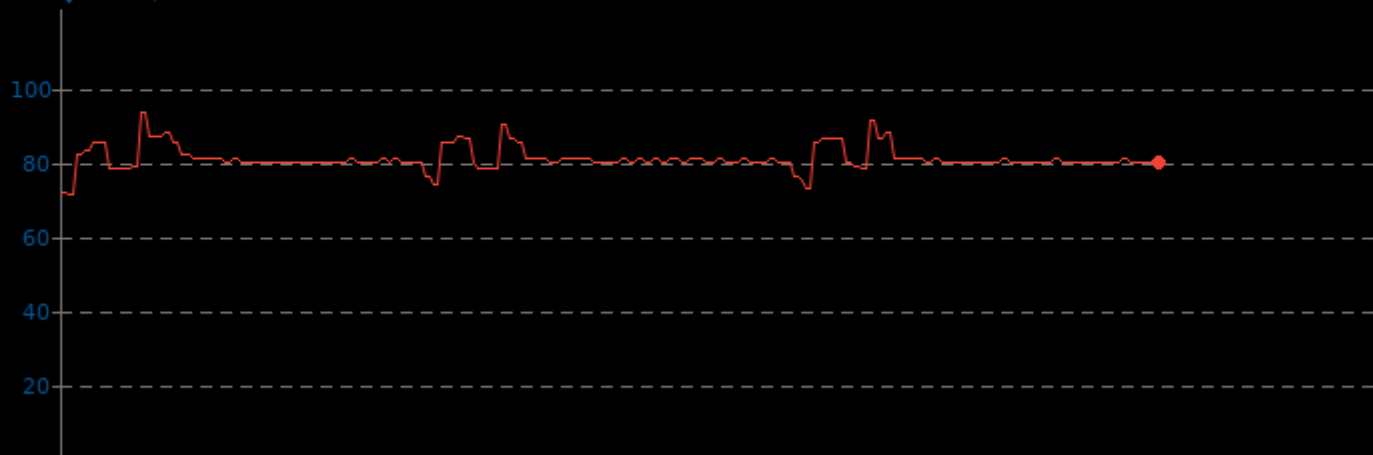


Embree 3.9.0

CPU Temperature Monitor

OnLogic Helix 500 Min 71.0 Avg 80.9 Max 93.0

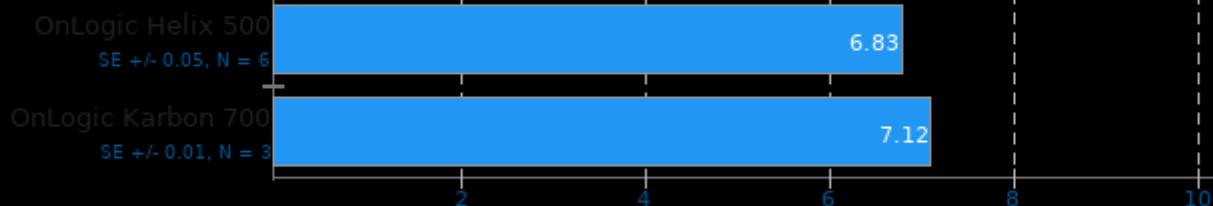
▼ Celsius, Fewer Is Better



ASTC Encoder 2.0

Preset: Fast

◀ Seconds, Fewer Is Better



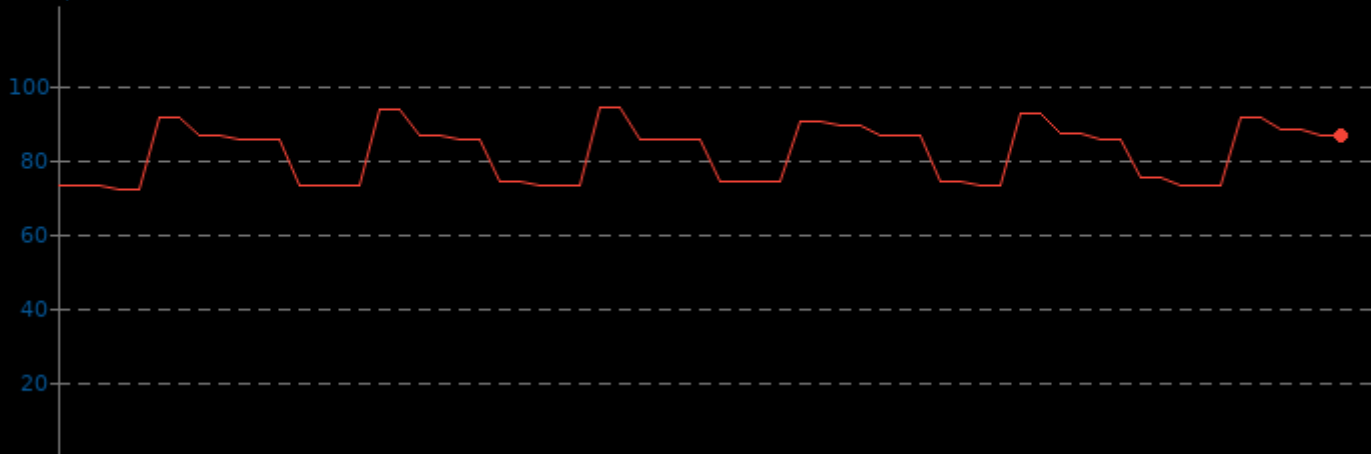
1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

ASTC Encoder 2.0

CPU Temperature Monitor

OnLogic Helix 500 Min 72.0 Avg 81.8 Max 94.0

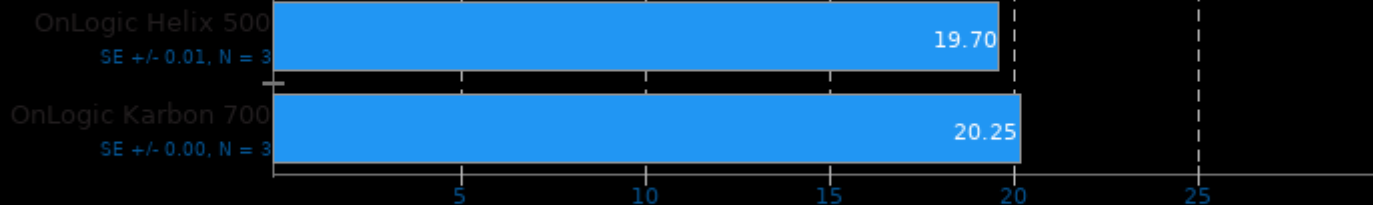
▼ Celsius, Fewer Is Better



WebP Image Encode 1.1

Encode Settings: Quality 100, Lossless

◀ Encode Time - Seconds, Fewer Is Better



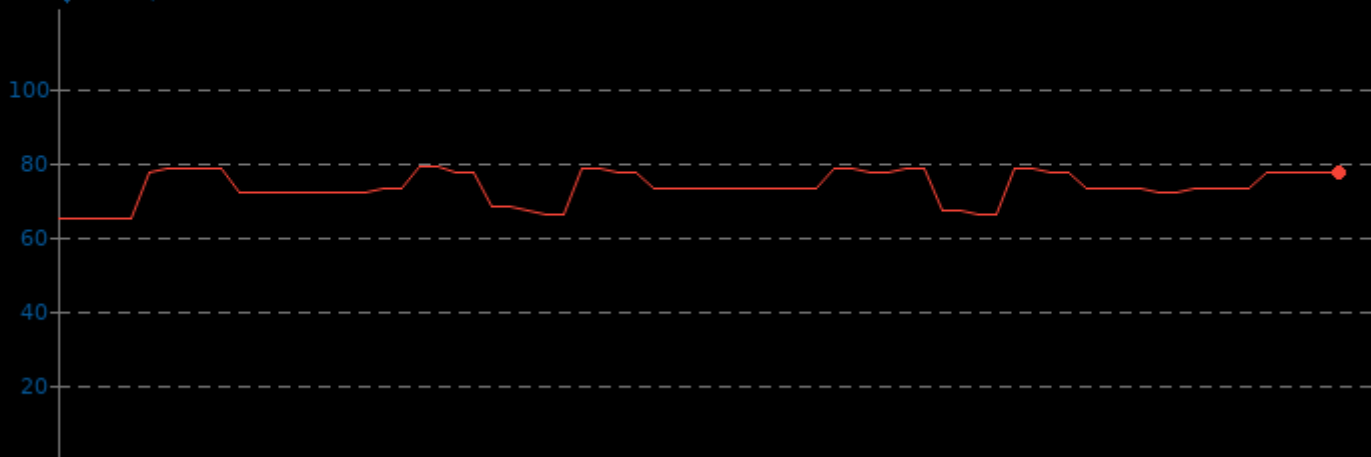
1. (CO) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

WebP Image Encode 1.1

CPU Temperature Monitor

OnLogic Helix 500 Min 65.0 Avg 73.3 Max 79.0

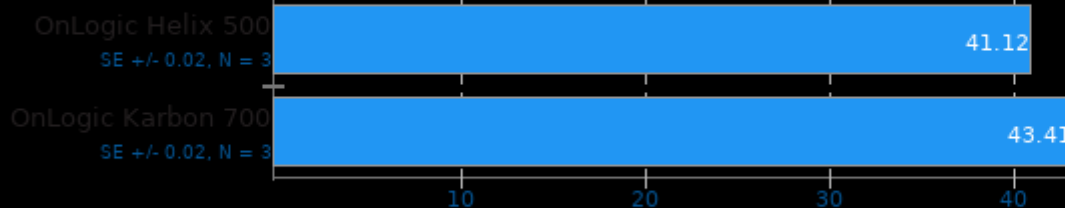
▼ Celsius, Fewer Is Better



WebP Image Encode 1.1

Encode Settings: Quality 100, Lossless, Highest Compression

◀ Encode Time - Seconds, Fewer Is Better



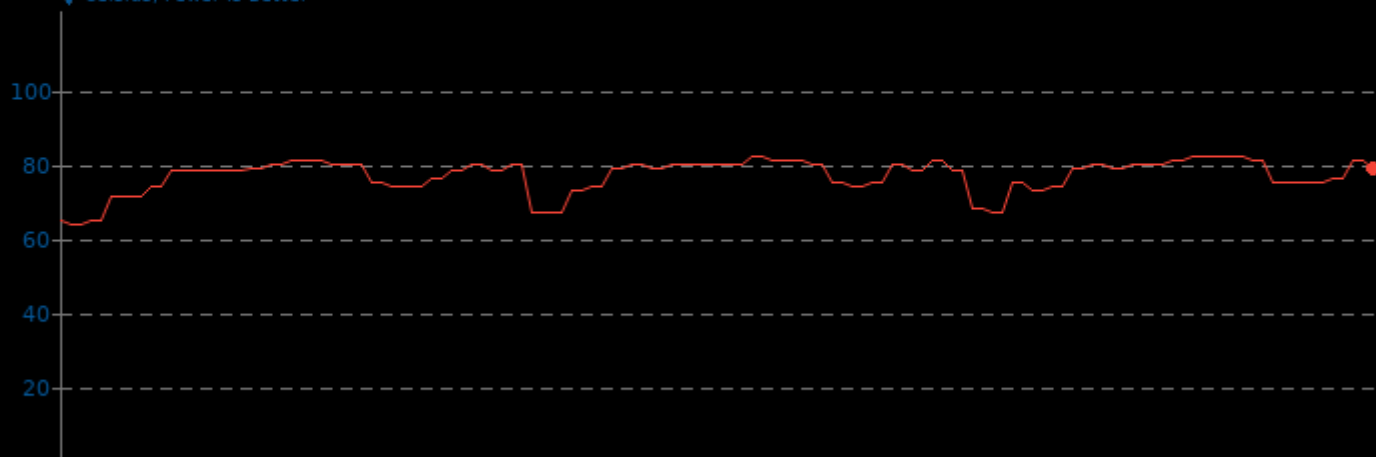
1. (CO) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

WebP Image Encode 1.1

CPU Temperature Monitor

OnLogic Helix 500 Min 64.0 Avg 76.9 Max 82.0

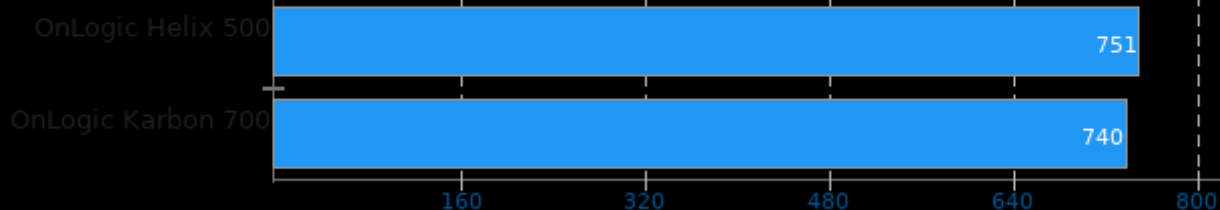
▼ Celsius, Fewer Is Better



AI Benchmark Alpha 0.1.2

Device Inference Score

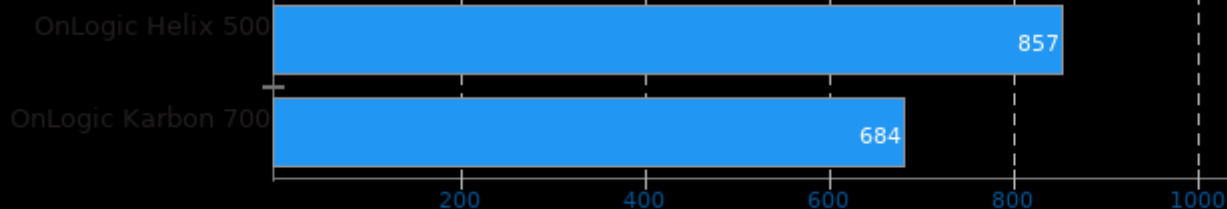
► Score, More Is Better



AI Benchmark Alpha 0.1.2

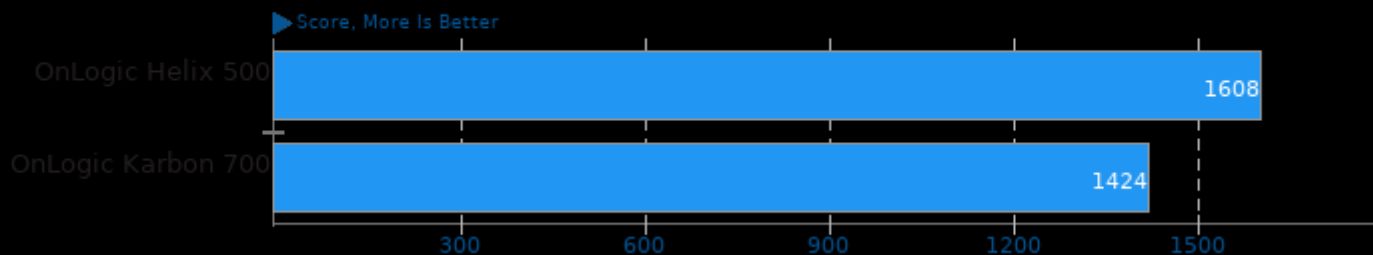
Device Training Score

► Score, More Is Better



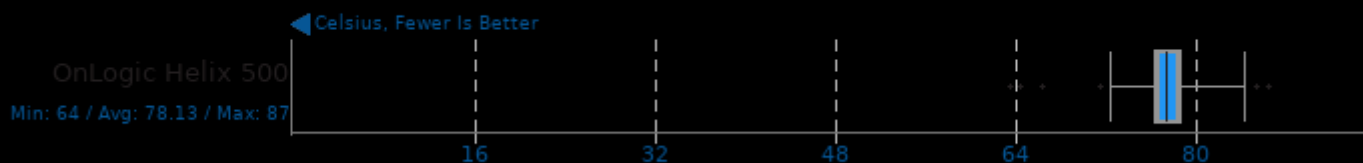
AI Benchmark Alpha 0.1.2

Device AI Score



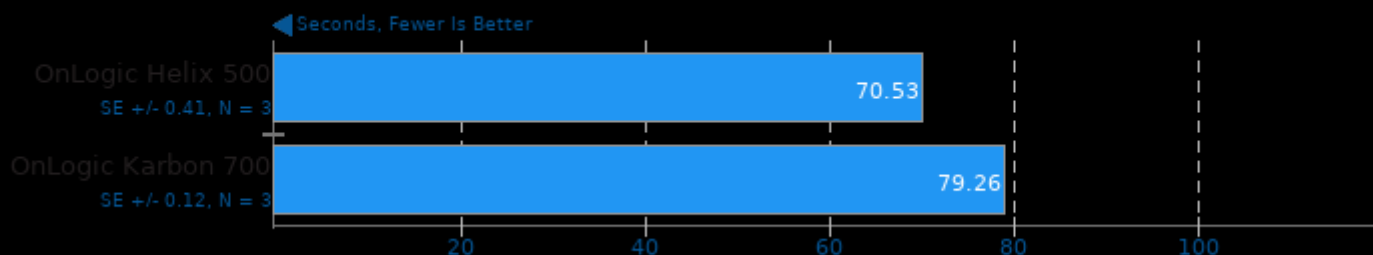
AI Benchmark Alpha 0.1.2

CPU Temperature Monitor



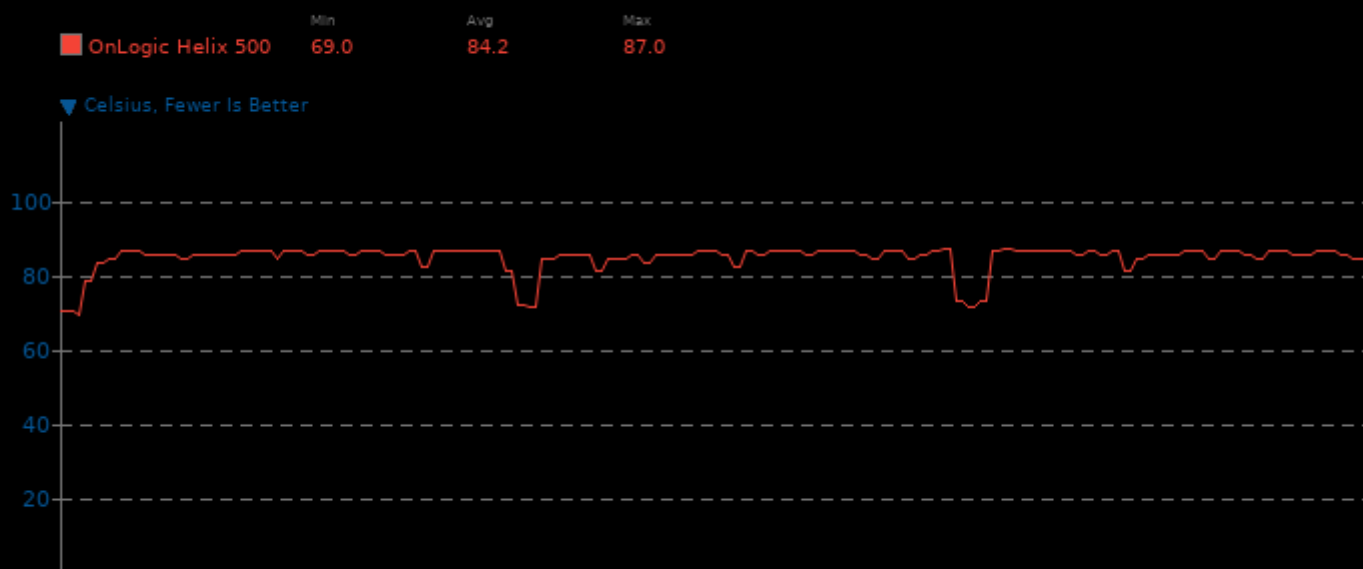
Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: Yes



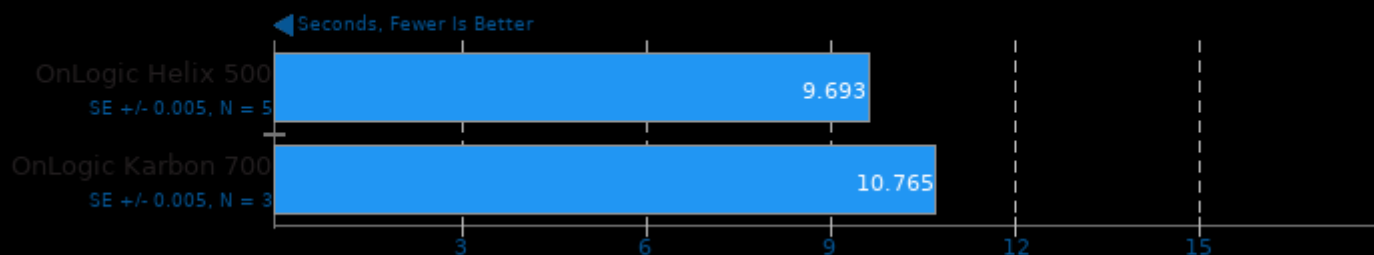
Waifu2x-NCNN Vulkan 20200818

CPU Temperature Monitor



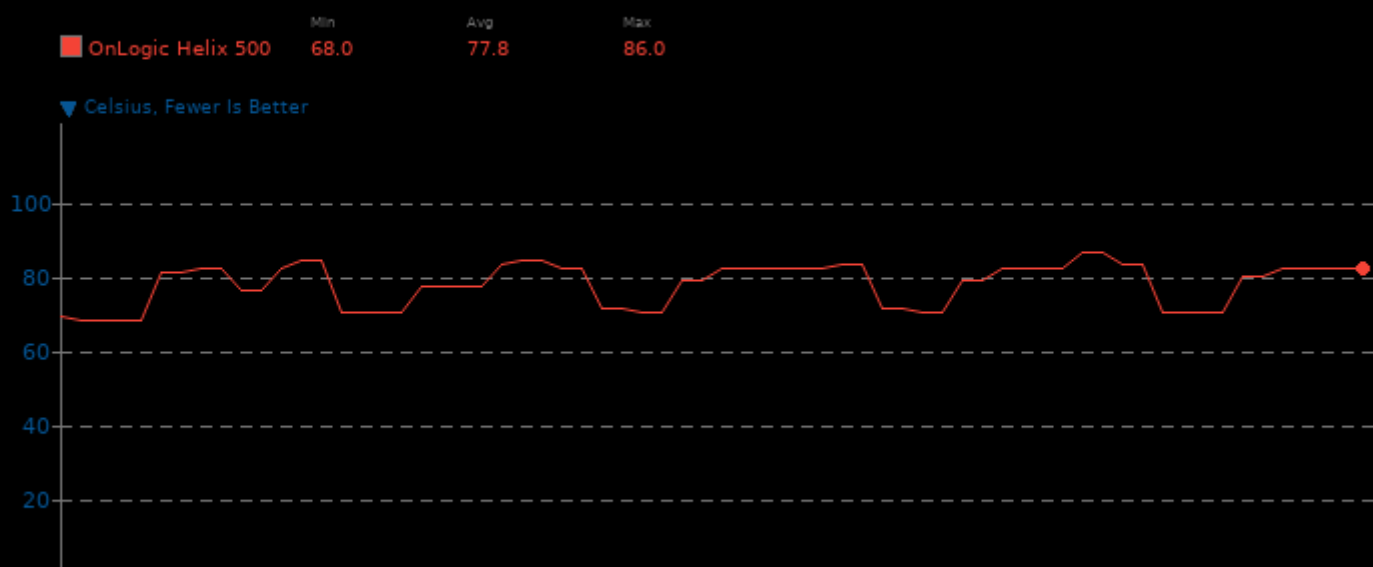
Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: No



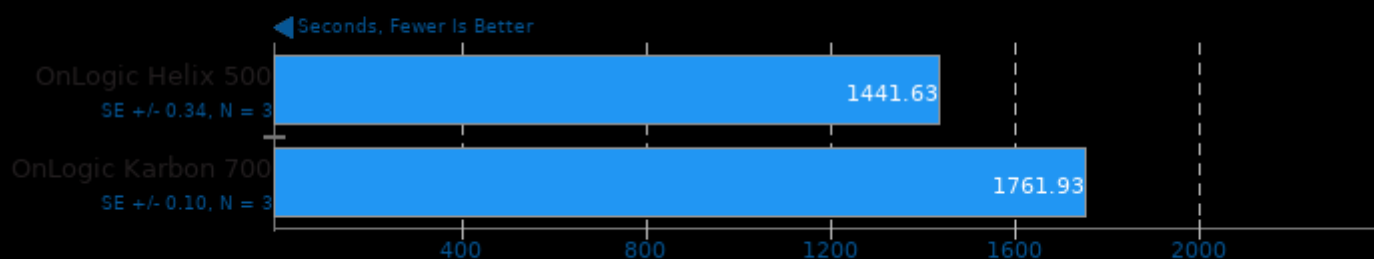
Waifu2x-NCNN Vulkan 20200818

CPU Temperature Monitor



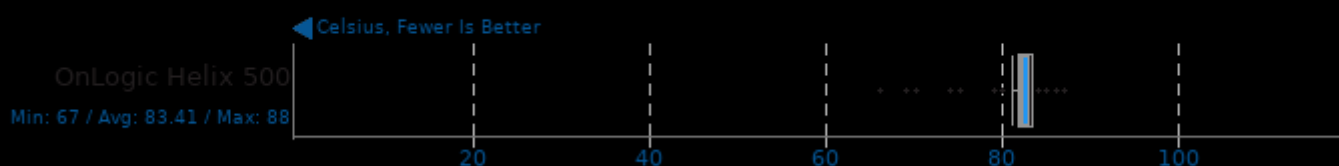
RealSR-NCNN 20200818

Scale: 4x - TAA: Yes



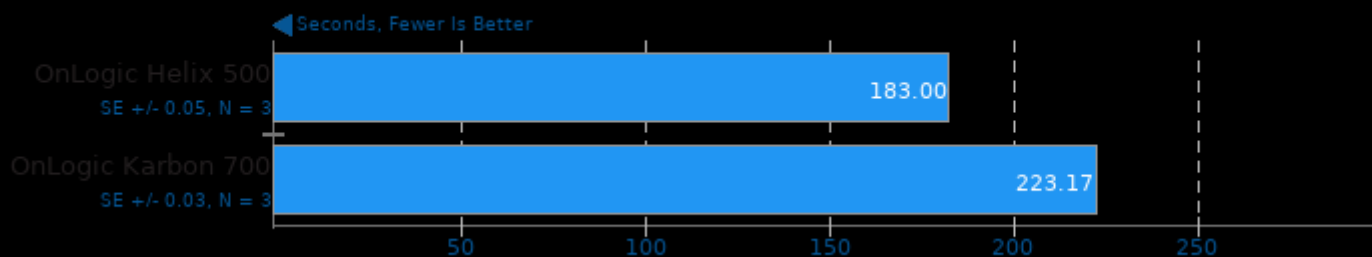
RealSR-NCNN 20200818

CPU Temperature Monitor



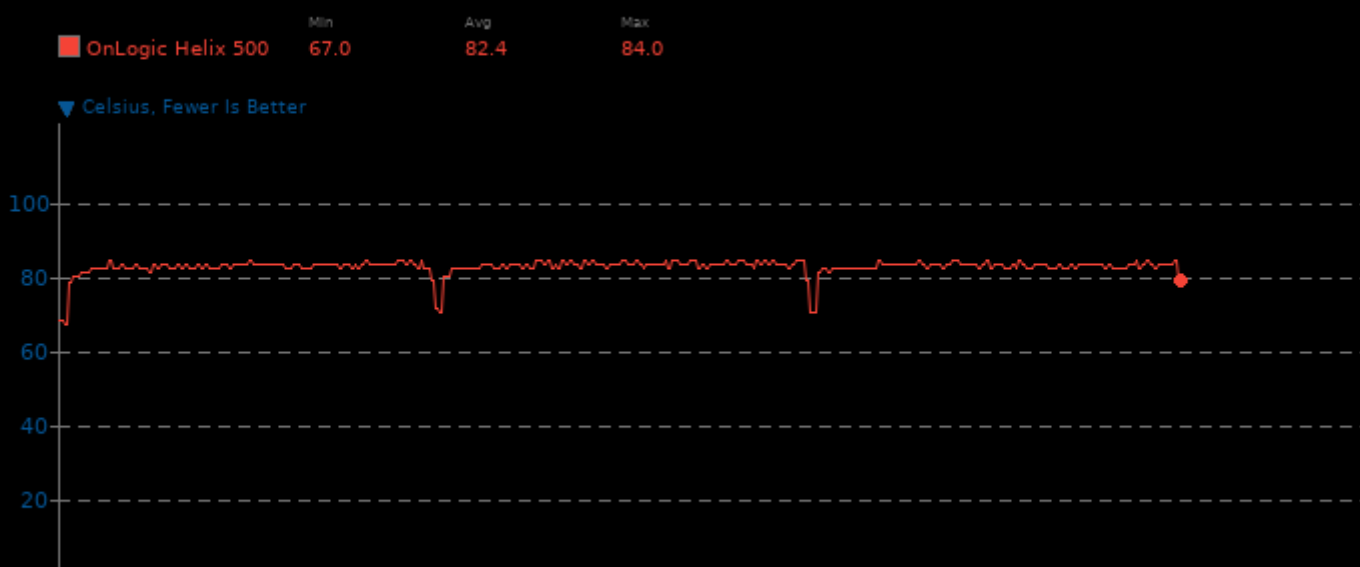
RealSR-NCNN 20200818

Scale: 4x - TAA: No



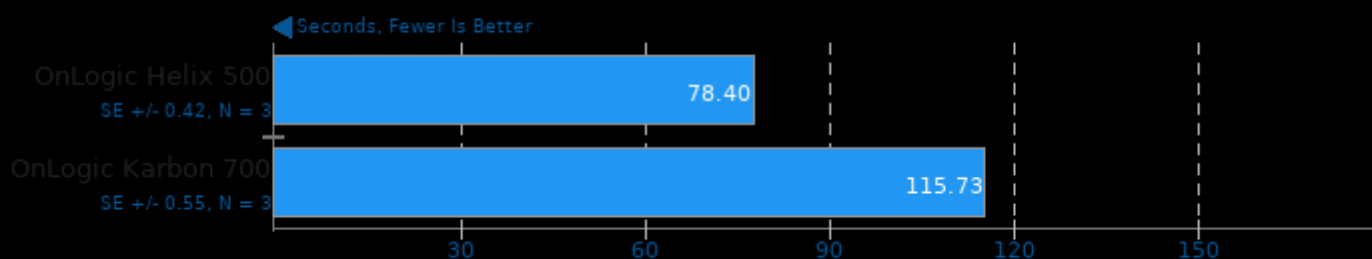
RealSR-NCNN 20200818

CPU Temperature Monitor



DeepSpeech 0.6

Acceleration: CPU

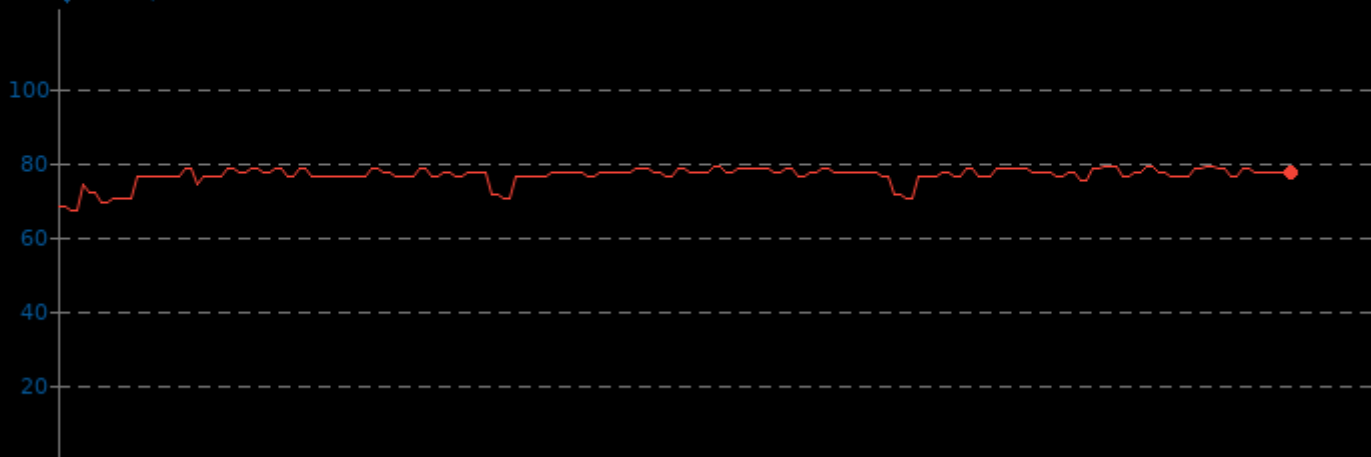


DeepSpeech 0.6

CPU Temperature Monitor

OnLogic Helix 500 Min 67.0 Avg 76.2 Max 79.0

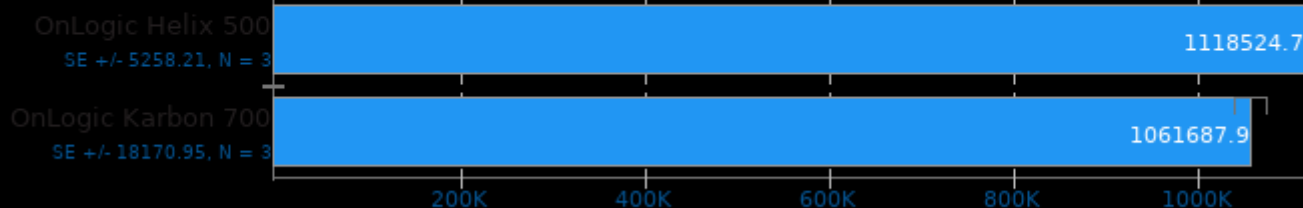
▼ Celsius, Fewer Is Better



InfluxDB 1.8.2

Concurrent Streams: 4 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000

► val/sec, More Is Better

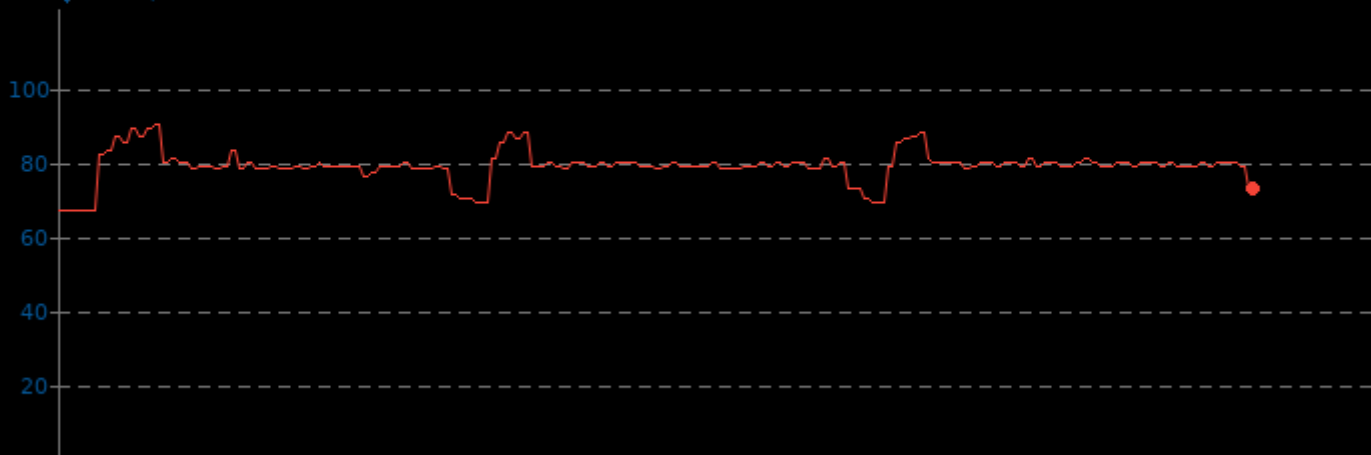


InfluxDB 1.8.2

CPU Temperature Monitor

OnLogic Helix 500 Min 67.0 Avg 79.0 Max 90.0

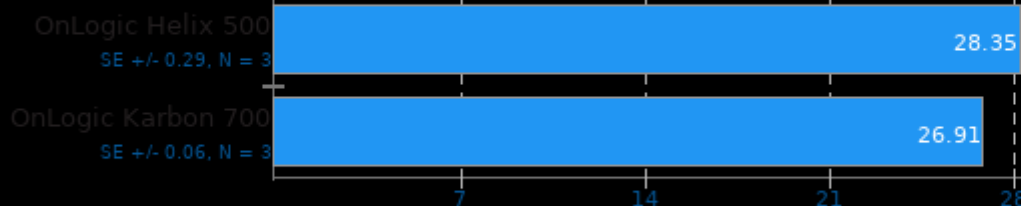
▼ Celsius, Fewer Is Better



LibRaw 0.20

Post-Processing Benchmark

► Mpix/sec, More Is Better



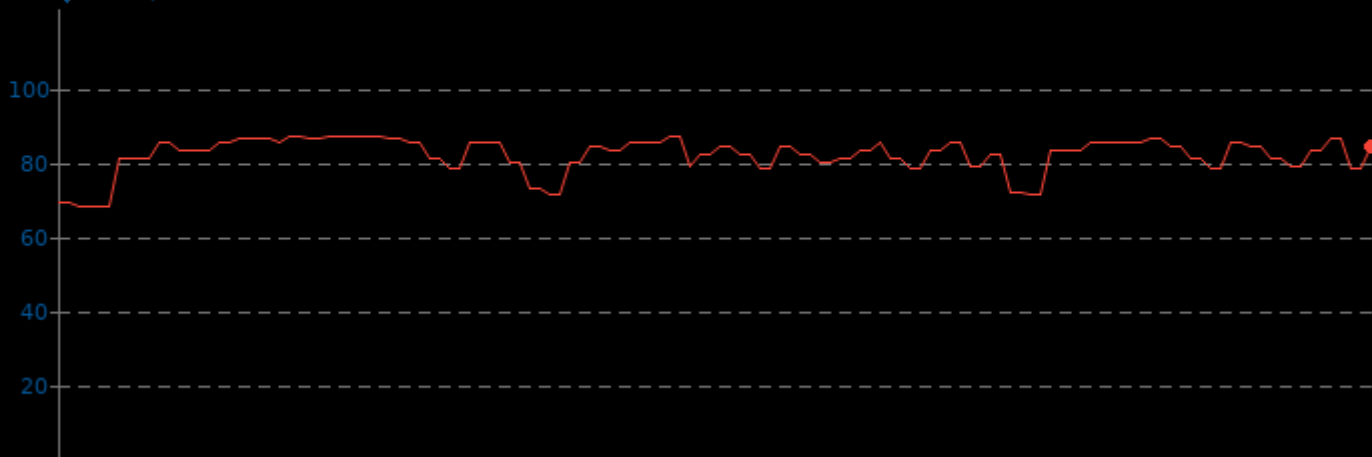
1. (CXX) g++ options: -O2 -fopenmp -ljpeg -lz -lm

LibRaw 0.20

CPU Temperature Monitor

OnLogic Helix 500 Min 68.0 Avg 81.8 Max 87.0

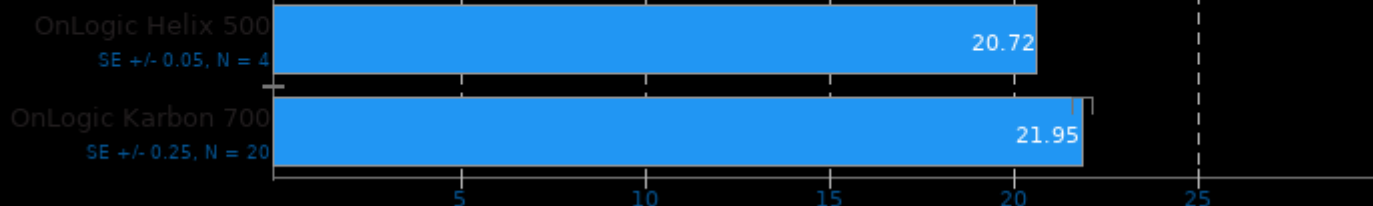
▼ Celsius, Fewer Is Better



Unpacking Firefox 84.0

Extracting: firefox-84.0.source.tar.xz

◀ Seconds, Fewer Is Better

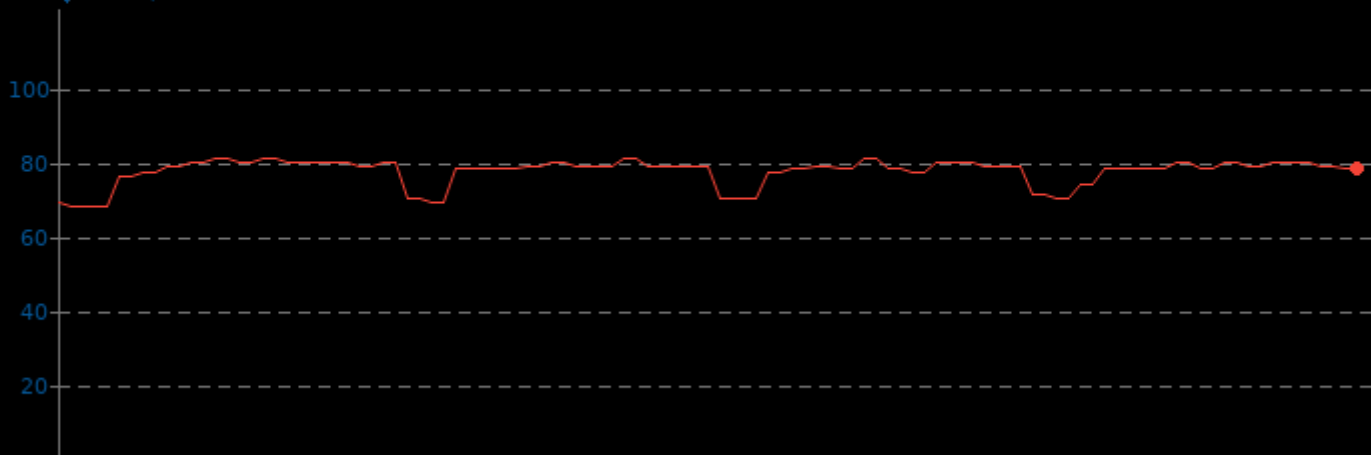


Unpacking Firefox 84.0

CPU Temperature Monitor

OnLogic Helix 500 Min 68.0 Avg 77.4 Max 81.0

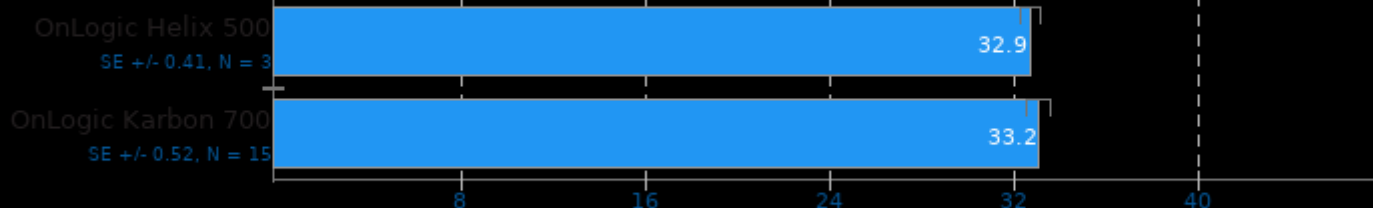
▼ Celsius, Fewer Is Better



LevelDB 1.22

Benchmark: Sequential Fill

► MB/s, More Is Better

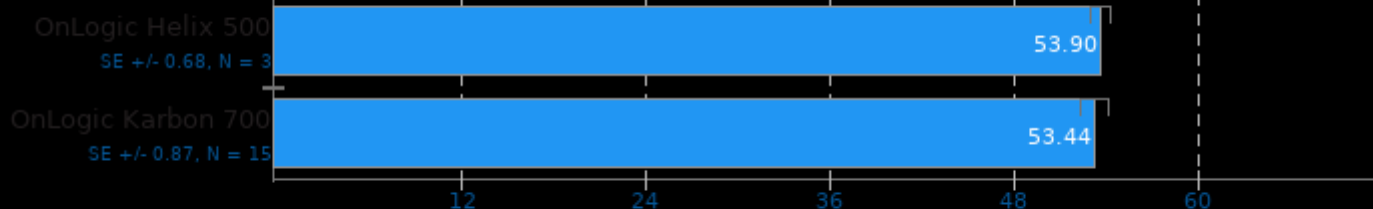


1. (CXX) g++ options: -O3 -lsnappy -lpthread

LevelDB 1.22

Benchmark: Sequential Fill

◀ Microseconds Per Op, Fewer Is Better



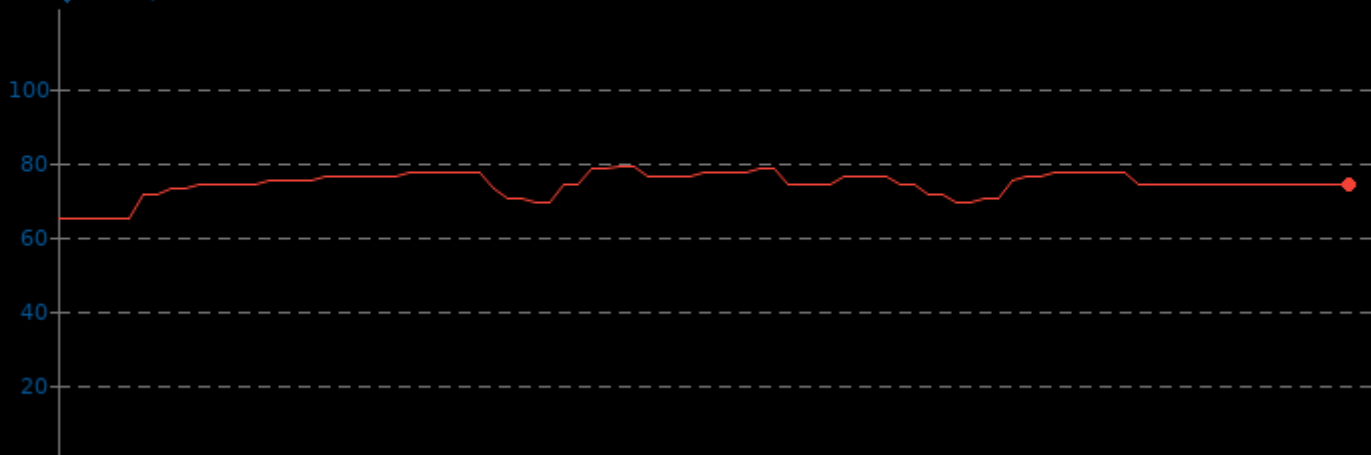
1. (CXX) g++ options: -O3 -lsnappy -lpthread

LevelDB 1.22

CPU Temperature Monitor

OnLogic Helix 500 Min 65.0 Avg 74.1 Max 79.0

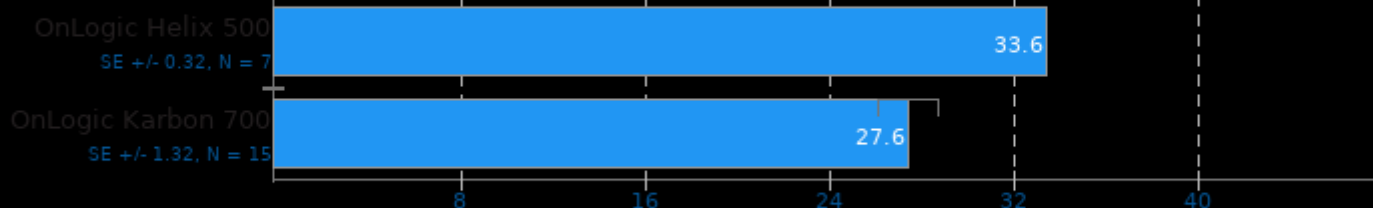
▼ Celsius, Fewer Is Better



LevelDB 1.22

Benchmark: Random Fill

► MB/s, More Is Better

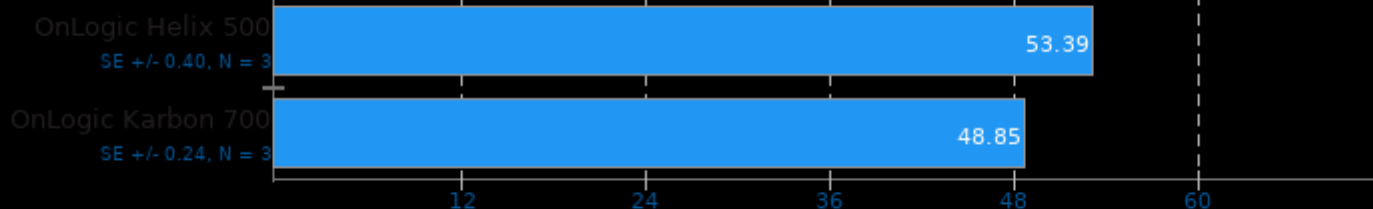


1. (CXX) g++ options: -O3 -lsnappy -lpthread

LevelDB 1.22

Benchmark: Random Delete

◀ Microseconds Per Op, Fewer Is Better



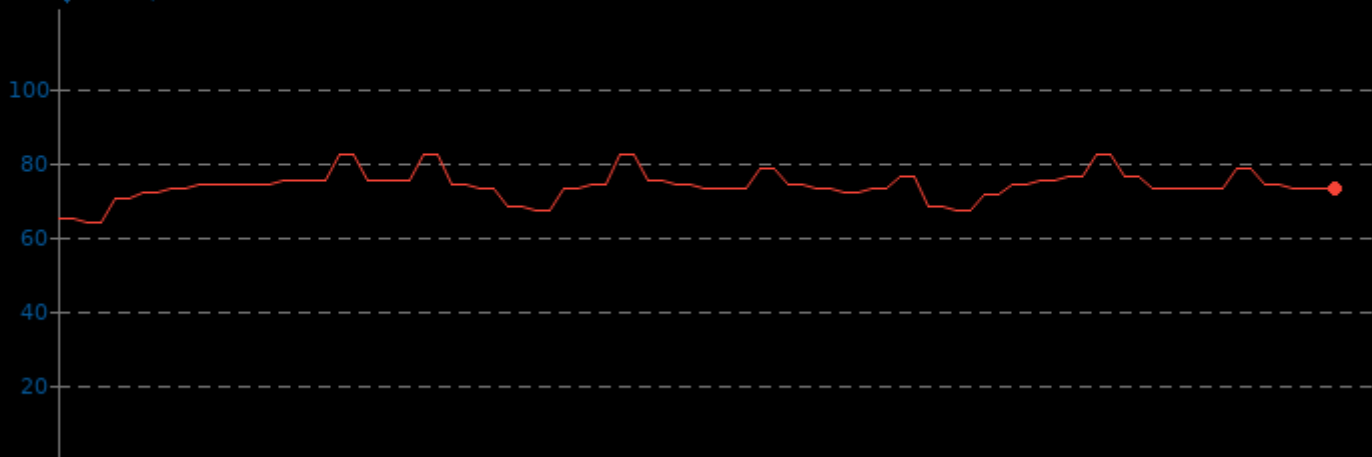
1. (CXX) g++ options: -O3 -lsnappy -lpthread

LevelDB 1.22

CPU Temperature Monitor

OnLogic Helix 500 Min 64.0 Avg 73.7 Max 82.0

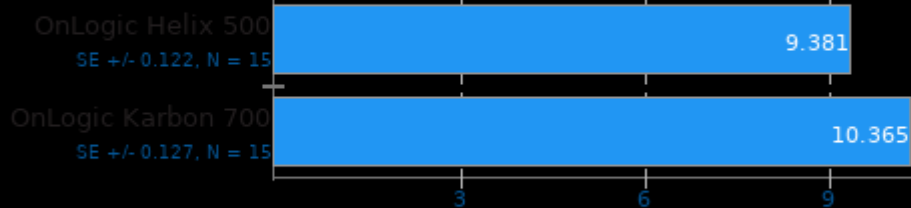
▼ Celsius, Fewer Is Better



LevelDB 1.22

Benchmark: Hot Read

◀ Microseconds Per Op, Fewer Is Better



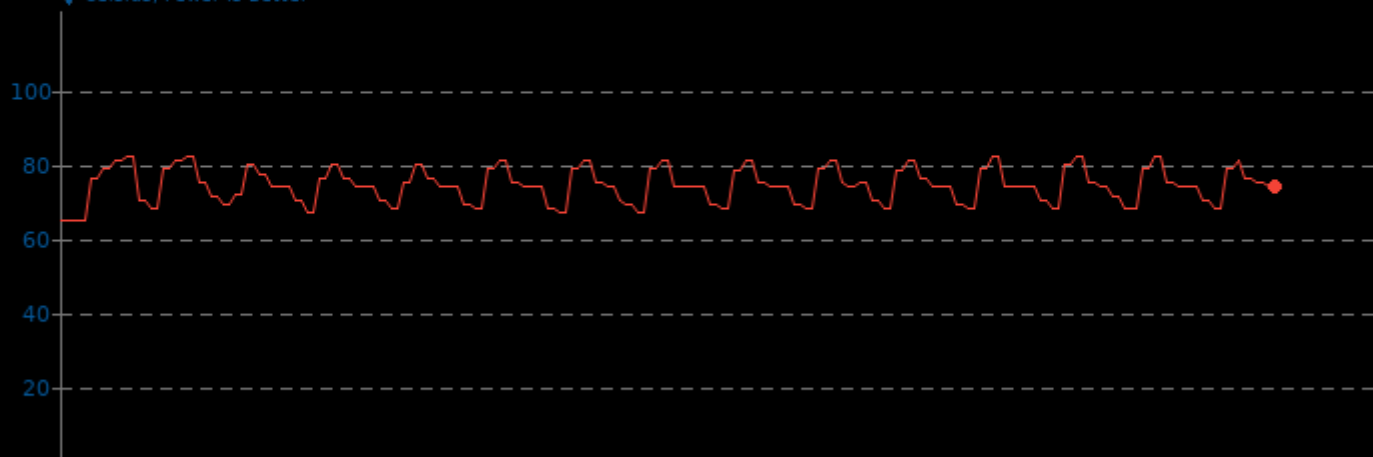
1. (CXX) g++ options: -O3 -fsnappy -lpthread

LevelDB 1.22

CPU Temperature Monitor

OnLogic Helix 500 Min 65.0 Avg 74.2 Max 82.0

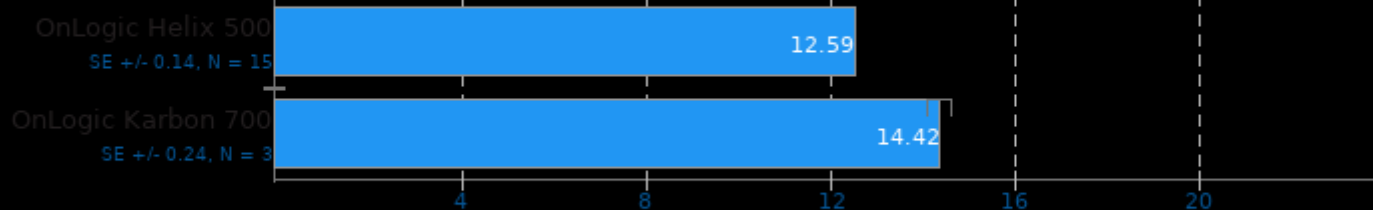
▼ Celsius, Fewer Is Better



LevelDB 1.22

Benchmark: Seek Random

◀ Microseconds Per Op, Fewer Is Better



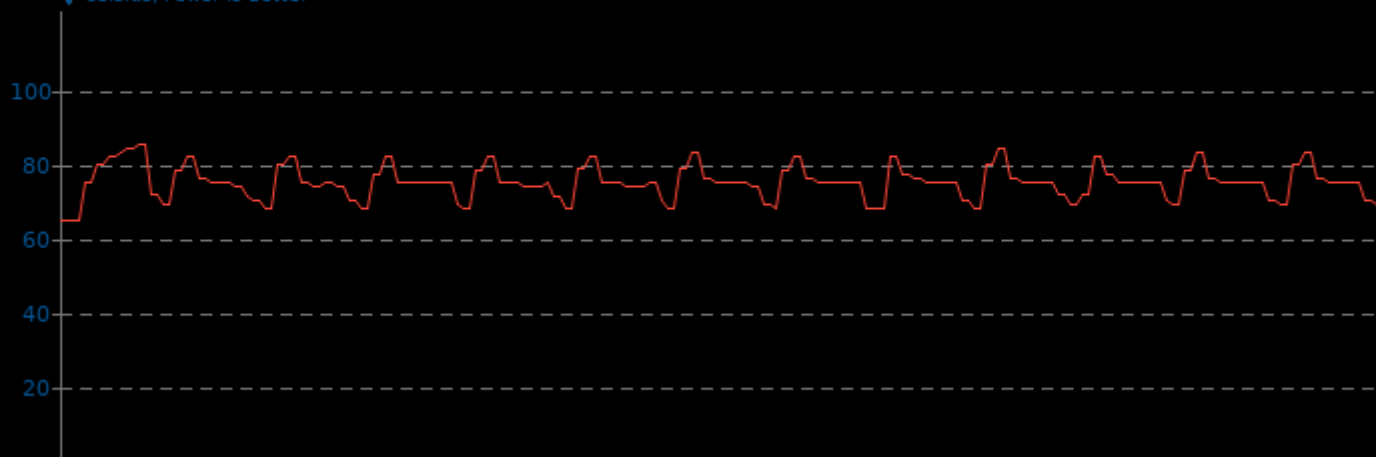
1. (CXX) g++ options: -O3 -fsnappy -lpthread

LevelDB 1.22

CPU Temperature Monitor

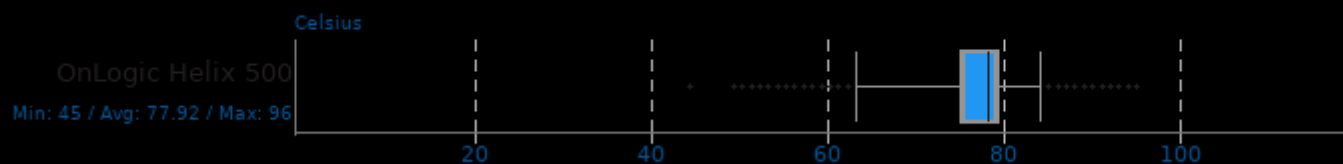
	Min	Avg	Max
OnLogic Helix 500	65.0	75.1	85.0

▼ Celsius, Fewer Is Better



CPU Temperature Monitor

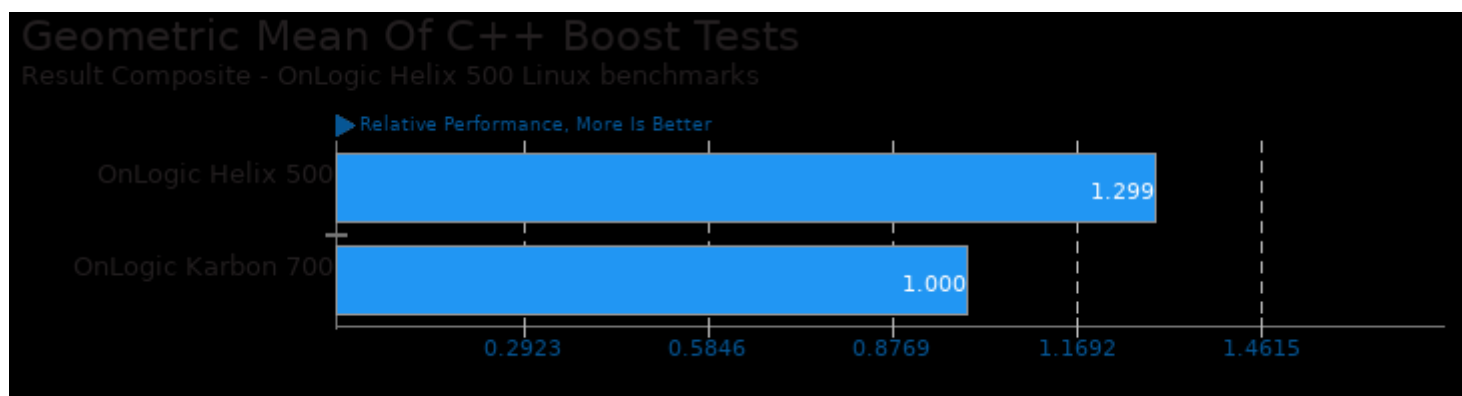
Phoronix Test Suite System Monitoring



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



Geometric mean based upon tests: pts/dav1d and pts/rav1e



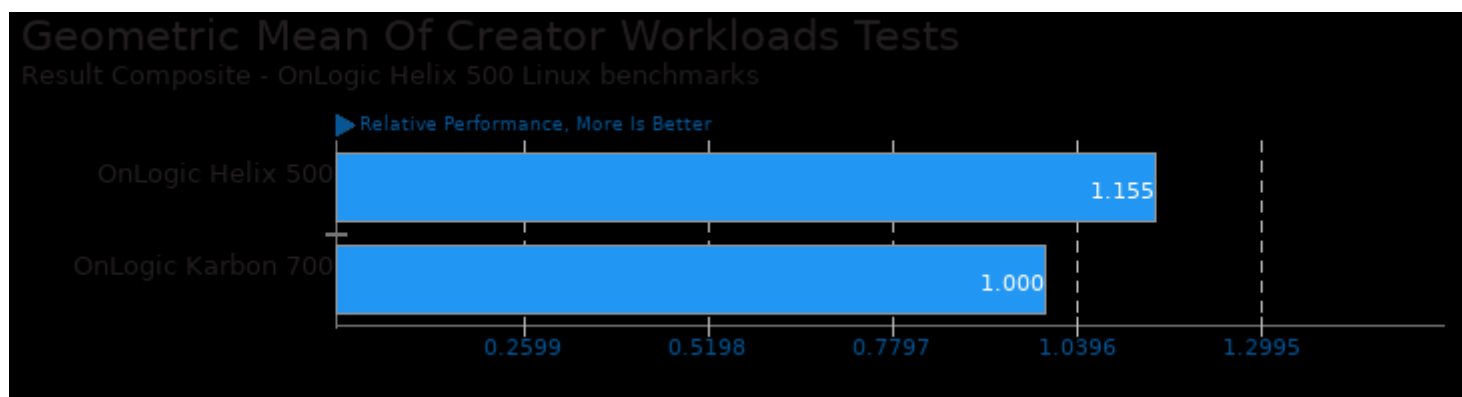
Geometric mean based upon tests: pts/quantlib and pts/openfoam



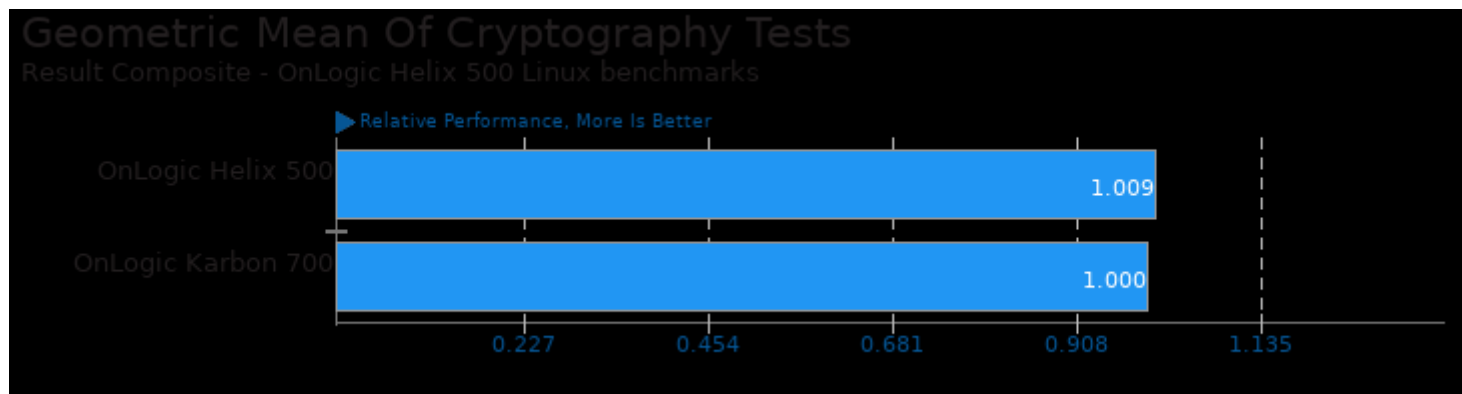
Geometric mean based upon tests: pts/hmmer, pts/sqlite-speedtest, pts/dav1d, pts/clomp, pts/lammps, pts/gromacs and pts/leveldb



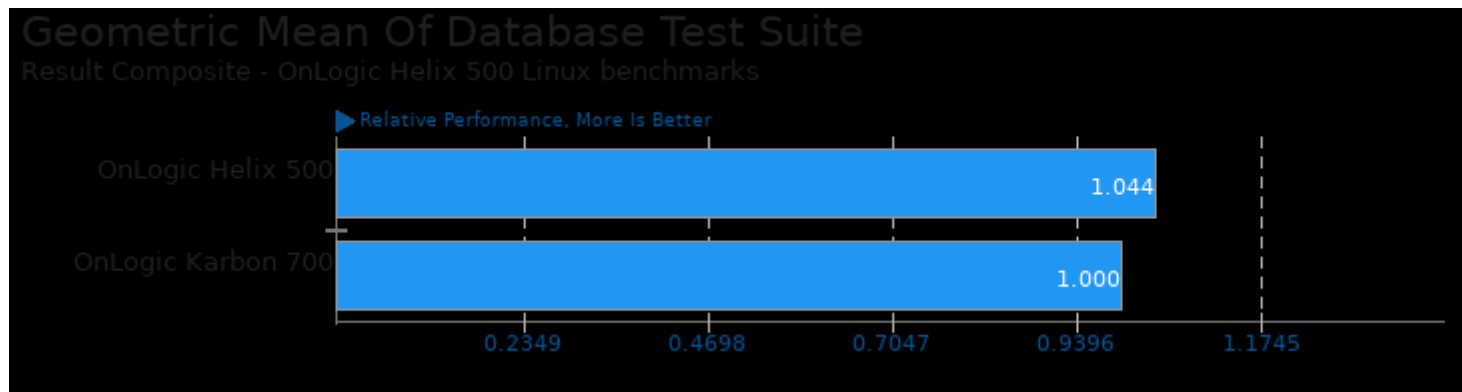
Geometric mean based upon tests: pts/dav1d, pts/hmmer, pts/hpcc, pts/lammps, pts/lzbench, pts/onednn, pts/npb, pts/clomp and pts/cpuminer-opt



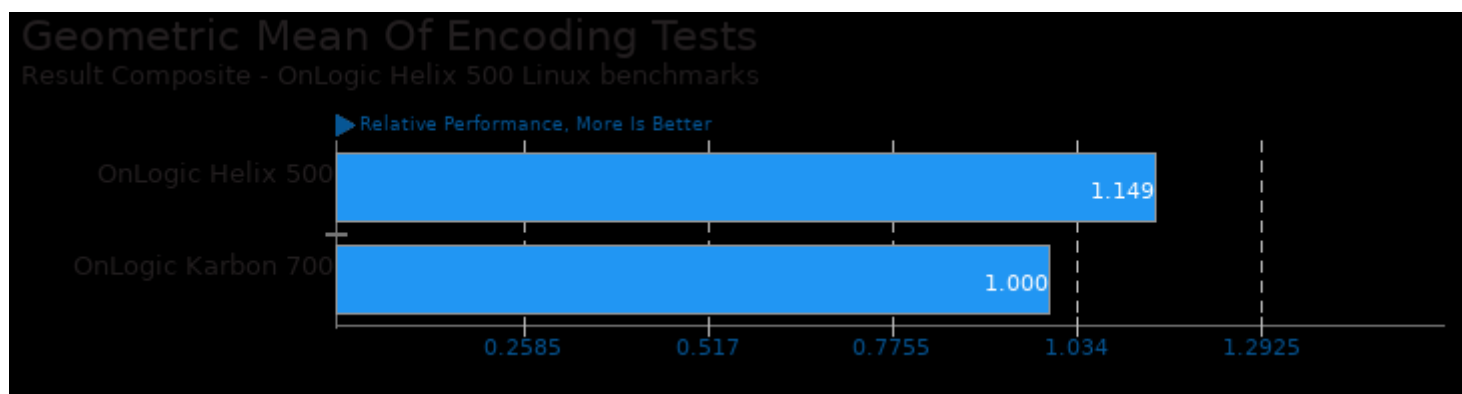
Geometric mean based upon tests: pts/dav1d, pts/rav1e, pts/libraw, pts/webp, pts/webp2, pts/embree, pts/onednn, pts/ascenc, pts/etcpak, pts/deepspeech and pts/synthmark



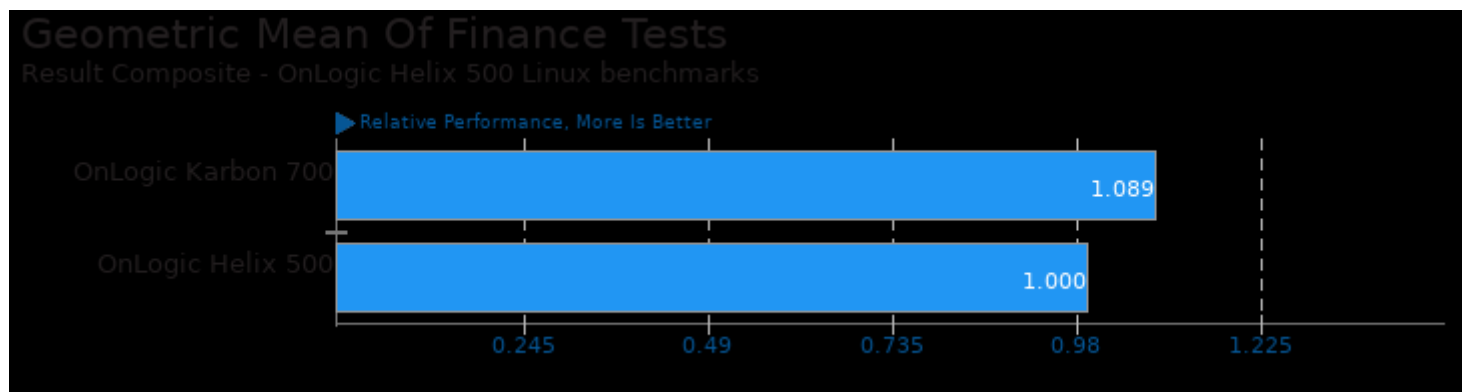
Geometric mean based upon tests: pts/gnupg and pts/cpuminer-opt



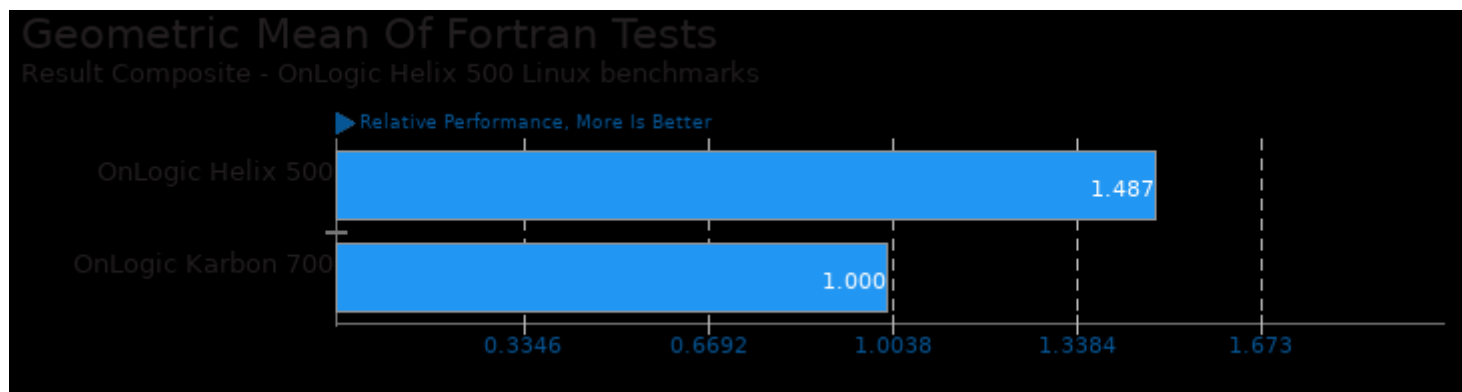
Geometric mean based upon tests: pts/sqlite-speedtest, pts/leveldb and pts/influxdb



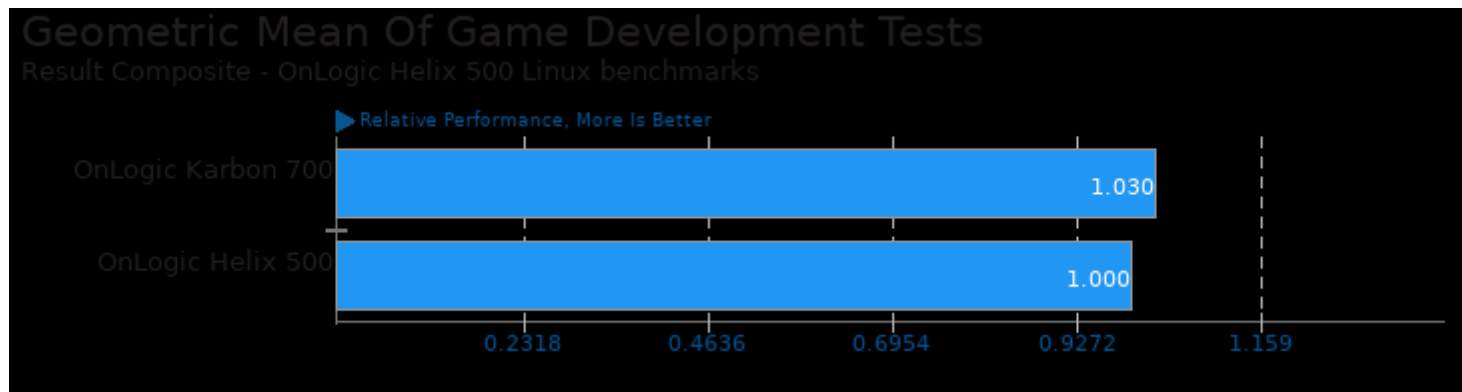
Geometric mean based upon tests: pts/dav1d and pts/rav1e



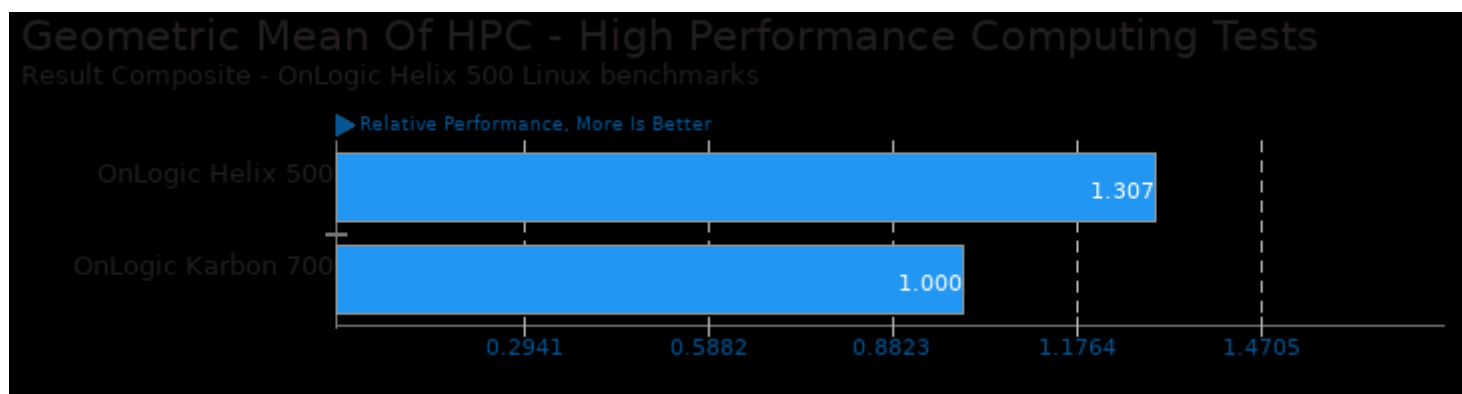
Geometric mean based upon tests: pts/financebench and pts/quantlib



Geometric mean based upon tests: pts/npb, pts/lammps and pts/hpcc



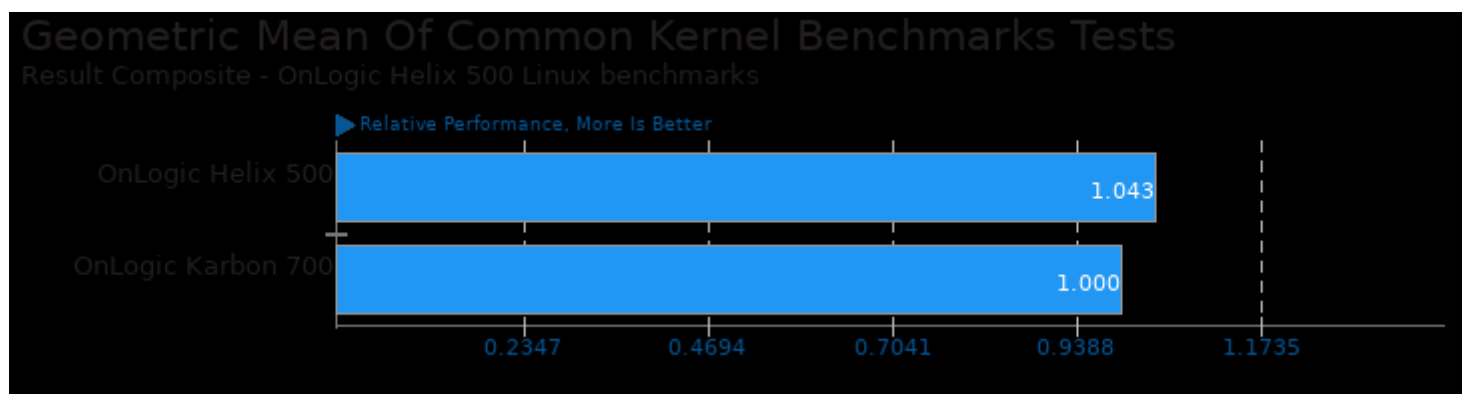
Geometric mean based upon tests: pts/astcenc and pts/etcpak



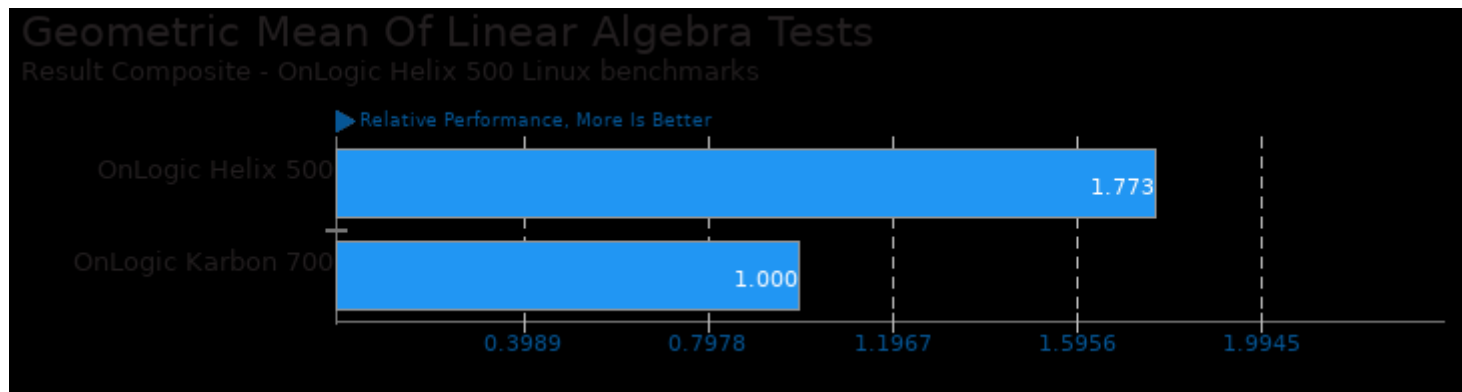
Geometric mean based upon tests: pts/npb, pts/hpcc, pts/askap, pts/amg, pts/gromacs, pts/lammps, pts/openfoam, pts/hmmer, pts/ncnn, pts/tnn, pts/ai-benchmark, pts/deepspeech, pts/onednn and pts/onnx



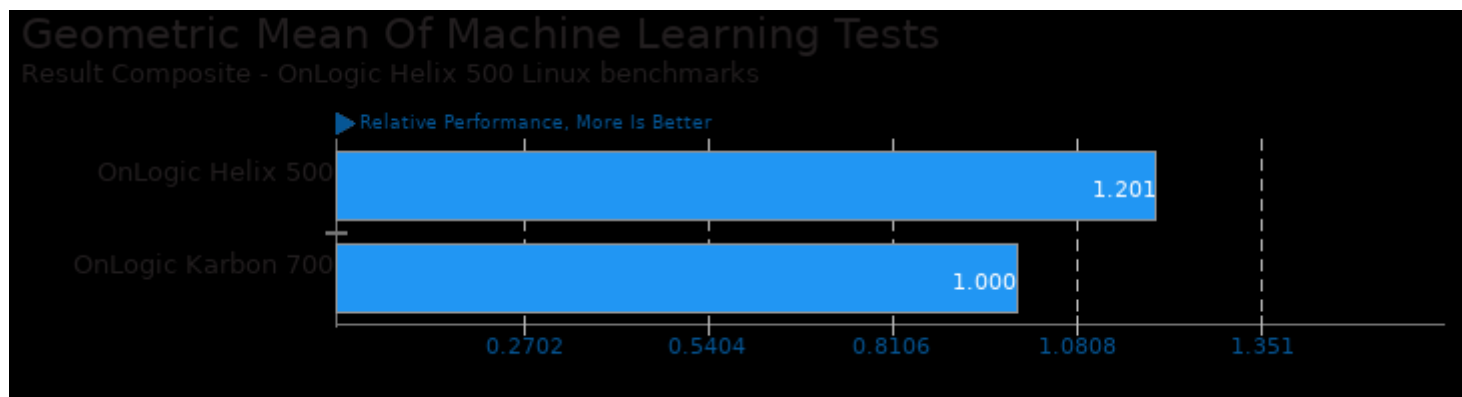
Geometric mean based upon tests: pts/libraw, pts/webp and pts/webp2



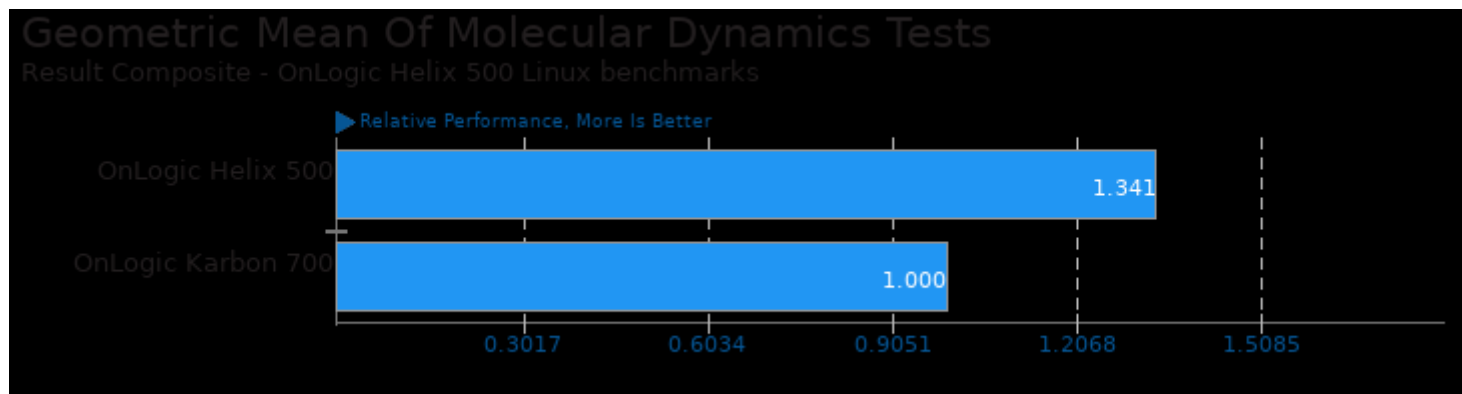
Geometric mean based upon tests: pts/sqlite-speedtest and pts/leveldb



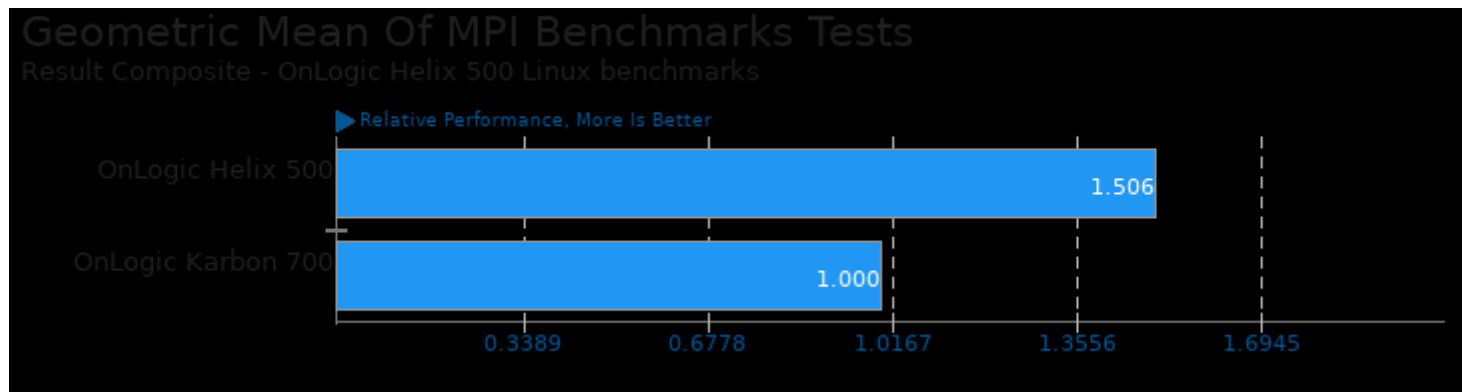
Geometric mean based upon tests: pts/amg and pts/hpcc



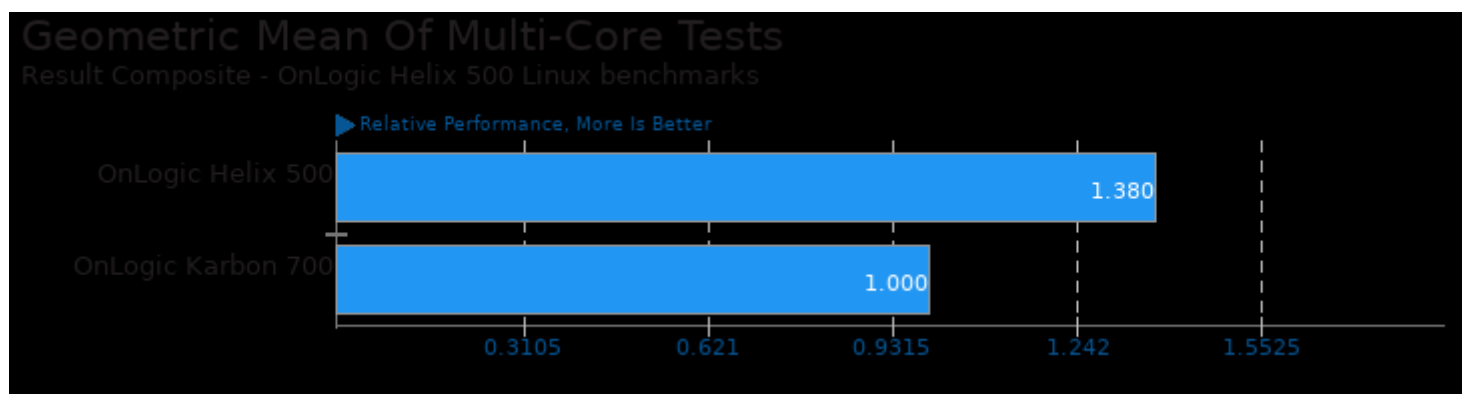
Geometric mean based upon tests: pts/ncnn, pts/tnn, pts/ai-benchmark, pts/deepspeech, pts/onednn and pts/onnx



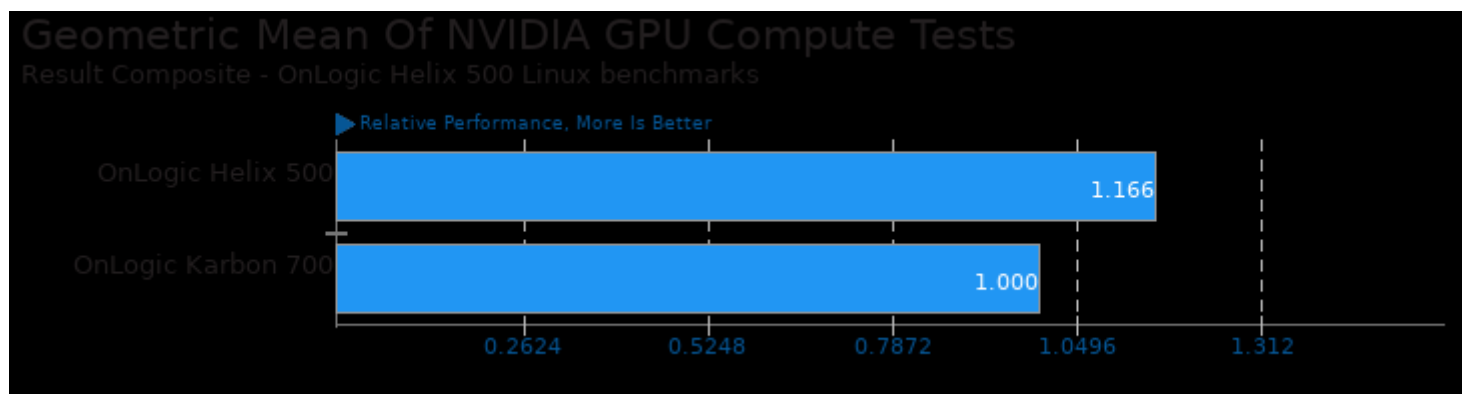
Geometric mean based upon tests: pts/gromacs, pts/lammps and pts/openfoam



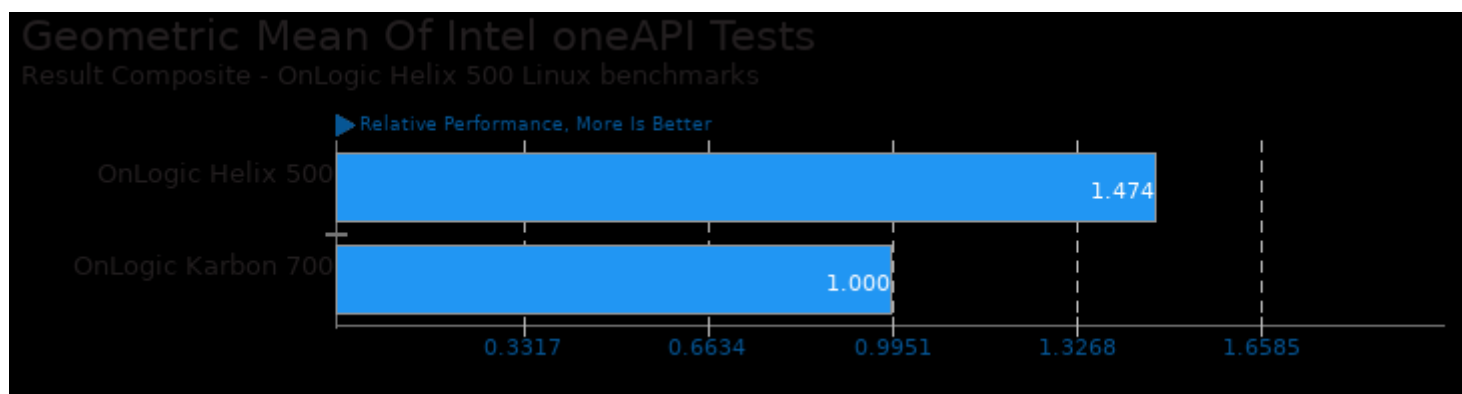
Geometric mean based upon tests: pts/askap, pts/lammps, pts/hpcc, pts/gromacs and pts/npb



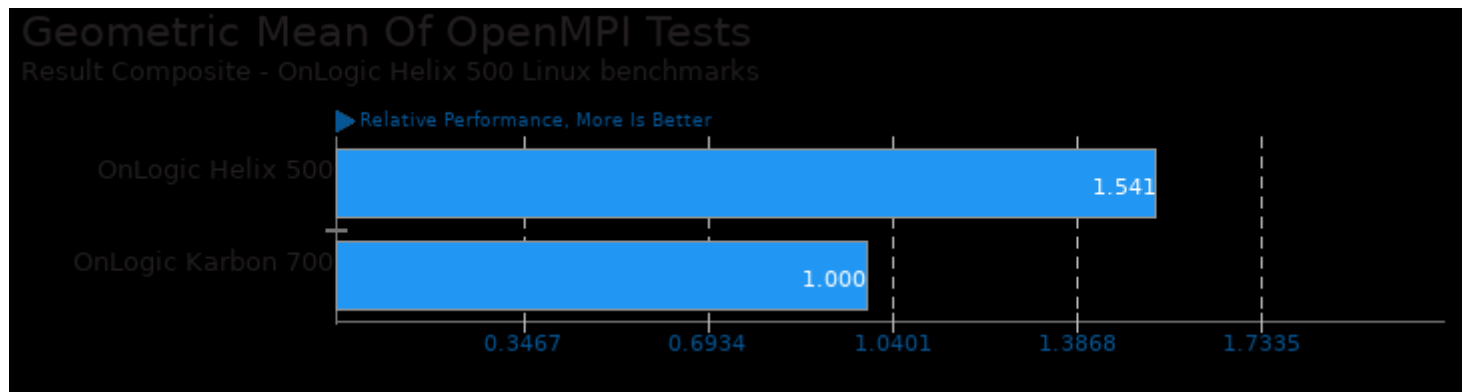
Geometric mean based upon tests: pts/cpuminer-opt, pts/askap, pts/dav1d, pts/rav1e, pts/npb, pts/onednn, pts/lammps, pts/gromacs and pts/embree



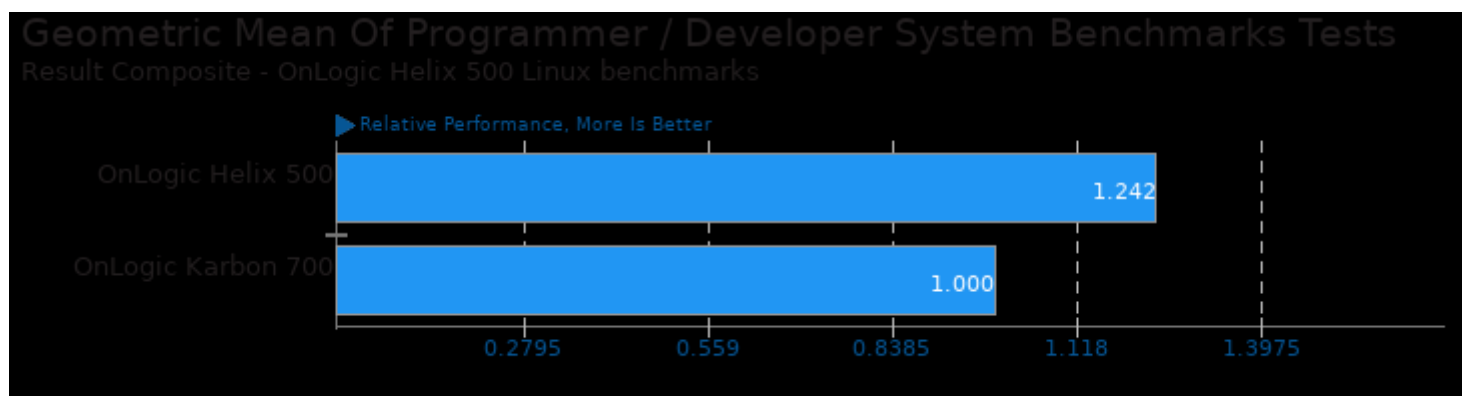
Geometric mean based upon tests: pts/gromacs, pts/financebench, pts/ncnn, pts/realsr-ncnn and pts/waifu2x-ncnn



Geometric mean based upon tests: pts/embree and pts/onednn



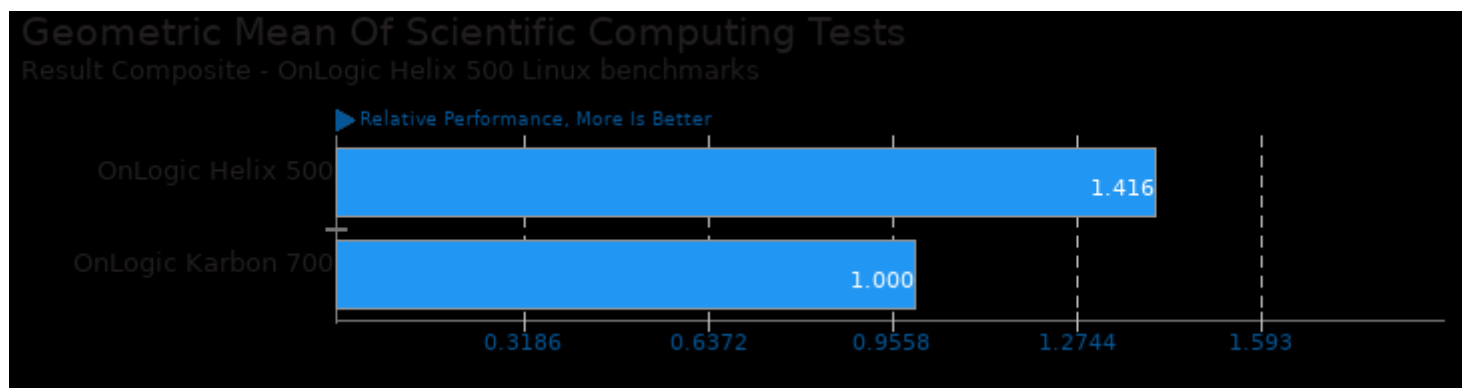
Geometric mean based upon tests: pts/askap, pts/npb, pts/lammps, pts/amg, pts/openfoam, pts/hpcc and pts/gromacs



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/amg and pts/hpcc



Geometric mean based upon tests: pts/onnx, pts/glmark2 and pts/ai-benchmark

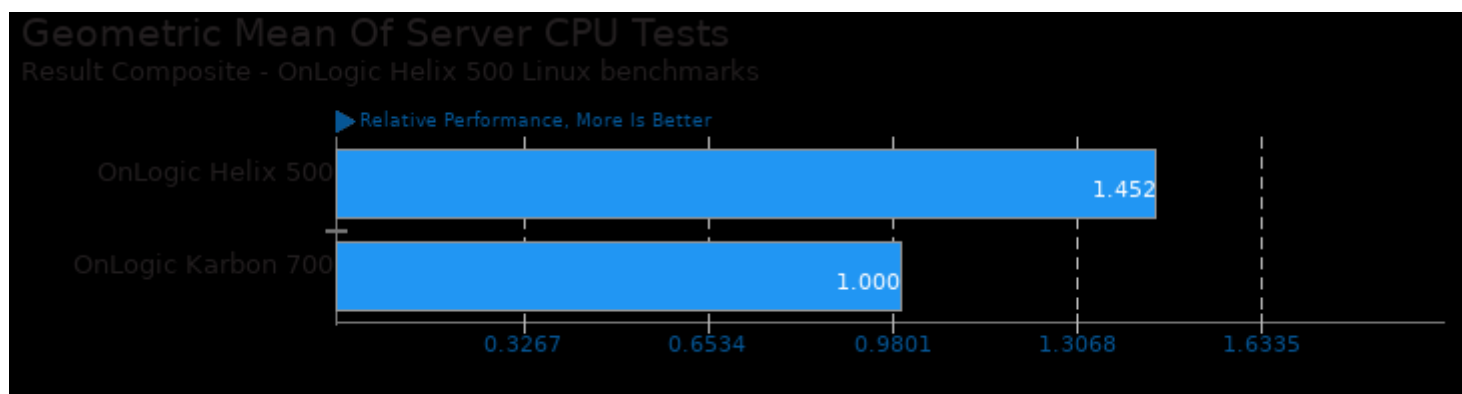


OnLogic Helix 500 Linux benchmarks

Geometric mean based upon tests: pts/amg, pts/hpcc, pts/gromacs, pts/lammps, pts/openfoam and pts/hmmer



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/leveldb and pts/influxdb



Geometric mean based upon tests: pts/npb, pts/onednn, pts/dav1d and pts/cpuminer-opt



Geometric mean based upon tests: pts/lzbench, pts/deepspeech and pts/gnupg



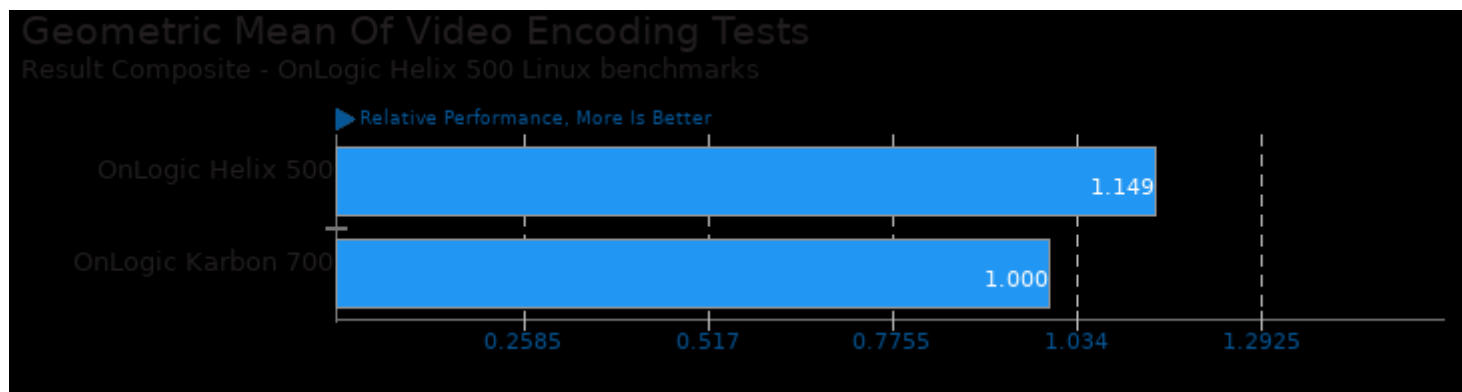
Geometric mean based upon tests: pts/deepspeech and pts/synthmark



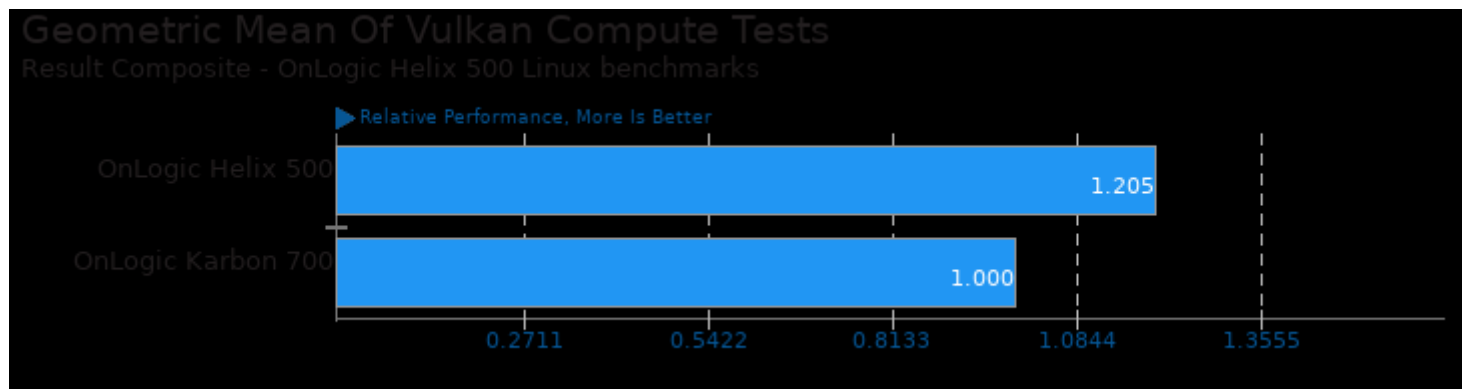
Geometric mean based upon tests: pts/deepspeech and pts/synthmark



Geometric mean based upon tests: pts/astcenc and pts/etcpak



Geometric mean based upon tests: pts/dav1d and pts/rav1e



Geometric mean based upon tests: pts/ncnn, pts/realnr-ncnn and pts/waifu2x-ncnn

This file was automatically generated via the Phoronix Test Suite benchmarking software on Sunday, 19 January 2025 11:27.