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EPYC 75F3

AMD EPYC 75F3 32-Core testing with a ASRockRack ROME2D16-2T (P3.10 BIOS) and ASPEED on Ubuntu 21.10 via the Phoronix Test Suite.

Test Systems:

Dynatron

Processor: AMD EPYC 75F3 32-Core @ 2.95GHz (32 Cores / 64 Threads), Motherboard: ASRockRack ROME2D16-2T (P3.10 BIOS), Chipset: AMD Starship/Matisse, Memory: 8 x GB DDR4-3200MT/s HMA81GR7CJR8N-XN, Disk: 1000GB Western Digital WD_BLACK SN850 1TB, Graphics: ASPEED, Audio: AMD Starship/Matisse, Monitor: VE228, Network: 2 x Intel 10G X550T

OS: Ubuntu 21.10, Kernel: 5.13.0-19-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server, Vulkan: 1.1.182, Compiler: GCC 11.2.0, 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-bootstrap --enable-cet --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-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto
--enable-offload-targets=nvptx-none=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-gcn/usr
--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: 0xa001114

Java Notes: OpenJDK Runtime Environment (build 11.0.12+7-Ubuntu-0ubuntu3)

Python Notes: Python 3.9.7

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 IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbd: Not affected + tsx_async_abort: Not affected

Dynatron

Timed Linux Kernel Compilation - Time To Compile (sec)	29.860
Standard Deviation	2.3%
Timed Godot Game Engine Compilation - Time To Compile (sec)	49.003
Standard Deviation	0%
Timed LLVM Compilation - Ninja (sec)	197.121
Standard Deviation	1.1%
Timed LLVM Compilation - Unix Makefiles (sec)	230.363
Standard Deviation	2.1%
Timed GCC Compilation - Time To Compile (sec)	663.425
Standard Deviation	0.1%
Timed Node.js Compilation - Time To Compile (sec)	124.888
Standard Deviation	0.3%
Timed Mesa Compilation - Time To Compile (sec)	19.248
Standard Deviation	0.2%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	41.186
Standard Deviation	0.1%
Timed Apache Compilation - Time To Compile (sec)	17.326
Standard Deviation	0.1%
Timed FFmpeg Compilation - Time To Compile (sec)	19.747
Standard Deviation	0.3%
Kvazaar - Bosphorus 1080p - Slow (FPS)	31.12
Standard Deviation	0.4%
Kvazaar - Bosphorus 1080p - Medium (FPS)	32.05
Standard Deviation	0.6%
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	59.69
Standard Deviation	0.6%
Kvazaar - Bosphorus 1080p - Ultra Fast (FPS)	127.83
Standard Deviation	0.8%
Kvazaar - Bosphorus 4K - Slow (FPS)	18.81
Standard Deviation	0.2%
Kvazaar - Bosphorus 4K - Medium (FPS)	19.04
Standard Deviation	0.3%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	35.85
Standard Deviation	0.3%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	59.73
Standard Deviation	0.5%
ASTC Encoder - Medium (sec)	3.6044
Standard Deviation	0.1%
ASTC Encoder - Thorough (sec)	5.8883
Standard Deviation	0.1%

ASTC Encoder - Exhaustive (sec)	17.9270
Standard Deviation	0%
PostgreSQL pgbench - 1 - 1 - Read Write (TPS)	2413
Standard Deviation	0.4%
PostgreSQL pgbench - 1 - 1 - Read Write - Average Latency (ms)	0.414
Standard Deviation	0.3%
PostgreSQL pgbench - 1 - 1 - Read Only (TPS)	34024
Standard Deviation	0.8%
PostgreSQL pgbench - 1 - 1 - Read Only - Average Latency (ms)	0.029
Standard Deviation	2%
PostgreSQL pgbench - 1 - 50 - Read Write (TPS)	2061
Standard Deviation	0.1%
PostgreSQL pgbench - 1 - 50 - Read Write - Average Latency (ms)	24.259
Standard Deviation	0.1%
PostgreSQL pgbench - 1 - 50 - Read Only (TPS)	914080
Standard Deviation	0.5%
PostgreSQL pgbench - 1 - 50 - Read Only - Average Latency (ms)	0.055
Standard Deviation	1.1%
PostgreSQL pgbench - 1 - 100 - Read Write (TPS)	1723
Standard Deviation	0.2%
PostgreSQL pgbench - 1 - 100 - Read Write - Average Latency (ms)	58.040
Standard Deviation	0.2%
PostgreSQL pgbench - 1 - 100 - Read Only (TPS)	1054560
Standard Deviation	1.7%
PostgreSQL pgbench - 1 - 100 - Read Only - Average Latency (ms)	0.095
Standard Deviation	1.6%
PostgreSQL pgbench - 1 - 250 - Read Write (TPS)	1051
Standard Deviation	6.6%
PostgreSQL pgbench - 1 - 250 - Read Write - Average Latency (ms)	238.921
Standard Deviation	7.2%
PostgreSQL pgbench - 1 - 250 - Read Only (TPS)	1038168
Standard Deviation	0.9%
PostgreSQL pgbench - 1 - 250 - Read Only - Average Latency (ms)	0.241
Standard Deviation	0.9%
PostgreSQL pgbench - 1 - 500 - Read Write (TPS)	493
Standard Deviation	22.8%
PostgreSQL pgbench - 1 - 500 - Read Write - Average Latency (ms)	1064
Standard Deviation	22.8%
PostgreSQL pgbench - 1 - 500 - Read Only (TPS)	1056125
Standard Deviation	0.6%
PostgreSQL pgbench - 1 - 500 - Read Only - Average Latency (ms)	0.473
Standard Deviation	0.6%
PostgreSQL pgbench - 100 - 1 - Read Write (TPS)	2297
Standard Deviation	0.1%
PostgreSQL pgbench - 100 - 1 - Read Write - Average Latency (ms)	0.435
Standard Deviation	0.1%
PostgreSQL pgbench - 100 - 1 - Read Only (TPS)	32138
Standard Deviation	0.9%
PostgreSQL pgbench - 100 - 1 - Read Only - Average Latency (ms)	0.031
Standard Deviation	0%
PostgreSQL pgbench - 100 - 50 - Read Write (TPS)	44958
Standard Deviation	5.5%
PostgreSQL pgbench - 100 - 50 - Read Write - Average Latency (ms)	1.115

	Standard Deviation	5.9%
PostgreSQL pgbench - 100 - 50 - Read Only (TPS)	874461	
	Standard Deviation	0.7%
PostgreSQL pgbench - 100 - 50 - Read Only - Average Latency (ms)	0.057	
	Standard Deviation	1%
PostgreSQL pgbench - 100 - 100 - Read Write (TPS)	59210	
	Standard Deviation	0.9%
PostgreSQL pgbench - 100 - 100 - Read Write - Average Latency	1.689	
	Standard Deviation	0.9%
PostgreSQL pgbench - 100 - 100 - Read Only (TPS)	968654	
	Standard Deviation	1.5%
PostgreSQL pgbench - 100 - 100 - Read Only - Average Latency	0.104	
	Standard Deviation	1.5%
PostgreSQL pgbench - 100 - 250 - Read Write (TPS)	60783	
	Standard Deviation	0.4%
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency	4.113	
	Standard Deviation	0.4%
PostgreSQL pgbench - 100 - 250 - Read Only (TPS)	969997	
	Standard Deviation	0.2%
PostgreSQL pgbench - 100 - 250 - Read Only - Average Latency	0.258	
	Standard Deviation	0.2%
PostgreSQL pgbench - 100 - 500 - Read Write (TPS)	55506	
	Standard Deviation	0.2%
PostgreSQL pgbench - 100 - 500 - Read Write - Average Latency	9.008	
	Standard Deviation	0.2%
PostgreSQL pgbench - 100 - 500 - Read Only (TPS)	990285	
	Standard Deviation	0.8%
PostgreSQL pgbench - 100 - 500 - Read Only - Average Latency	0.505	
	Standard Deviation	0.9%
Apache HTTP Server - 1 (Req/sec)	6212	
	Standard Deviation	5.4%
Apache HTTP Server - 20 (Req/sec)	69293	
	Standard Deviation	0.4%
Apache HTTP Server - 100 (Req/sec)	116437	
	Standard Deviation	0.4%
Apache HTTP Server - 200 (Req/sec)	134902	
	Standard Deviation	0.4%
Apache HTTP Server - 500 (Req/sec)	126353	
	Standard Deviation	0.7%
Apache HTTP Server - 1000 (Req/sec)	127183	
	Standard Deviation	1.1%
nginx - 1 (Req/sec)	57084	
	Standard Deviation	1.6%
nginx - 20 (Req/sec)	200859	
	Standard Deviation	0.2%
nginx - 100 (Req/sec)	179336	
	Standard Deviation	0.1%
nginx - 200 (Req/sec)	183255	
	Standard Deviation	0.3%
nginx - 500 (Req/sec)	185156	
	Standard Deviation	0.2%
nginx - 1000 (Req/sec)	184455	
	Standard Deviation	0.4%

Cpuminer-Opt - T.S.2.O (kH/s)	697319
Standard Deviation	2.4%
Cpuminer-Opt - Q.S.2.P (kH/s)	249483
Standard Deviation	34.6%
Cpuminer-Opt - Myriad-Groestl (kH/s)	18967
Standard Deviation	89.5%
Cpuminer-Opt - Magi (kH/s)	1318
Standard Deviation	30.2%
Cpuminer-Opt - Blake-2 S (kH/s)	1022553
Standard Deviation	24.9%
Cpuminer-Opt - x25x (kH/s)	951.85
Standard Deviation	1.8%
Cpuminer-Opt - Garlicoin (kH/s)	1804
Standard Deviation	0.8%
Cpuminer-Opt - Ringcoin (kH/s)	3681
Standard Deviation	27.9%
Cpuminer-Opt - Deepcoin (kH/s)	30622
Standard Deviation	7.8%
Cpuminer-Opt - Skeincoin (kH/s)	232301
Standard Deviation	31.1%
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	89881
Standard Deviation	9.9%
FLAC Audio Encoding - WAV To FLAC (sec)	13.150
Standard Deviation	0.2%
Stress-NG - CPU Stress (Bogo Ops/s)	90375
Standard Deviation	0.3%
Stress-NG - Crypto (Bogo Ops/s)	8004
Standard Deviation	4.5%
Stress-NG - Memory Copying (Bogo Ops/s)	9596
Standard Deviation	0.2%
Stress-NG - G.Q.D.S (Bogo Ops/s)	435.25
Standard Deviation	0.3%
Stress-NG - G.C.S.F (Bogo Ops/s)	3899212
Standard Deviation	5.5%
Stress-NG - Vector Math (Bogo Ops/s)	194753
Standard Deviation	0%
Stress-NG - Matrix Math (Bogo Ops/s)	131056
Standard Deviation	0.1%
Stress-NG - Forking (Bogo Ops/s)	72849
Standard Deviation	0.9%
Stress-NG - S.V.M.P (Bogo Ops/s)	7331749
Standard Deviation	0.5%
Stress-NG - Semaphores (Bogo Ops/s)	4846845
Standard Deviation	0.4%
Stress-NG - Socket Activity (Bogo Ops/s)	18741
Standard Deviation	0.2%
Stress-NG - Context Switching (Bogo Ops/s)	15232160
Standard Deviation	0.7%
Stress-NG - Atomic (Bogo Ops/s)	177490
Standard Deviation	0.4%
Stress-NG - CPU Cache (Bogo Ops/s)	103.10
Standard Deviation	14.4%
Stress-NG - Malloc (Bogo Ops/s)	1020690834

Standard Deviation	0.3%
Stress-NG - MEMFD (Bogo Ops/s)	1182
Standard Deviation	0.1%
Stress-NG - MMAP (Bogo Ops/s)	724.61
Standard Deviation	0.2%
Stress-NG - NUMA (Bogo Ops/s)	477.69
Standard Deviation	1.8%
Stress-NG - SENDFILE (Bogo Ops/s)	652469
Standard Deviation	0.1%
Stress-NG - IO_uring (Bogo Ops/s)	160021
Standard Deviation	1.5%
JPEG XL libjxl - JPEG - 5 (MP/s)	75.28
Standard Deviation	0.4%
JPEG XL libjxl - JPEG - 7 (MP/s)	74.13
Standard Deviation	0.3%
JPEG XL libjxl - JPEG - 8 (MP/s)	28.68
Standard Deviation	0.4%
JPEG XL libjxl - PNG - 5 (MP/s)	67.21
Standard Deviation	0.9%
JPEG XL libjxl - PNG - 7 (MP/s)	9.50
Standard Deviation	0.1%
JPEG XL libjxl - PNG - 8 (MP/s)	0.97
Standard Deviation	0.6%
JPEG XL Decoding libjxl - 1 (MP/s)	55.65
Standard Deviation	0.2%
JPEG XL Decoding libjxl - All (MP/s)	273.80
Standard Deviation	2.3%
OpenSSL - RSA4096 (sign/s)	7774
Standard Deviation	6%
OpenSSL - RSA4096 (verify/s)	491258
Standard Deviation	5.7%
OpenSSL - SHA256 (byte/s)	36827155332
Standard Deviation	6.1%
simdjson - PartialTweets (GB/s)	4.18
Standard Deviation	0.1%
simdjson - LargeRand (GB/s)	1.11
Standard Deviation	0%
simdjson - Kostya (GB/s)	3.21
Standard Deviation	0%
simdjson - DistinctUserID (GB/s)	4.94
Standard Deviation	0.1%
dav1d - S.N.1 (FPS)	549.44
Standard Deviation	0.7%
dav1d - Summer Nature 4K (FPS)	438.20
Standard Deviation	1.1%
dav1d - Chimera 1080p (FPS)	571.75
Standard Deviation	0.9%
dav1d - C.1.1.b (FPS)	460.81
Standard Deviation	0.3%
LeelaChessZero - BLAS (Nodes/s)	1352
Standard Deviation	1.2%
LeelaChessZero - Eigen (Nodes/s)	1292
Standard Deviation	0.4%

Stockfish - Total Time (Nodes/s)	102282668
Standard Deviation	3.4%
asmFish - 1.H.M.2.D (Nodes/s)	86790729
Standard Deviation	2.9%
Tachyon - Total Time (sec)	25.2797
Standard Deviation	5.6%
Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / sec)	1.10
Standard Deviation	0.1%
Intel Open Image Denoise - RT.ldr_alb_nrm.3840x2160 (Images / sec)	1.10
Standard Deviation	0.1%
Intel Open Image Denoise - RTLightmap.hdr.4096x4096 (Images / sec)	0.54
Standard Deviation	0.2%
OpenVKL - v.S (Items / Sec)	66
Standard Deviation	0%
OpenVKL - vklBenchmark ISPC (Items / Sec)	115
Standard Deviation	0.5%
ECP-CANDLE - P1B2 (sec)	32.822
ECP-CANDLE - P3B1 (sec)	562.678
ECP-CANDLE - P3B2 (sec)	1021
Apache Cassandra - Writes (Op/s)	271914
Standard Deviation	0.7%
Natron - Spaceship (FPS)	5.0
Standard Deviation	3.2%
Facebook RocksDB - Seq Fill (Op/s)	987657
Standard Deviation	0.4%
Facebook RocksDB - Rand Fill (Op/s)	935715
Standard Deviation	1.6%
Facebook RocksDB - Rand Fill Sync (Op/s)	65327
Standard Deviation	0.2%
Facebook RocksDB - Rand Read (Op/s)	216010394
Standard Deviation	0.2%
Facebook RocksDB - Read While Writing (Op/s)	6173249
Standard Deviation	1.2%
Facebook RocksDB - R.R.W.R (Op/s)	3118027
Standard Deviation	1.9%
Facebook RocksDB - Update Rand (Op/s)	796529
Standard Deviation	2.2%
NCNN - CPU - mobilenet (ms)	13.74
Standard Deviation	2.4%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	6.32
Standard Deviation	0.5%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	5.98
Standard Deviation	0.4%
NCNN - CPU - shufflenet-v2 (ms)	6.83
Standard Deviation	0.4%
NCNN - CPU - mnasnet (ms)	5.78
Standard Deviation	1.1%
NCNN - CPU - efficientnet-b0 (ms)	7.76
Standard Deviation	1.6%
NCNN - CPU - blazeface (ms)	3.17
Standard Deviation	0.4%
NCNN - CPU - googlenet (ms)	13.51
Standard Deviation	3.1%

NCNN - CPU - vgg16 (ms)	25.29
Standard Deviation	2.9%
NCNN - CPU - resnet18 (ms)	9.35
Standard Deviation	3%
NCNN - CPU - alexnet (ms)	5.51
Standard Deviation	6.3%
NCNN - CPU - resnet50 (ms)	16.56
Standard Deviation	1.2%
NCNN - CPU - yolov4-tiny (ms)	20.07
Standard Deviation	2.1%
NCNN - CPU - squeezenet_ssd (ms)	16.45
Standard Deviation	2.1%
NCNN - CPU - regnety_400m (ms)	16.97
Standard Deviation	1.1%
TNN - CPU - DenseNet (ms)	2865
Standard Deviation	0.2%
TNN - CPU - MobileNet v2 (ms)	293.802
Standard Deviation	0.2%
TNN - CPU - SqueezeNet v1.1 (ms)	251.436
Standard Deviation	0%
TNN - CPU - SqueezeNet v2 (ms)	62.140
Standard Deviation	0.4%
Mobile Neural Network - mobilenetV3 (ms)	2.115
Standard Deviation	1.4%
Mobile Neural Network - squeezenetv1.1 (ms)	4.489
Standard Deviation	2.9%
Mobile Neural Network - resnet-v2-50 (ms)	22.092
Standard Deviation	0.5%
Mobile Neural Network - SqueezeNetV1.0 (ms)	5.580
Standard Deviation	2.1%
Mobile Neural Network - MobileNetV2_224 (ms)	3.441
Standard Deviation	0.3%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	2.246
Standard Deviation	1.6%
Mobile Neural Network - inception-v3 (ms)	25.642
Standard Deviation	0.3%
VP9 libvpx Encoding - Speed 5 - Bosphorus 1080p (FPS)	31.29
Standard Deviation	0.6%
VP9 libvpx Encoding - Speed 5 - Bosphorus 4K (FPS)	16.79
Standard Deviation	1.3%
VP9 libvpx Encoding - Speed 0 - Bosphorus 1080p (FPS)	15.11
Standard Deviation	0.4%
VP9 libvpx Encoding - Speed 0 - Bosphorus 4K (FPS)	7.30
Standard Deviation	0.9%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	133.596
Standard Deviation	0.9%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	23.372
Standard Deviation	2.4%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	7.258
Standard Deviation	1.2%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	1.784
Standard Deviation	0.9%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	28.33

	Standard Deviation	0.9%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	345.45	
	Standard Deviation	0.4%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	655.27	
	Standard Deviation	0.4%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	394.73	
	Standard Deviation	5.4%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	507.37	
	Standard Deviation	0.6%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	512.36	
	Standard Deviation	0.9%
x265 - Bosphorus 1080p (FPS)	52.07	
	Standard Deviation	4%
x265 - Bosphorus 4K (FPS)	27.72	
	Standard Deviation	0.2%
BRL-CAD - V.P.M (VGR Performance Metric)	377284	
NAS Parallel Benchmarks - BT.C (Mop/s)	92223	
	Standard Deviation	0.2%
NAS Parallel Benchmarks - EP.C (Mop/s)	3118	
	Standard Deviation	3.3%
NAS Parallel Benchmarks - EP.D (Mop/s)	3128	
	Standard Deviation	6.2%

Timed Linux Kernel Compilation 5.14

Time To Compile

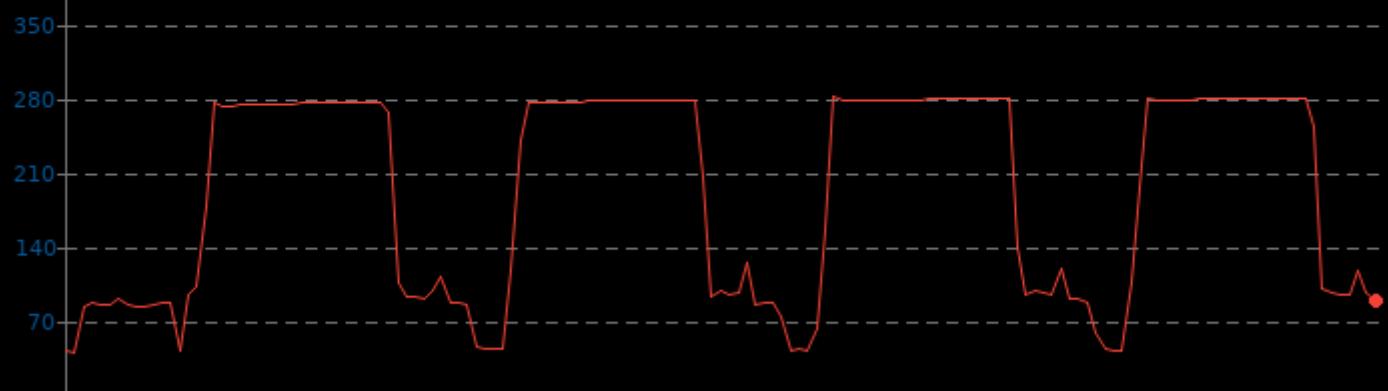


Timed Linux Kernel Compilation 5.14

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	192.5	280.7

▼ Watts, Fewer Is Better

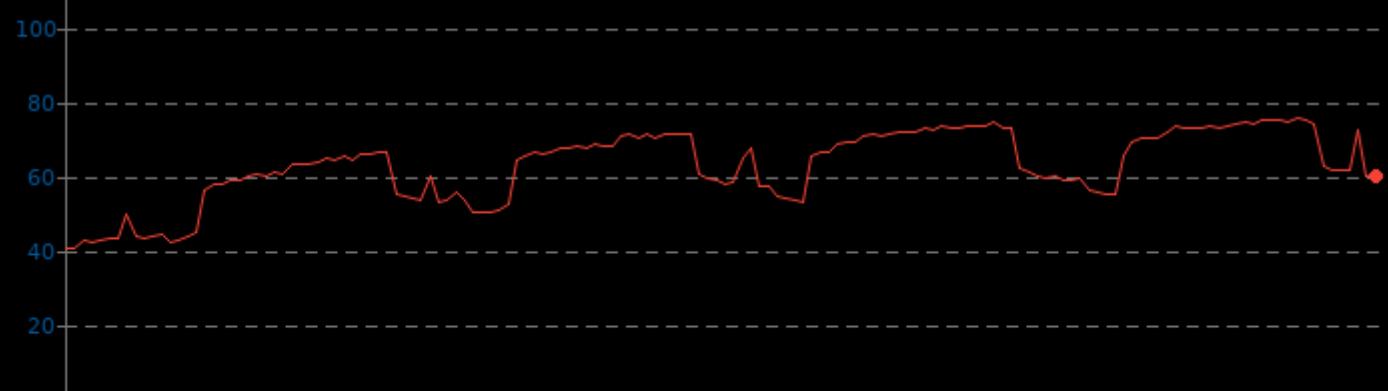


Timed Linux Kernel Compilation 5.14

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	40.5	62.7	75.5

▼ Celsius, Fewer Is Better



Timed Godot Game Engine Compilation 3.2.3

Time To Compile

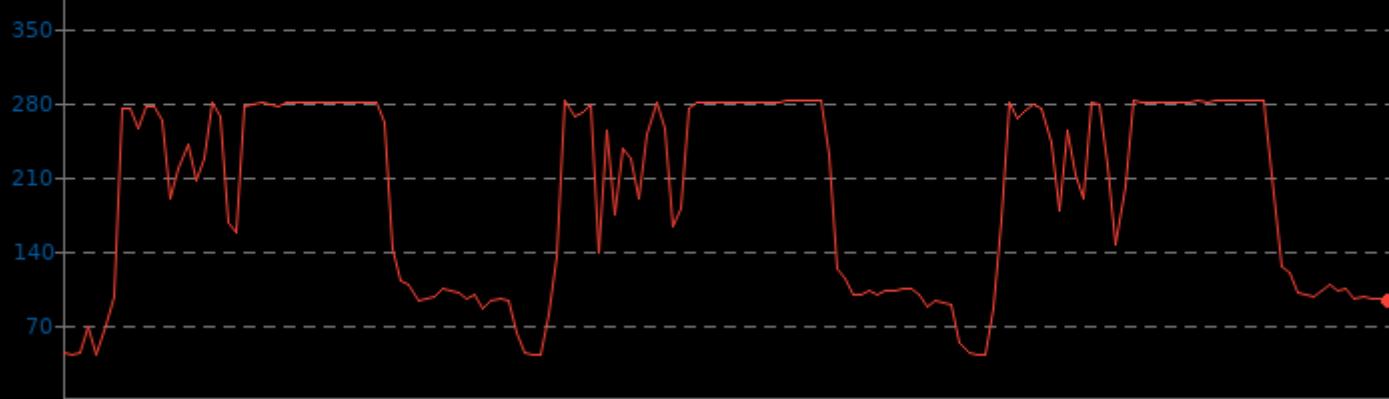


Timed Godot Game Engine Compilation 3.2.3

CPU Power Consumption Monitor

System	Min	Avg	Max
Dynatron	43.1	193.1	282.0

▼ Watts, Fewer Is Better

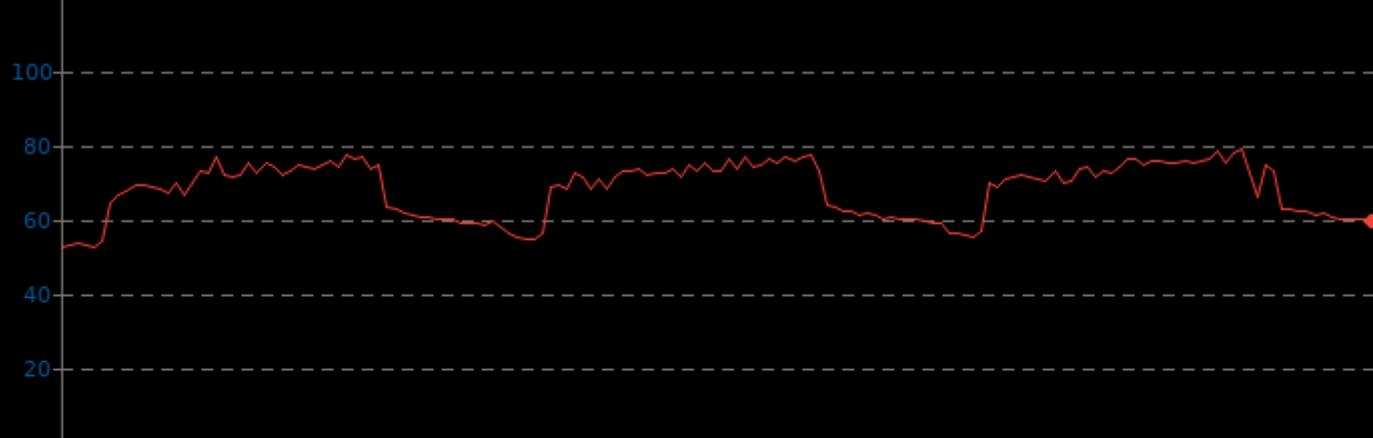


Timed Godot Game Engine Compilation 3.2.3

CPU Temperature Monitor

System	Min	Avg	Max
Dynatron	52.8	67.8	78.5

▼ Celsius, Fewer Is Better



Timed LLVM Compilation 13.0

Build System: Ninja

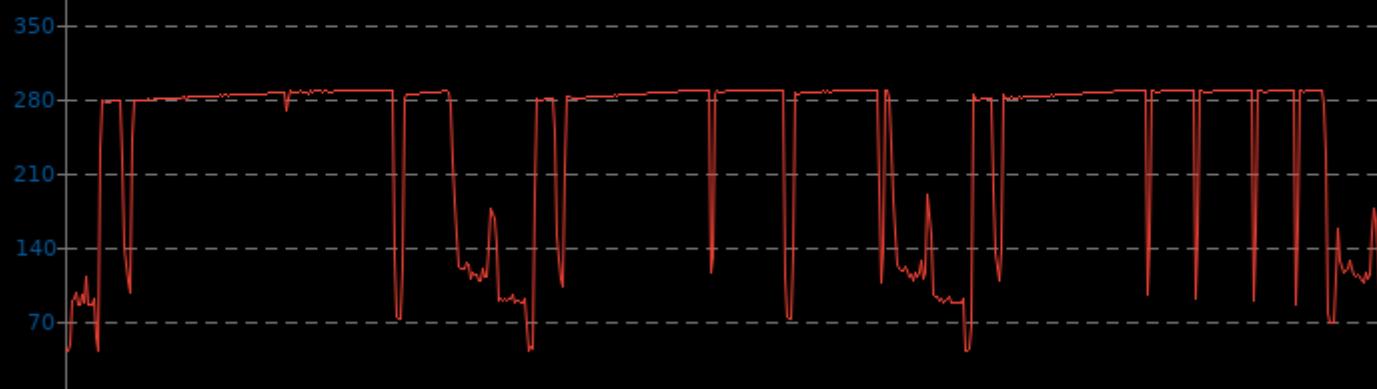


Timed LLVM Compilation 13.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	240.0	287.3

▼ Watts, Fewer Is Better

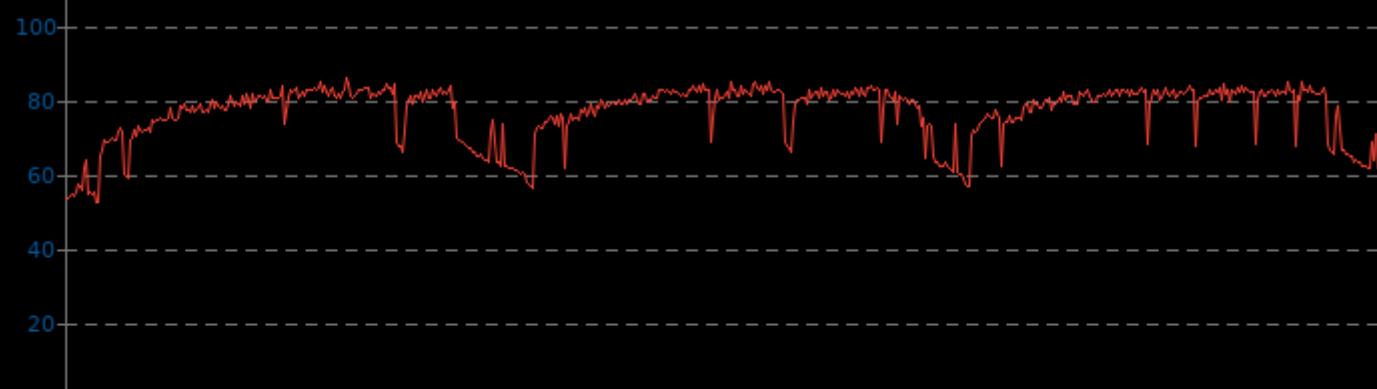


Timed LLVM Compilation 13.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	52.3	76.5	85.5

▼ Celsius, Fewer Is Better



Timed LLVM Compilation 13.0

Build System: Unix Makefiles



Timed LLVM Compilation 13.0

CPU Power Consumption Monitor

Min Avg Max

Dynatron	43.4	225.5	286.4
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▼ Watts, Fewer Is Better



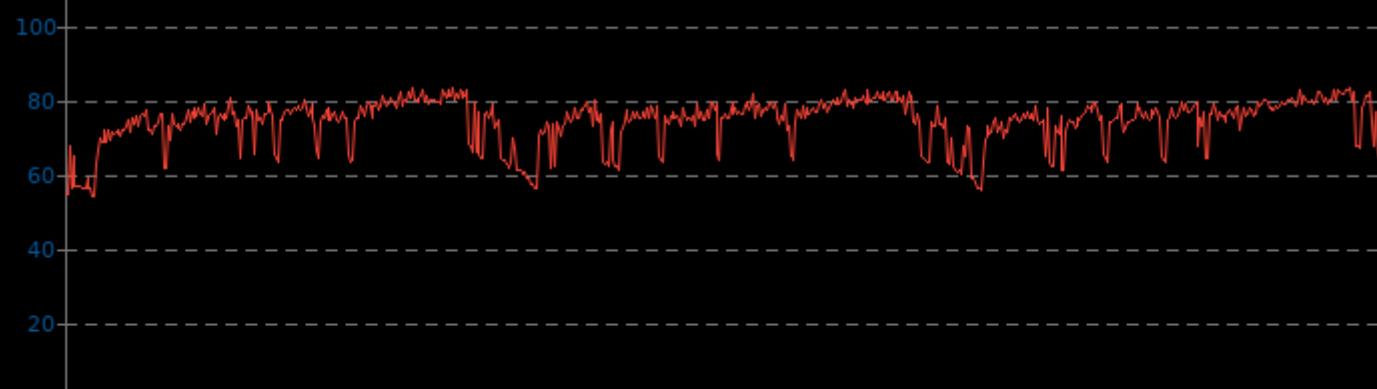
Timed LLVM Compilation 13.0

CPU Temperature Monitor

Min Avg Max

Dynatron	54.0	74.1	83.3
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▼ Celsius, Fewer Is Better



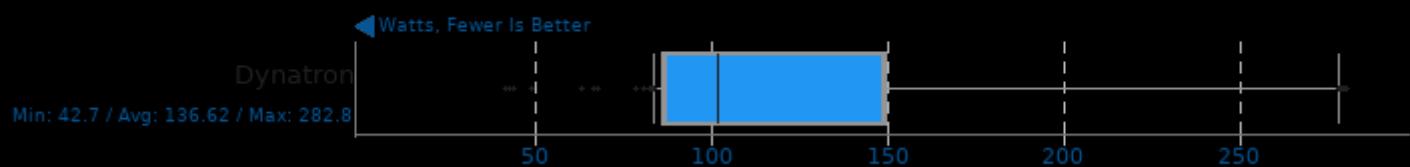
Timed GCC Compilation 11.2.0

Time To Compile



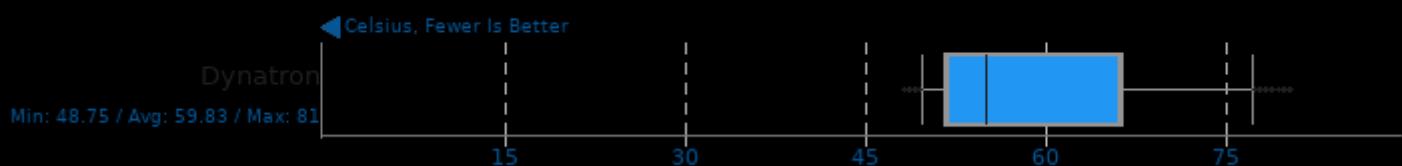
Timed GCC Compilation 11.2.0

CPU Power Consumption Monitor



Timed GCC Compilation 11.2.0

CPU Temperature Monitor



Timed Node.js Compilation 15.11

Time To Compile

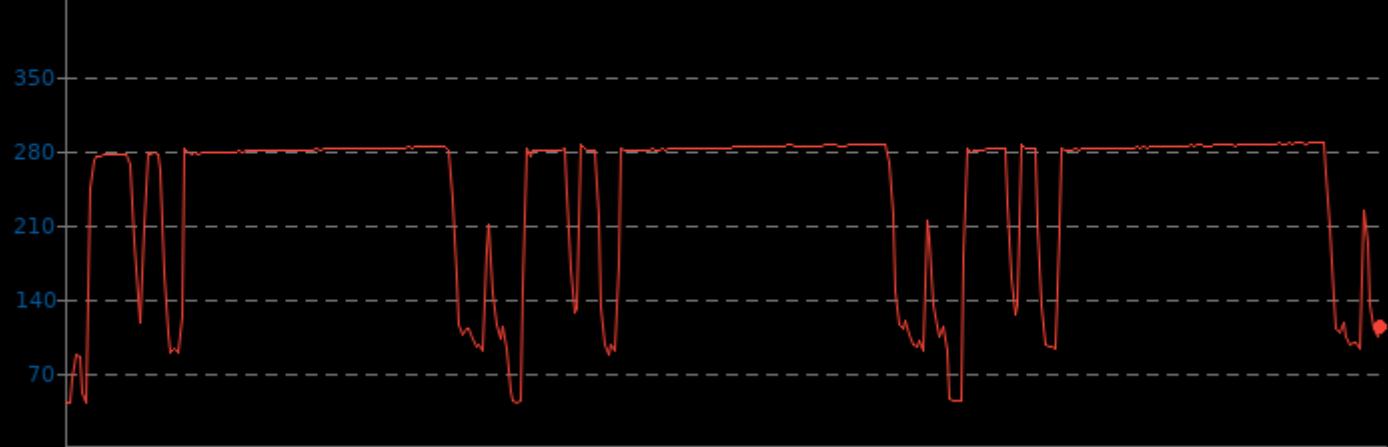


Timed Node.js Compilation 15.11

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.6	240.6	286.6

▼ Watts, Fewer Is Better

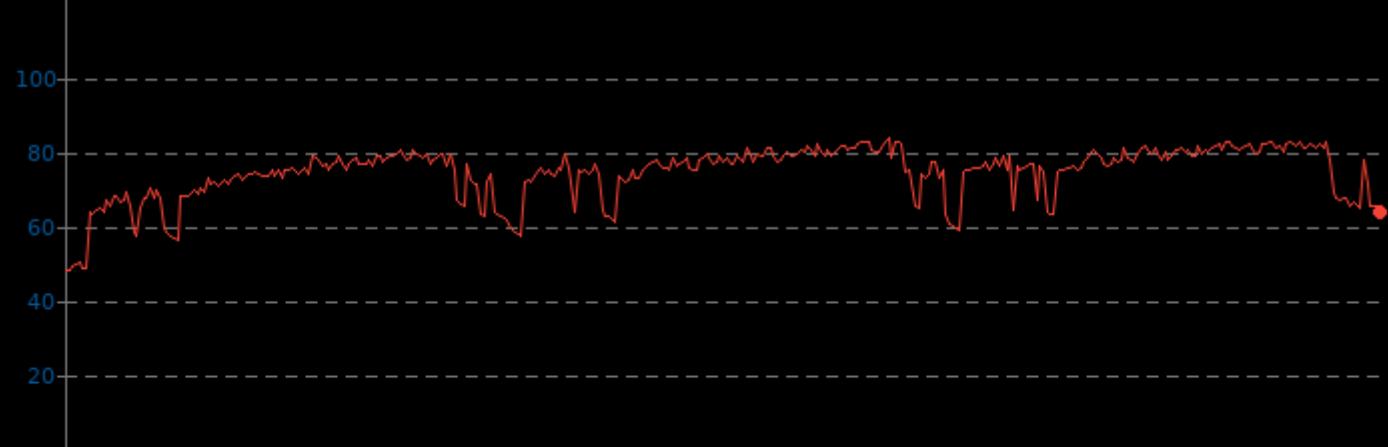


Timed Node.js Compilation 15.11

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	48.0	74.3	83.8

▼ Celsius, Fewer Is Better



Timed Mesa Compilation 21.0

Time To Compile

◀ Seconds, Fewer Is Better

Dynatron
SE +/- 0.02, N = 3

19.25

5

10

15

20

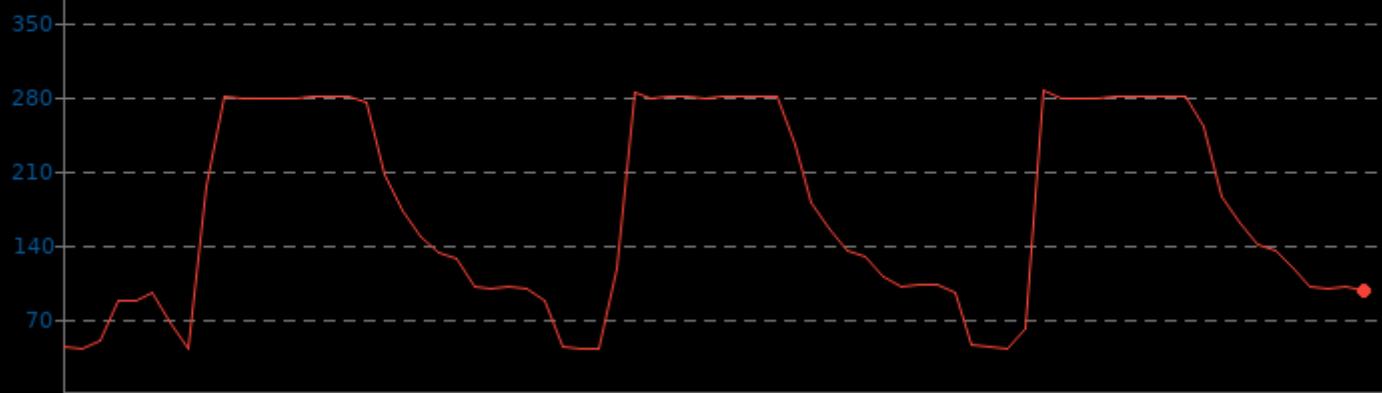
25

Timed Mesa Compilation 21.0

CPU Power Consumption Monitor

Min 43.4 Avg 171.7 Max 284.4

▼ Watts, Fewer Is Better

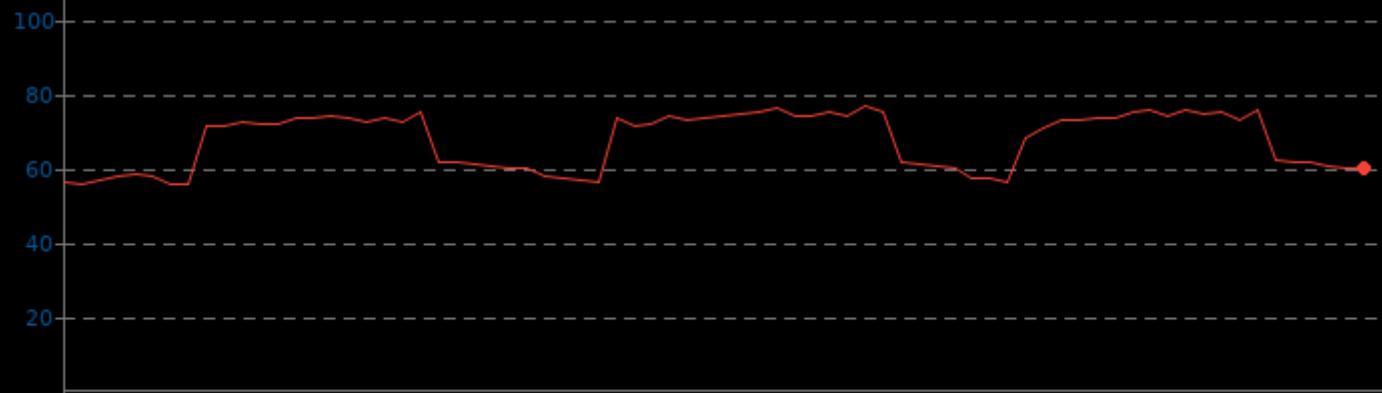


Timed Mesa Compilation 21.0

CPU Temperature Monitor

Min 55.5 Avg 67.4 Max 76.5

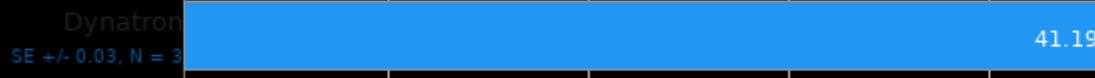
▼ Celsius, Fewer Is Better



Timed GDB GNU Debugger Compilation 10.2

Time To Compile

◀ Seconds, Fewer Is Better

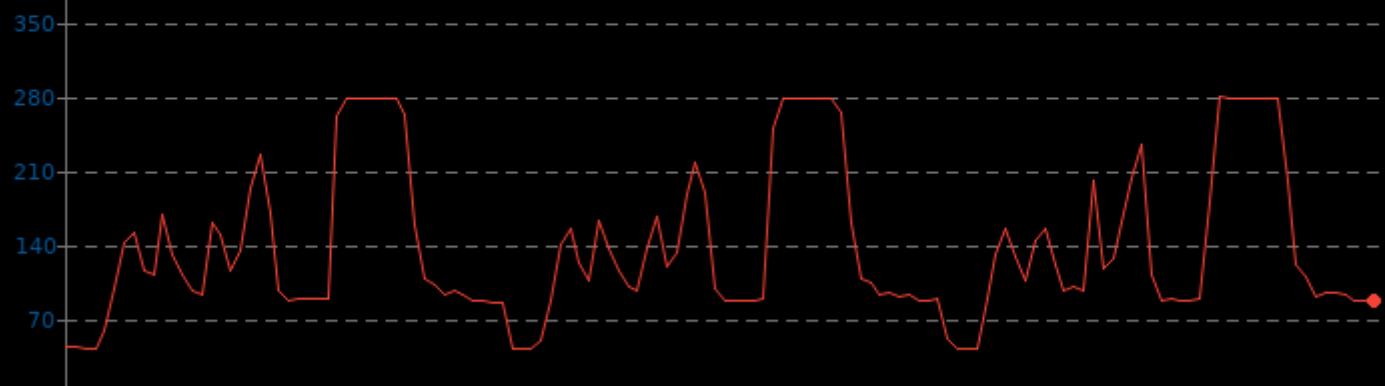


Timed GDB GNU Debugger Compilation 10.2

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	43.0	139.4
		278.9

▼ Watts, Fewer Is Better

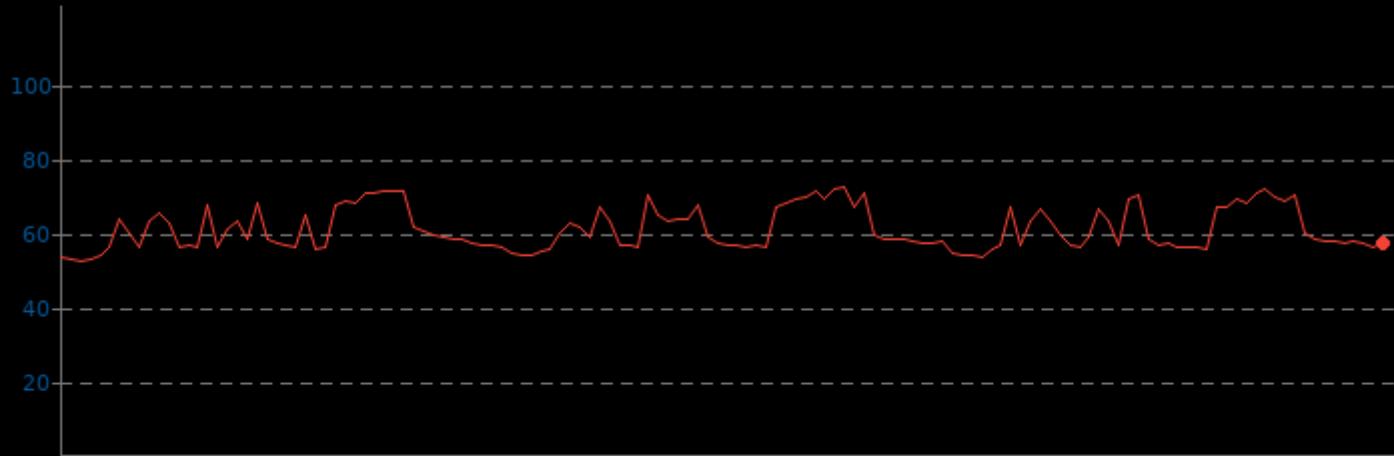


Timed GDB GNU Debugger Compilation 10.2

CPU Temperature Monitor

Min	Avg	Max
Dynatron	52.8	61.0
		72.5

▼ Celsius, Fewer Is Better



Timed Apache Compilation 2.4.41

Time To Compile

◀ Seconds, Fewer Is Better

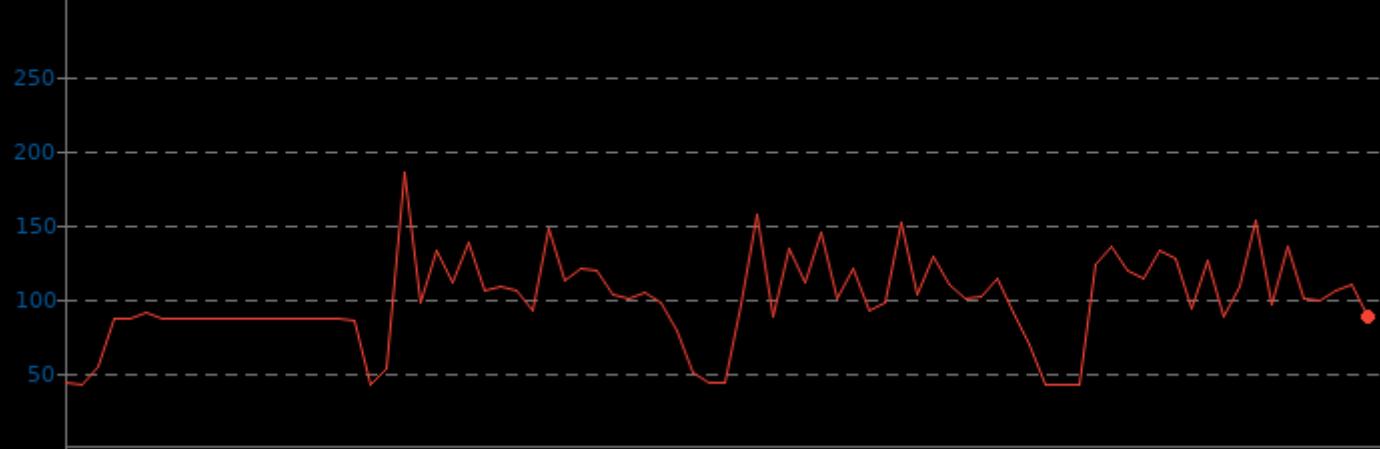


Timed Apache Compilation 2.4.41

CPU Power Consumption Monitor

Min	Avg	Max	
Dynatron	42.6	99.2	184.6

▼ Watts, Fewer Is Better

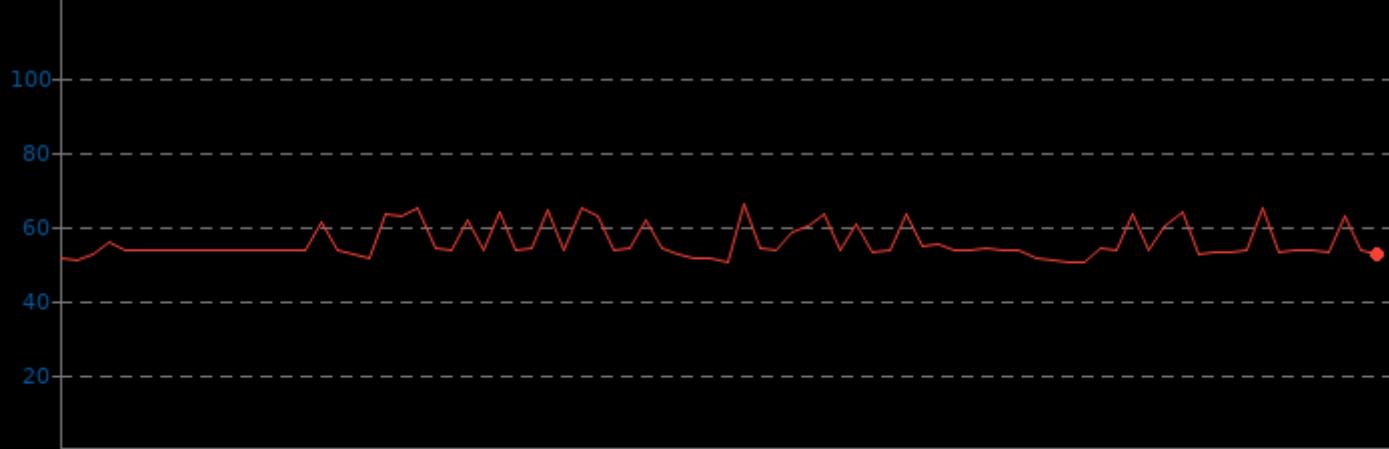


Timed Apache Compilation 2.4.41

CPU Temperature Monitor

Min	Avg	Max	
Dynatron	50.5	55.6	65.8

▼ Celsius, Fewer Is Better



Timed FFmpeg Compilation 4.4

Time To Compile

◀ Seconds, Fewer Is Better

Dynatron	SE +/- 0.04, N = 3
----------	--------------------

19.75

5

10

15

20

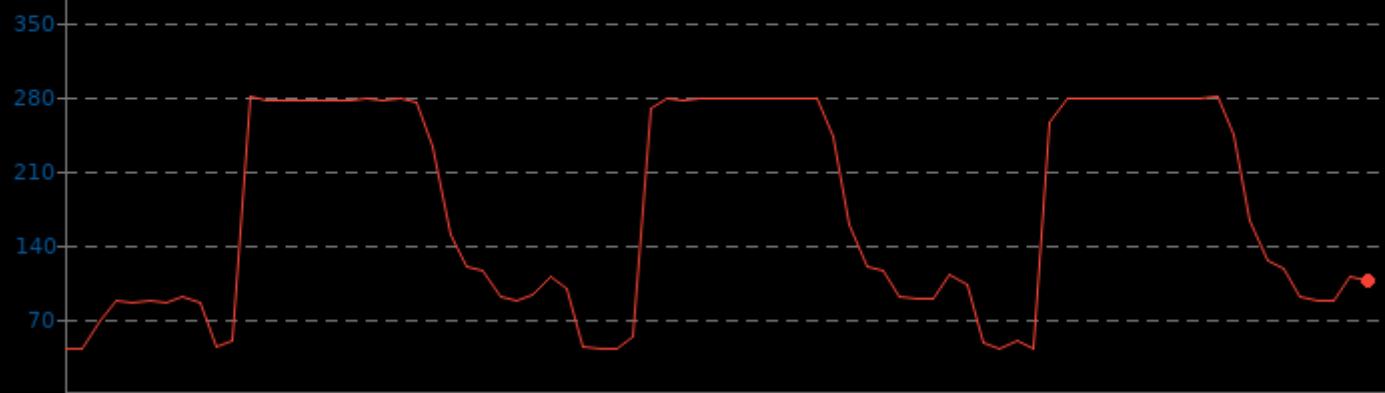
25

Timed FFmpeg Compilation 4.4

CPU Power Consumption Monitor

Dynatron Min 42.7 Avg 172.5 Max 278.6

▼ Watts, Fewer Is Better

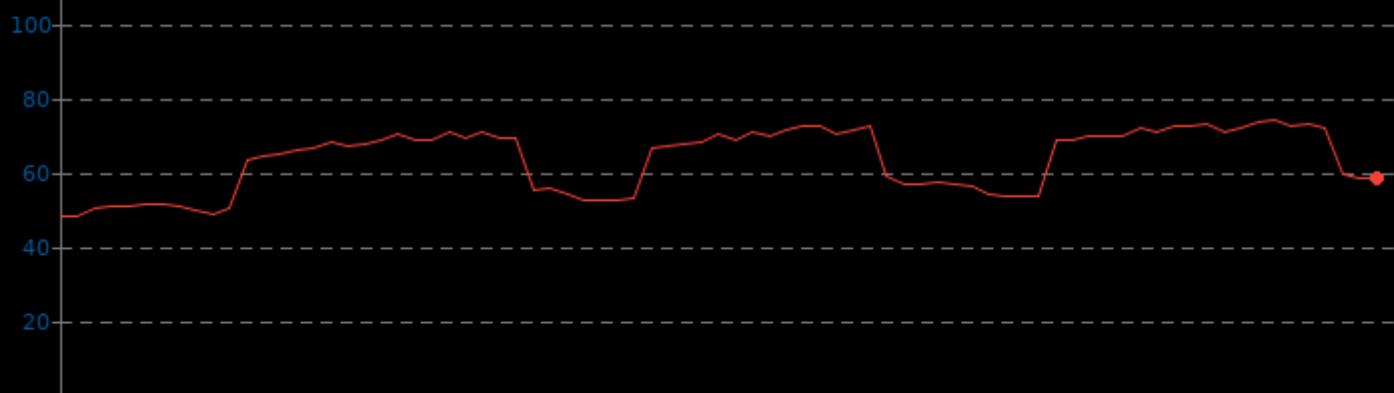


Timed FFmpeg Compilation 4.4

CPU Temperature Monitor

Dynatron Min 48.3 Avg 63.3 Max 73.8

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 1080p - Video Preset: Slow

► Frames Per Second, More Is Better



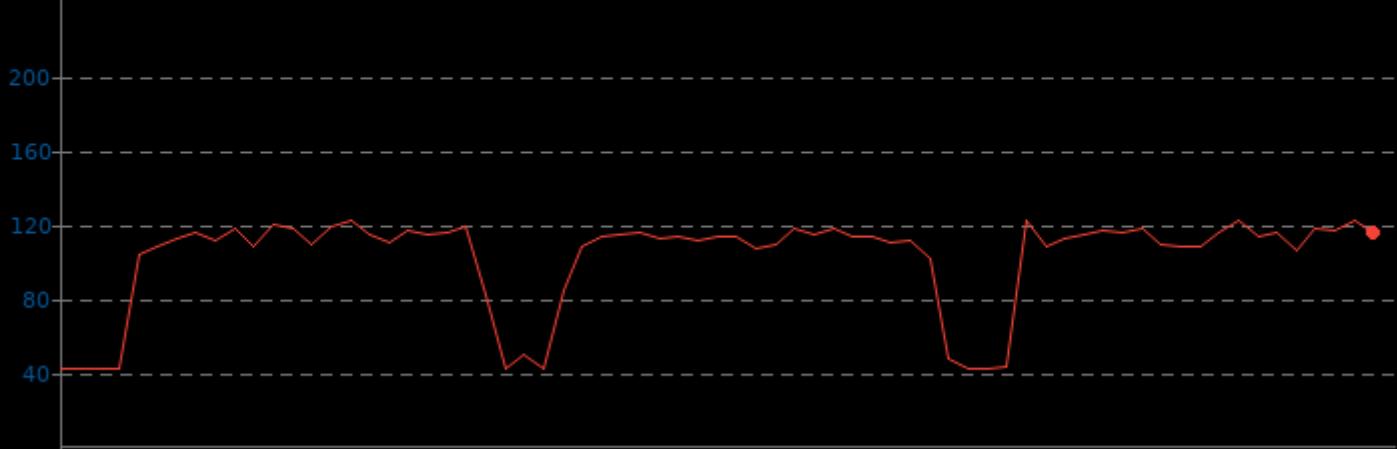
1. (CC) gcc options: -pthread -fthread-vectorize -visibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Min	42.6
Avg	101.8
Max	122.1

▼ Watts, Fewer Is Better

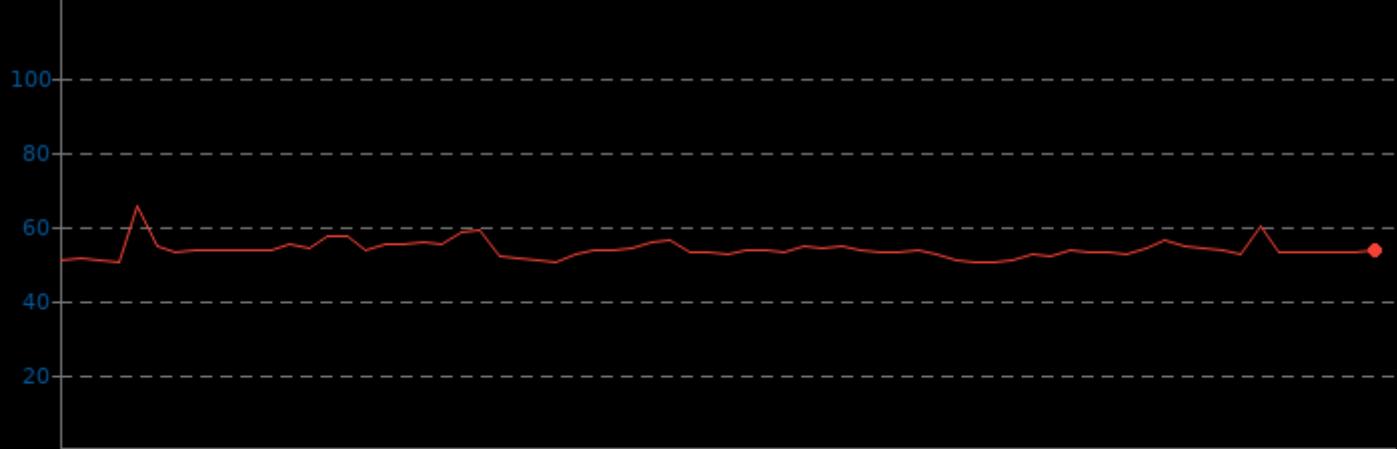


Kvazaar 2.1

CPU Temperature Monitor

Min	50.3
Avg	59.8
Max	65.3

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 1080p - Video Preset: Medium

► Frames Per Second, More Is Better



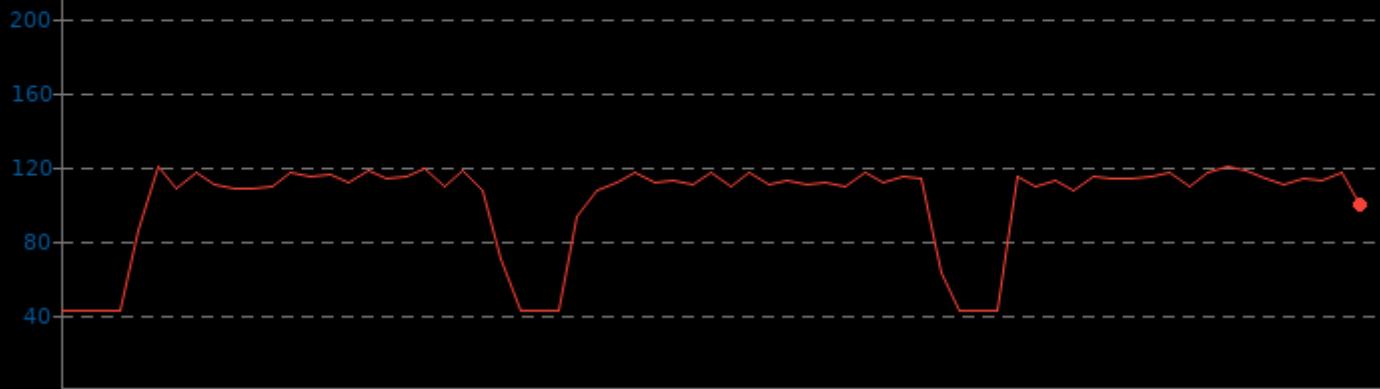
1. (CC) gcc options: -pthread -fthread-vectorize -visibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Dynatron Min 42.4 Avg 100.7 Max 120.4

▼ Watts, Fewer Is Better

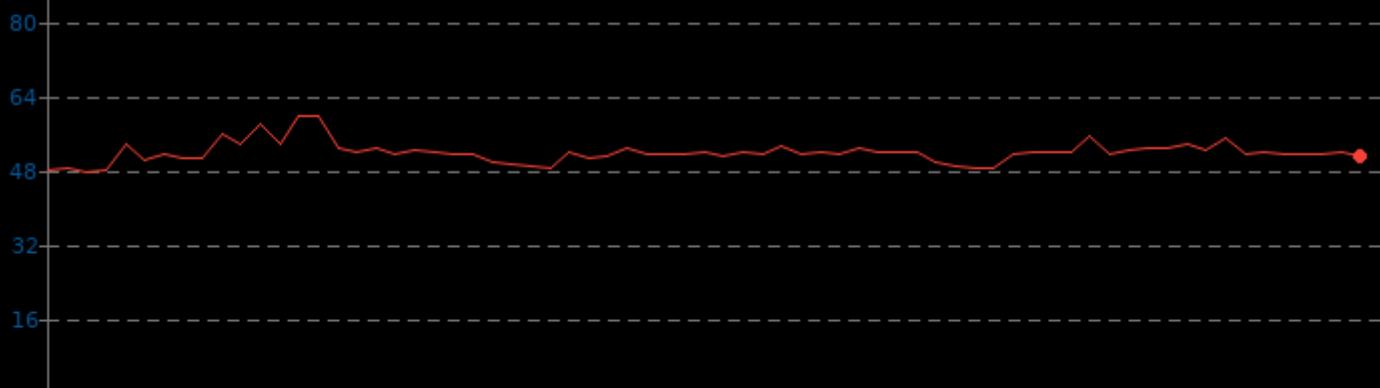


Kvazaar 2.1

CPU Temperature Monitor

Dynatron Min 47.8 Avg 51.7 Max 59.8

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 1080p - Video Preset: Very Fast

► Frames Per Second, More Is Better



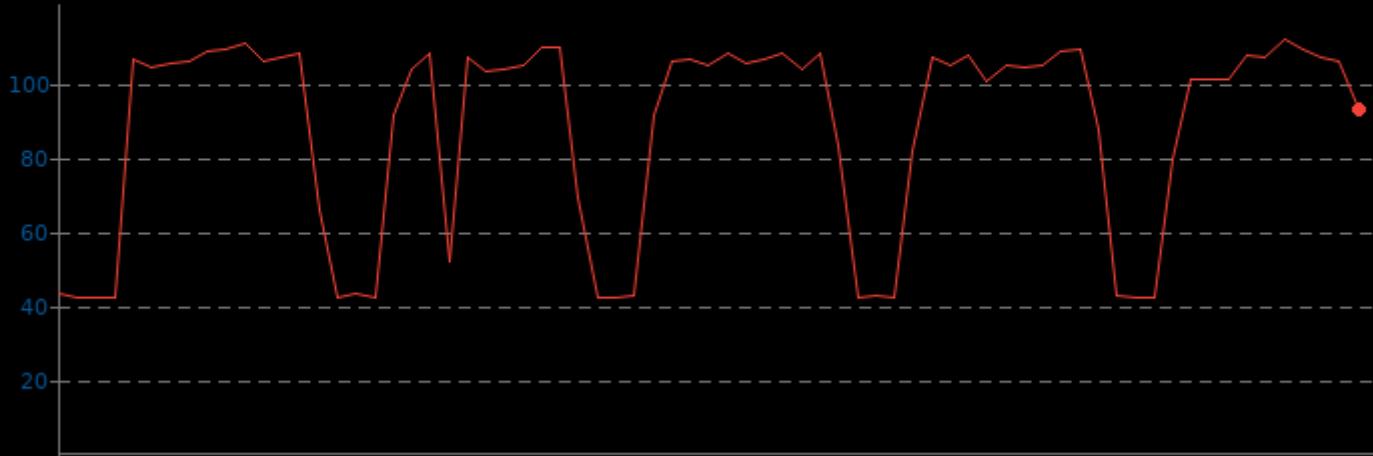
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.2	87.8
		111.3

▼ Watts, Fewer Is Better

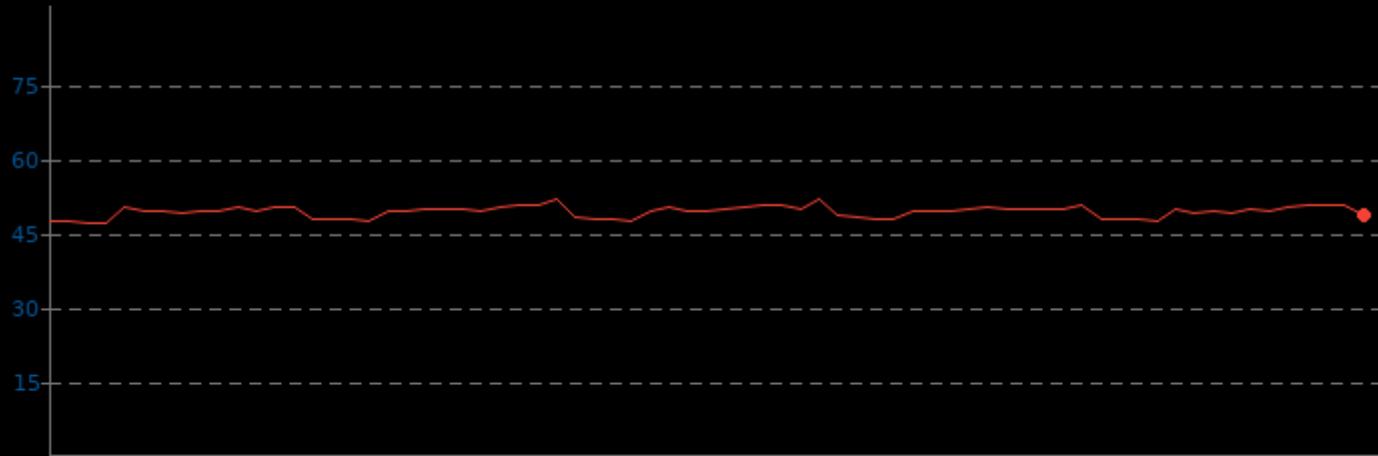


Kvazaar 2.1

CPU Temperature Monitor

Min	Avg	Max
Dynatron	47.0	49.3
		52.0

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 1080p - Video Preset: Ultra Fast

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.35, N = 8

127.83

30 60 90 120 150

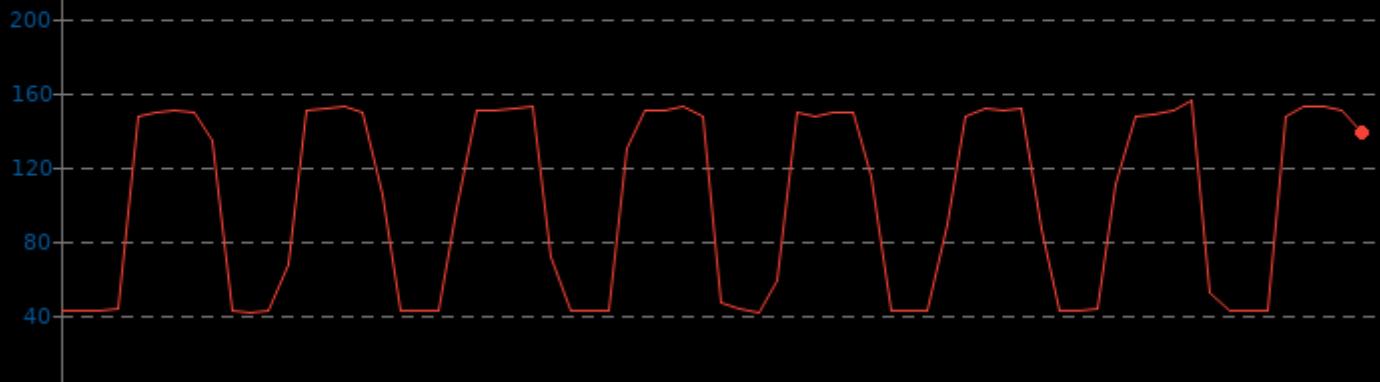
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Dynatron Min 42.2 Avg 101.7 Max 154.9

▼ Watts, Fewer Is Better

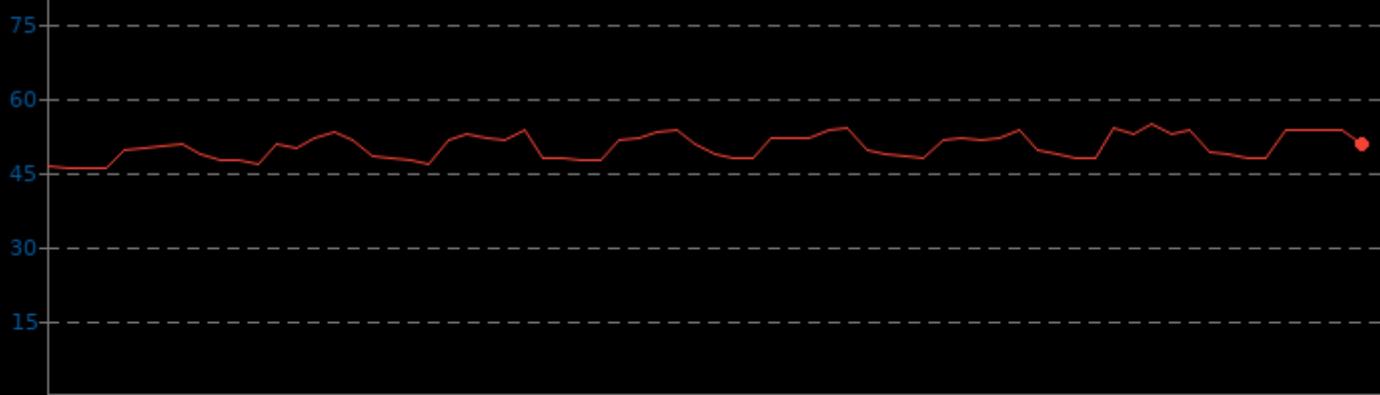


Kvazaar 2.1

CPU Temperature Monitor

Dynatron Min 46.0 Avg 50.2 Max 54.5

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 4K - Video Preset: Slow

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.02, N = 3

18.81

5 10 15 20 25

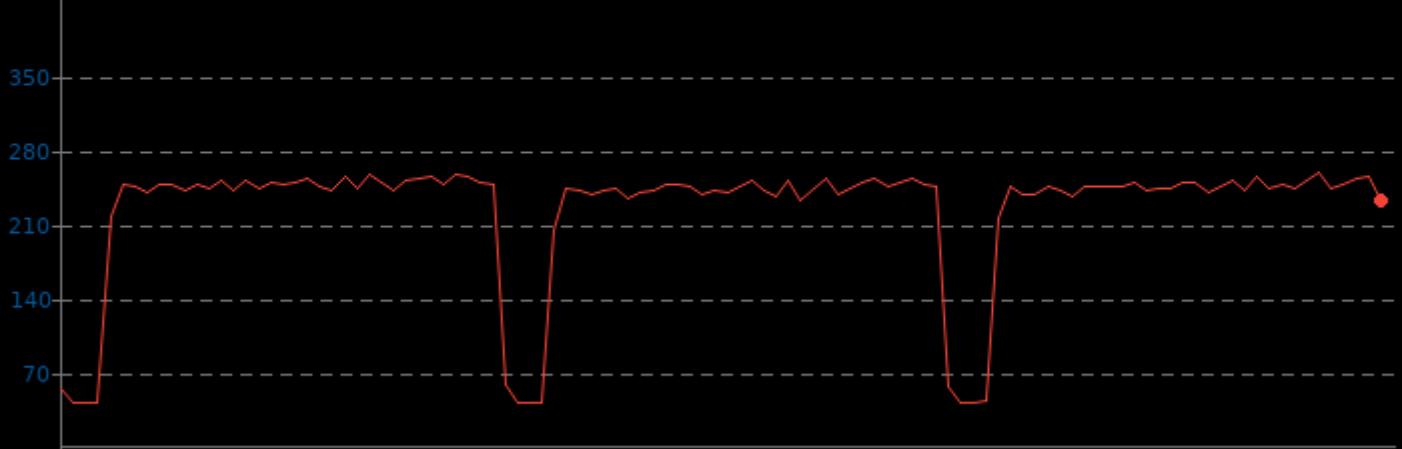
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	222.9	258.3

▼ Watts, Fewer Is Better

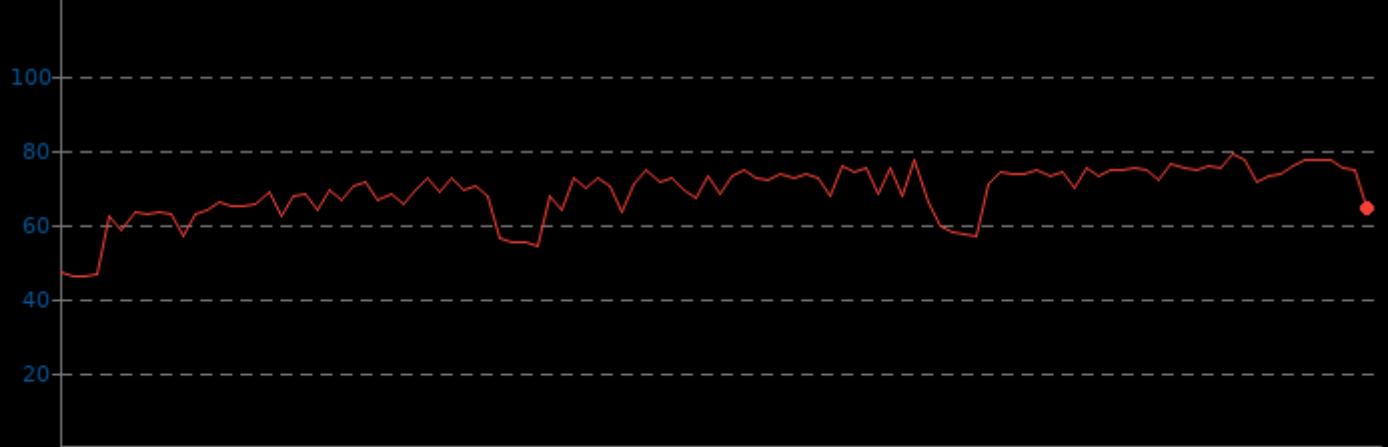


Kvazaar 2.1

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.3	68.5	78.8

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 4K - Video Preset: Medium

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.03, N = 3

19.04

5 10 15 20 25

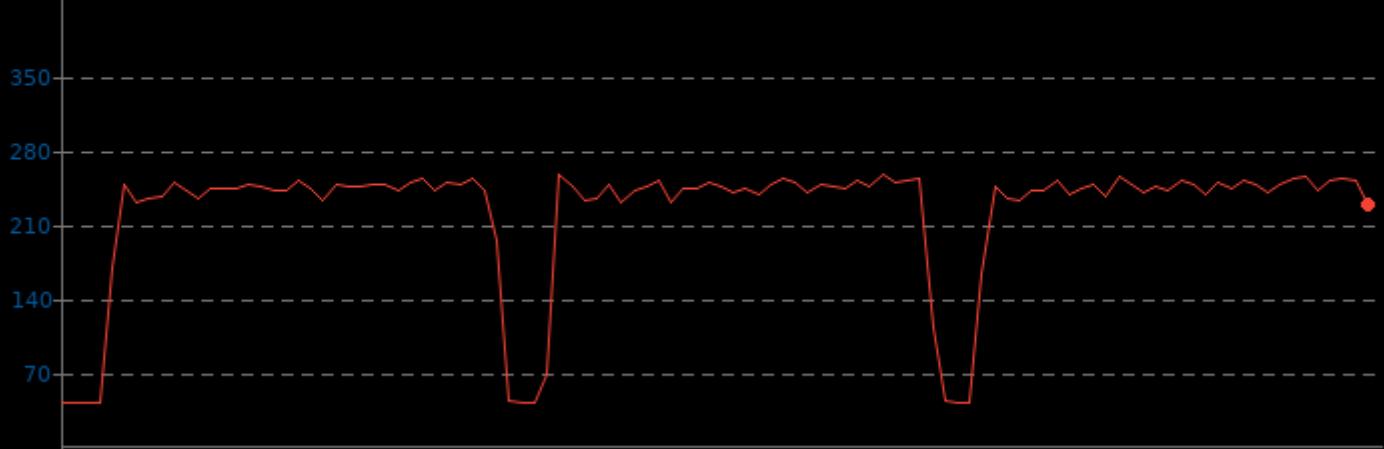
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Min	Avg	Max	
Dynatron	42.9	220.9	256.5

▼ Watts, Fewer Is Better

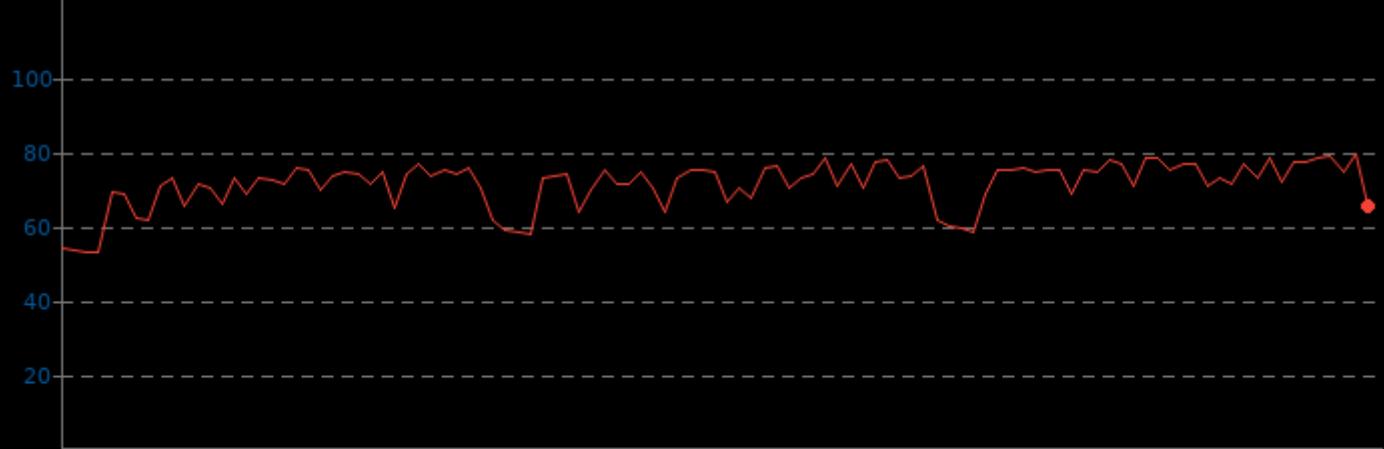


Kvazaar 2.1

CPU Temperature Monitor

Min	Avg	Max	
Dynatron	53.3	71.1	79.3

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 4K - Video Preset: Very Fast

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.07, N = 3

35.85

8 16 24 32 40

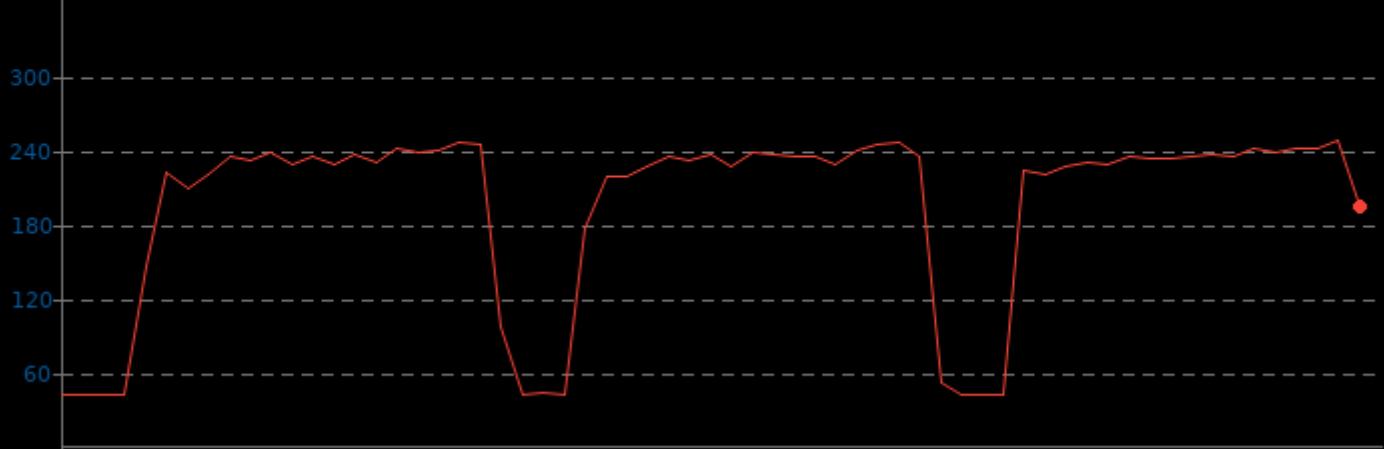
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Min 42.8 Avg 195.1 Max 247.3

▼ Watts, Fewer Is Better

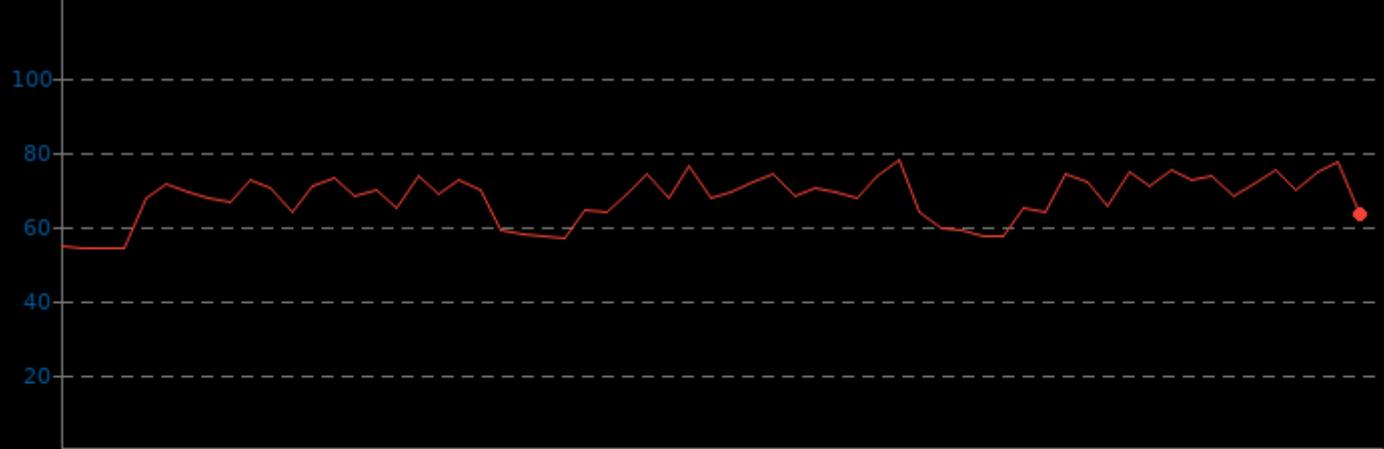


Kvazaar 2.1

CPU Temperature Monitor

Min 54.3 Avg 67.5 Max 77.5

▼ Celsius, Fewer Is Better



Kvazaar 2.1

Video Input: Bosphorus 4K - Video Preset: Ultra Fast

► Frames Per Second, More Is Better



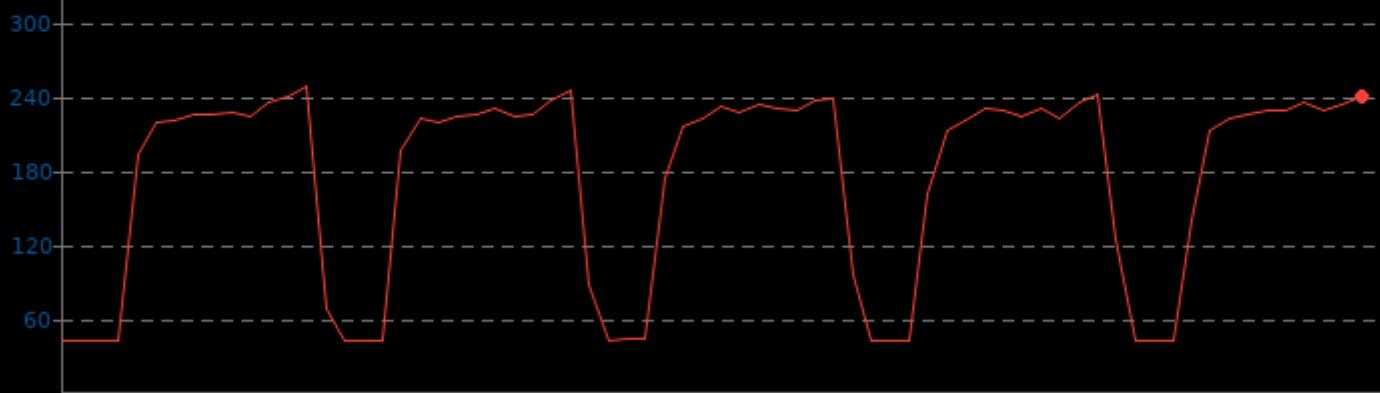
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

CPU Power Consumption Monitor

Min 42.9 Avg 174.3 Max 247.8

▼ Watts, Fewer Is Better

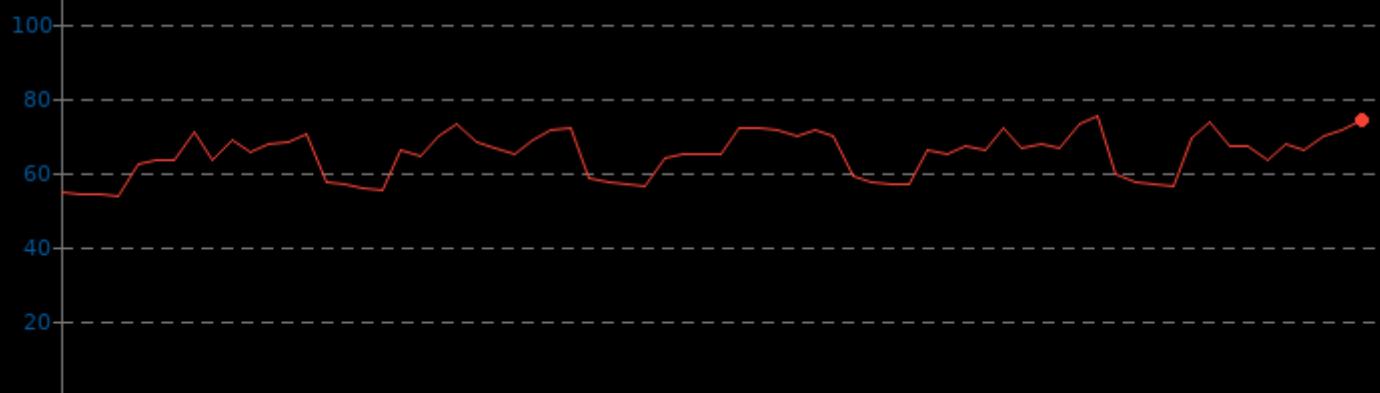


Kvazaar 2.1

CPU Temperature Monitor

Min 53.5 Avg 64.7 Max 74.8

▼ Celsius, Fewer Is Better



ASTC Encoder 3.2

Preset: Medium

◀ Seconds, Fewer Is Better



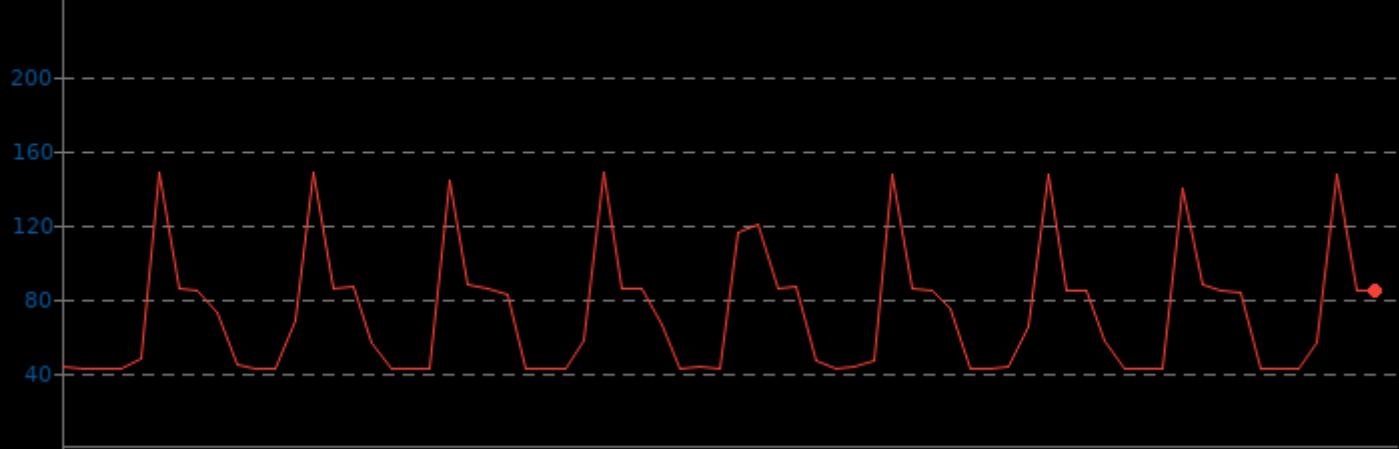
1. (CXX) g++ options: -O3 -fno -pthread

ASTC Encoder 3.2

CPU Power Consumption Monitor

■ Dynatron Min 42.5 Avg 72.4 Max 148.0

▼ Watts, Fewer Is Better

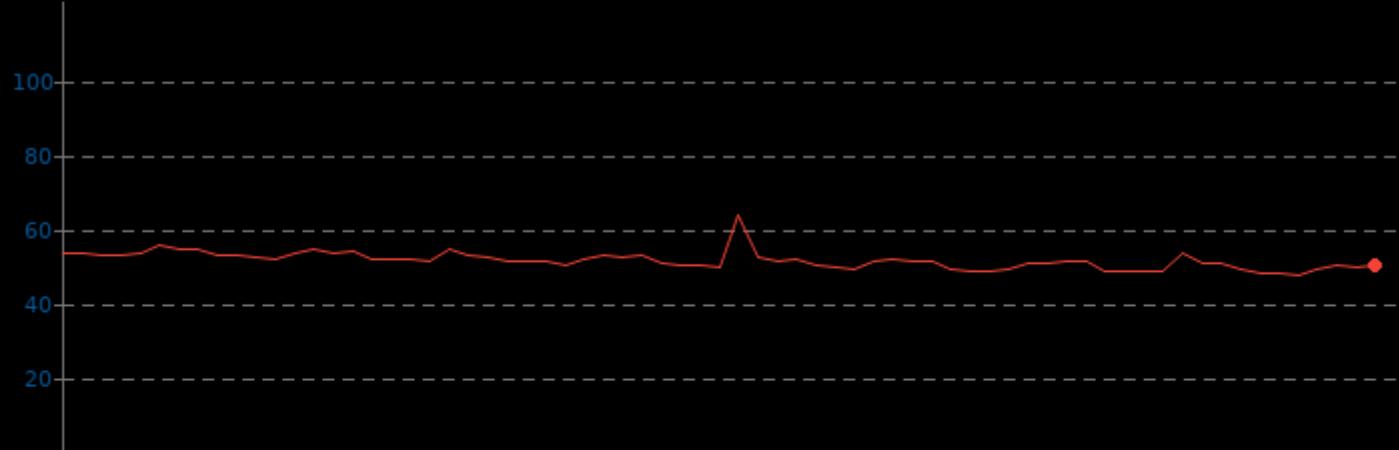


ASTC Encoder 3.2

CPU Temperature Monitor

■ Dynatron Min 47.8 Avg 51.6 Max 63.5

▼ Celsius, Fewer Is Better



ASTC Encoder 3.2

Preset: Thorough

◀ Seconds, Fewer Is Better



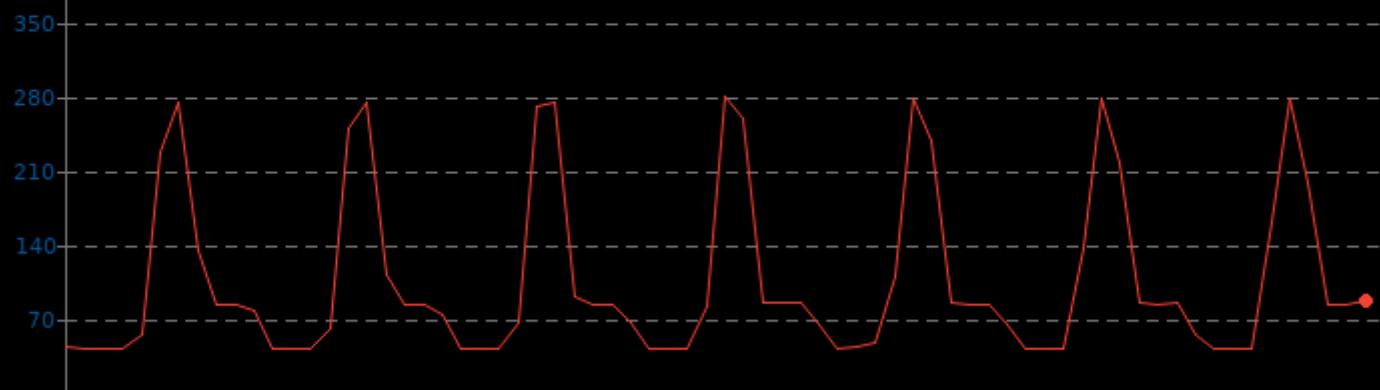
1. (CXX) g++ options: -O3 -fno -pthread

ASTC Encoder 3.2

CPU Power Consumption Monitor

Min	42.4
Avg	107.3
Max	279.4

▼ Watts, Fewer Is Better

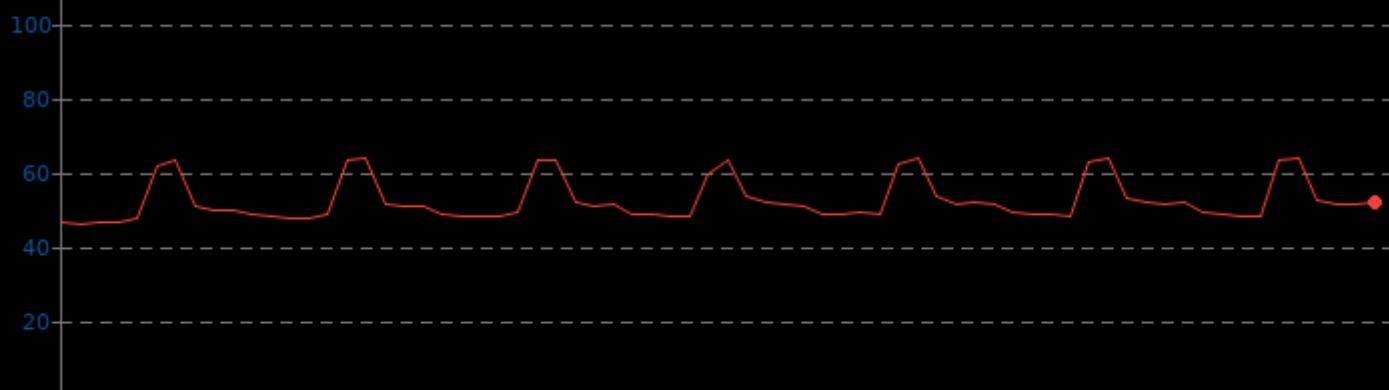


ASTC Encoder 3.2

CPU Temperature Monitor

Min	46.3
Avg	52.3
Max	63.8

▼ Celsius, Fewer Is Better



ASTC Encoder 3.2

Preset: Exhaustive

◀ Seconds, Fewer Is Better



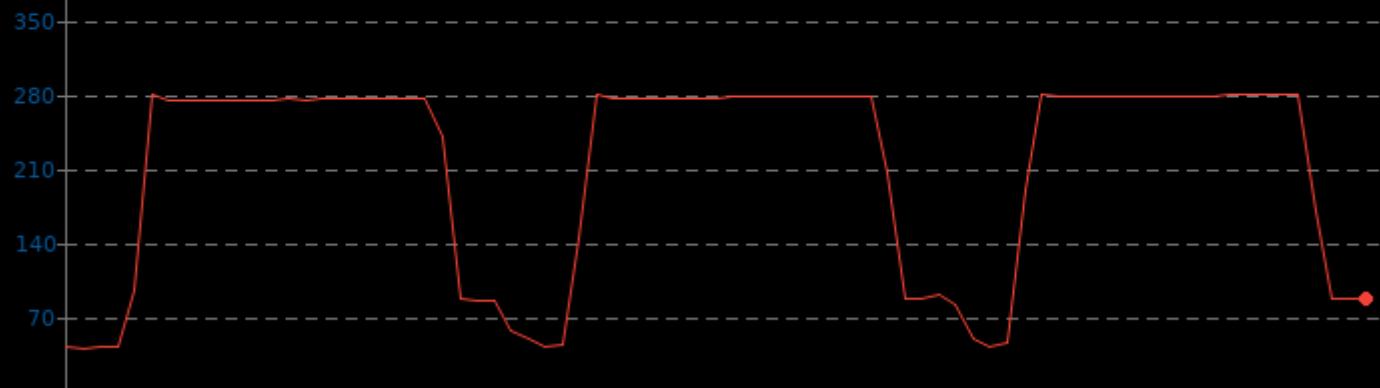
1. (CXX) g++ options: -O3 -fno -pthread

ASTC Encoder 3.2

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	211.1	279.2

▼ Watts, Fewer Is Better

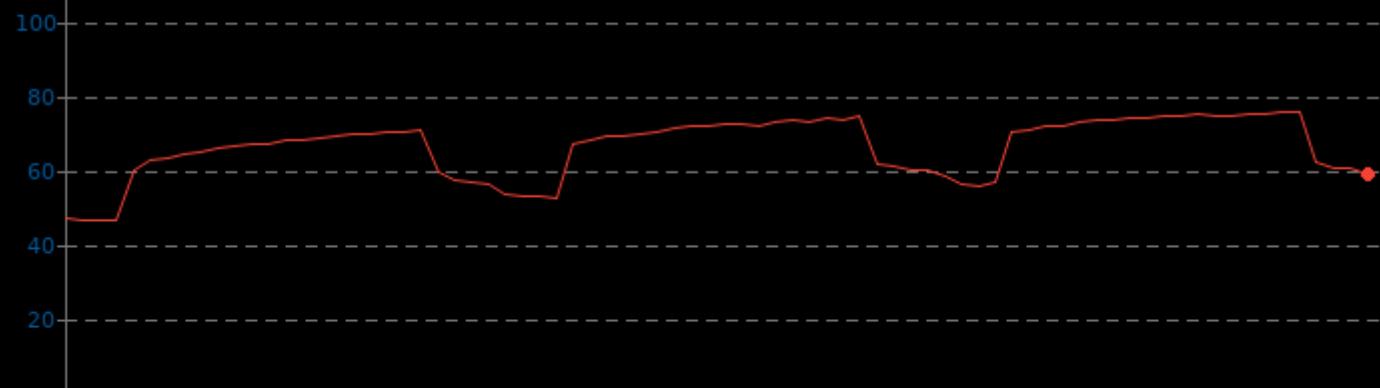


ASTC Encoder 3.2

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.5	66.1	75.8

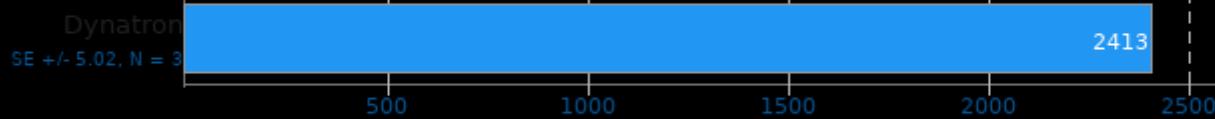
▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 1 - Mode: Read Write

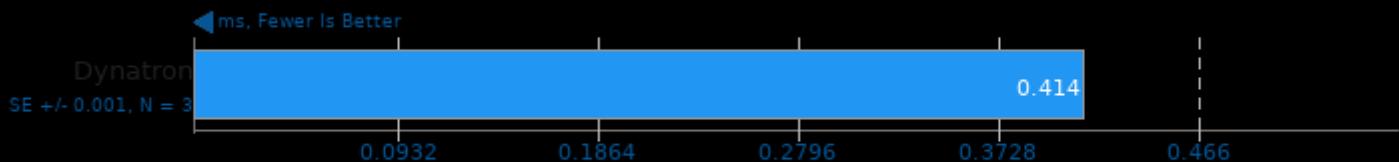
► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 1 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

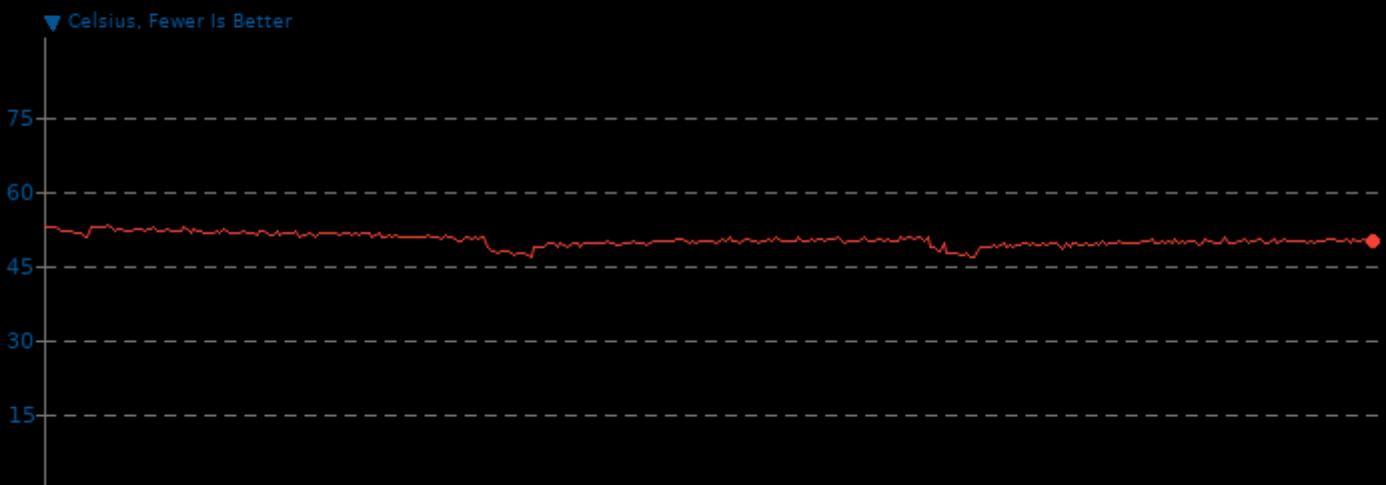
	Min	Avg	Max
Dynatron	42.2	82.4	92.3



PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.8	50.1	53.0



PostgreSQL pgbench 14.0

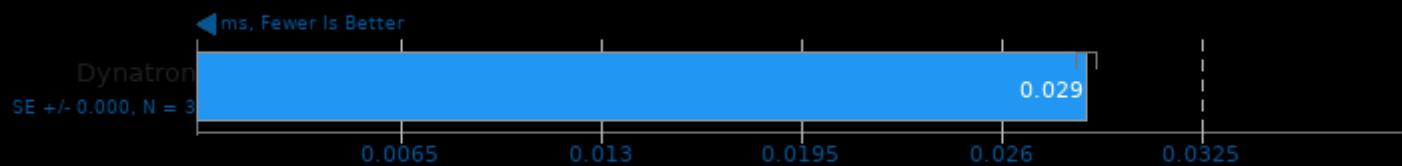
Scaling Factor: 1 - Clients: 1 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 1 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.0	82.6	92.0

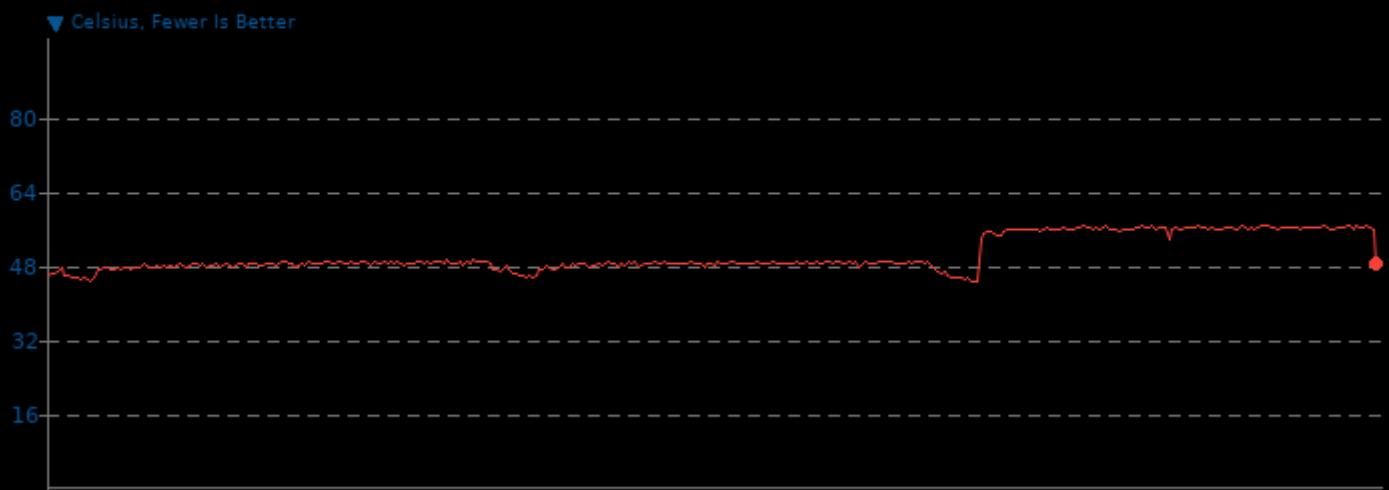
▼ Watts, Fewer Is Better



PostgreSQL pgbench 14.0

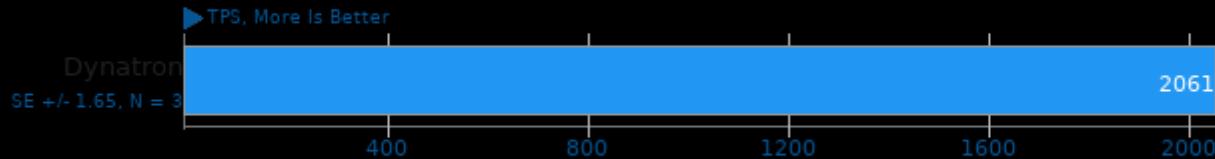
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	44.5	50.3	56.8



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 50 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 50 - Mode: Read Write - Average Latency



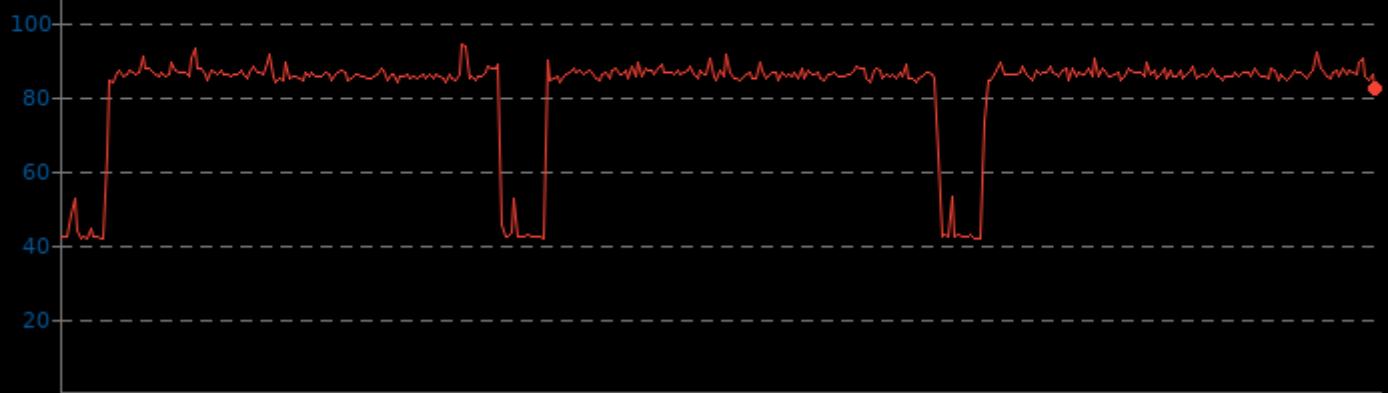
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	41.9	81.5	93.8

▼ Watts, Fewer Is Better

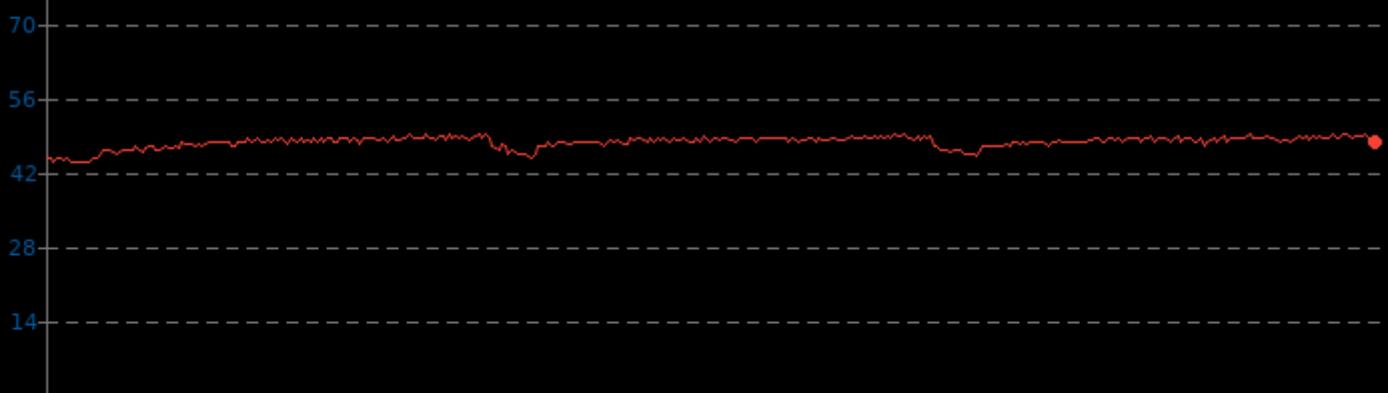


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	43.8	47.6	49.3

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 50 - Mode: Read Only

► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 50 - Mode: Read Only - Average Latency



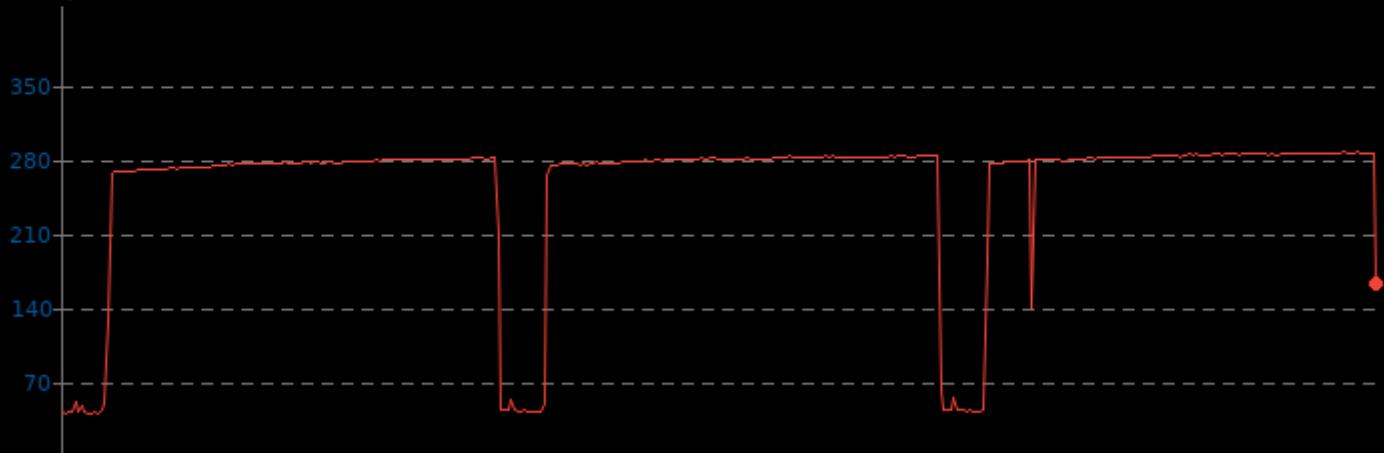
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	253.3	286.3

▼ Watts, Fewer Is Better

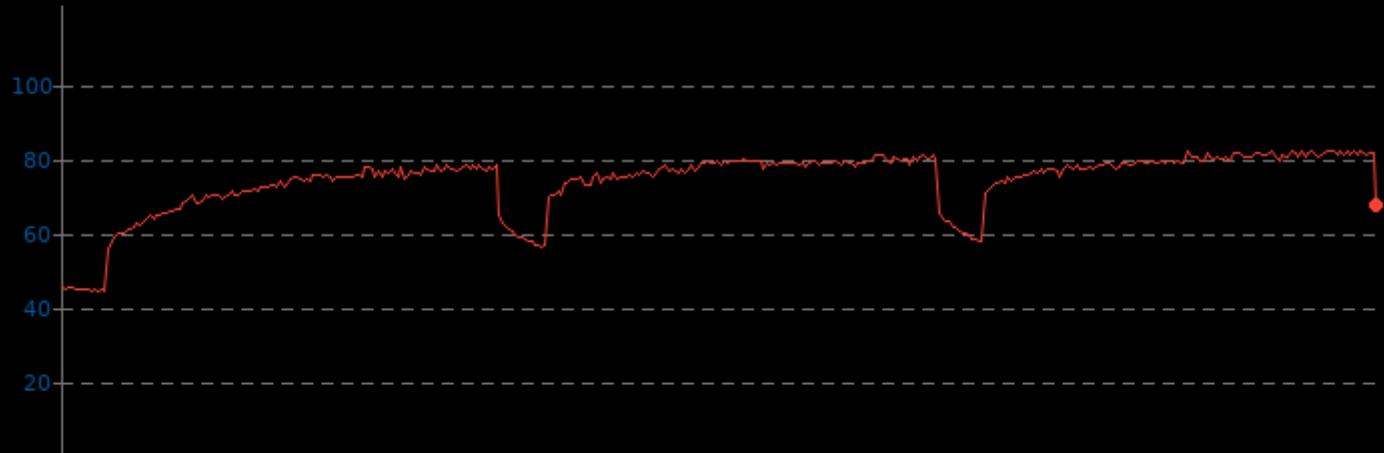


PostgreSQL pgbench 14.0

CPU Temperature Monitor

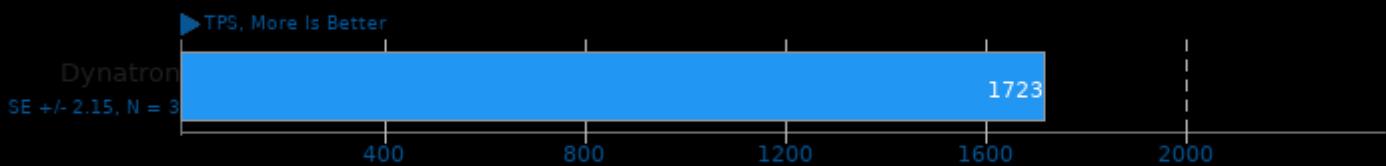
	Min	Avg	Max
Dynatron	44.5	73.9	82.0

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.3	79.1	91.6

▼ Watts, Fewer Is Better

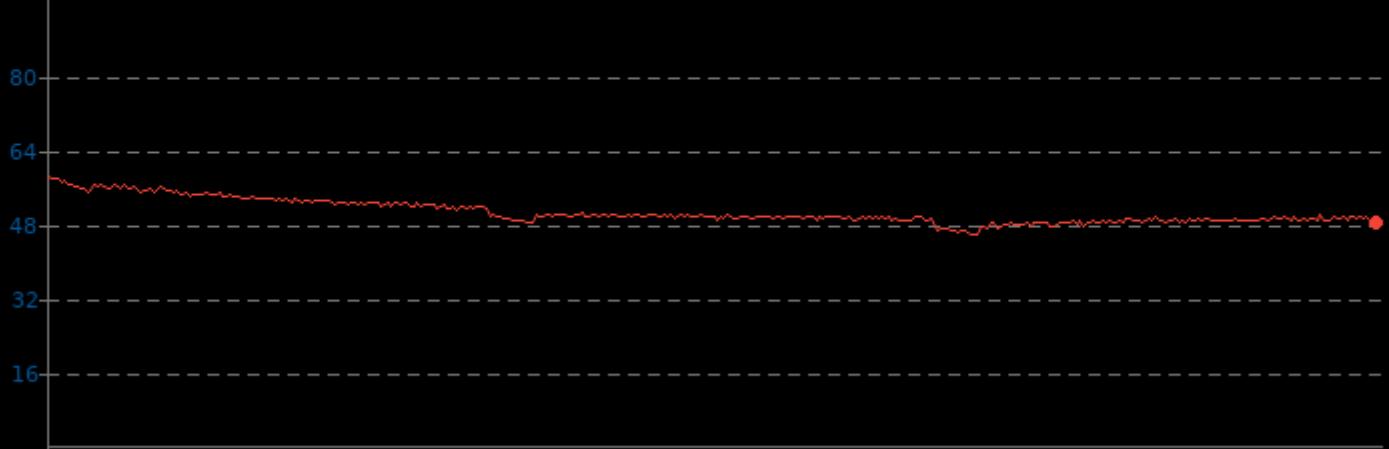


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.8	50.6	58.3

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 100 - Mode: Read Only

► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 100 - Mode: Read Only - Average Latency

◀ ms, Fewer Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.0	256.7	287.2

▼ Watts, Fewer Is Better

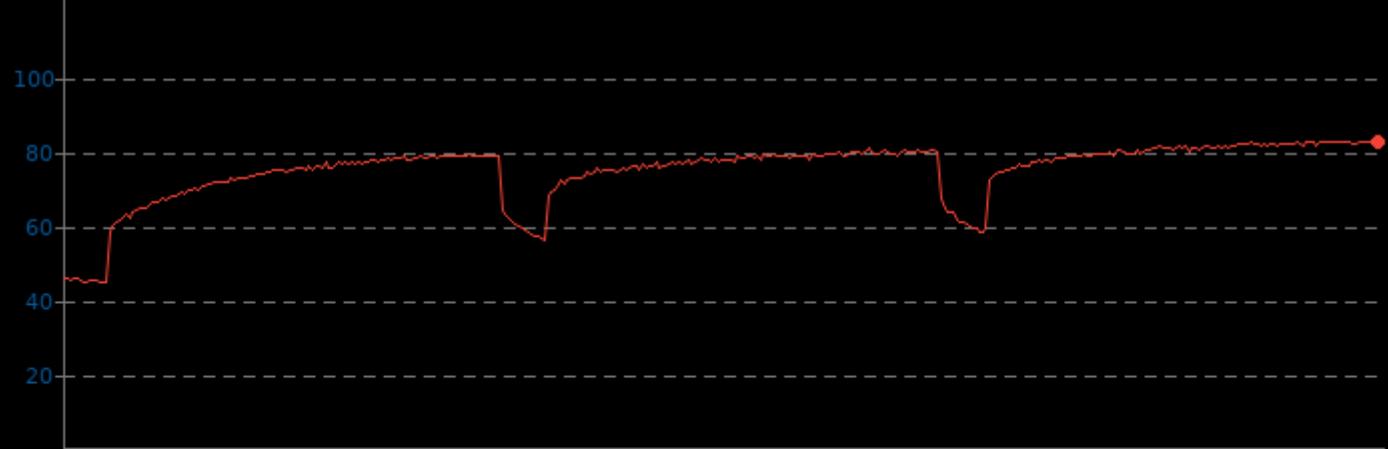


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.0	74.8	82.5

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 250 - Mode: Read Write

► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

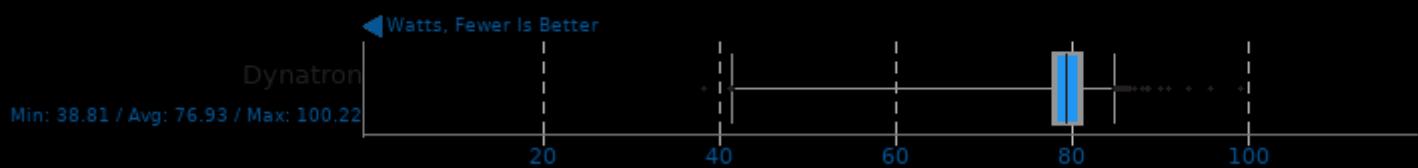
Scaling Factor: 1 - Clients: 250 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor



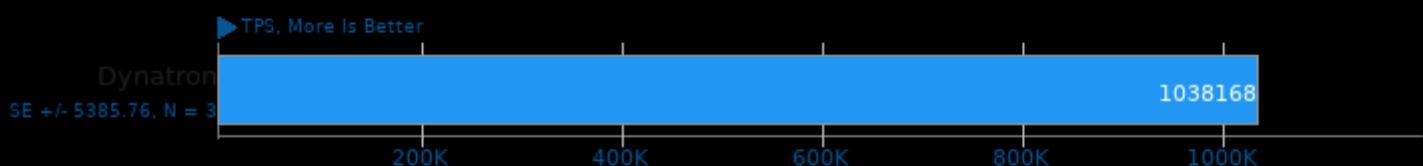
PostgreSQL pgbench 14.0

CPU Temperature Monitor



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 250 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 250 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	41.8	254.4	284.8

▼ Watts, Fewer Is Better



PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	41.8	72.1	80.0

▼ Celsius, Fewer Is Better

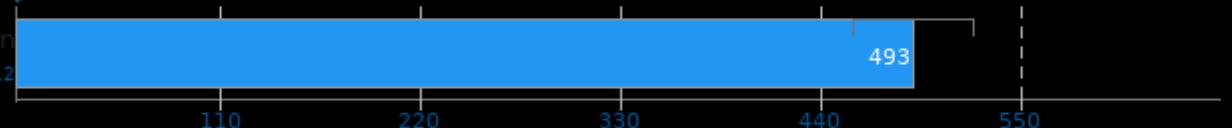


PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 500 - Mode: Read Write

► TPS, More Is Better

Dynatron
SE +/- 32.48, N = 12



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

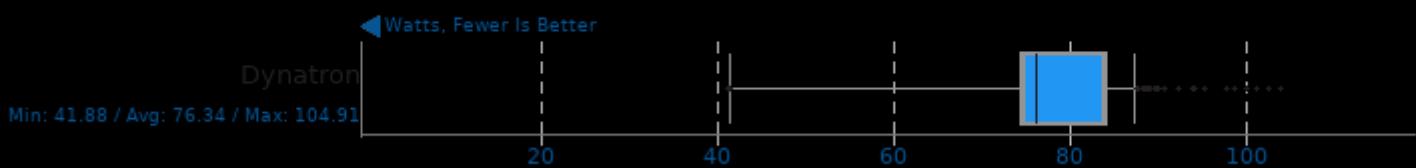
Scaling Factor: 1 - Clients: 500 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

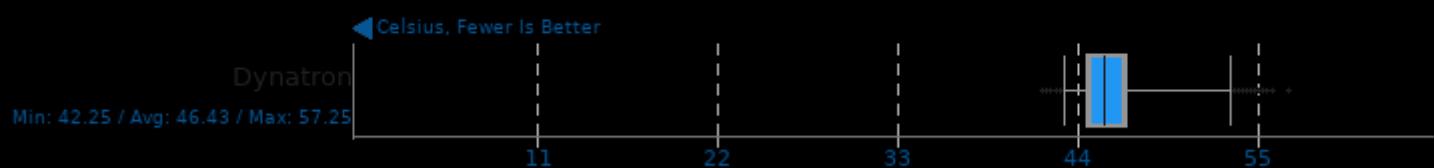
PostgreSQL pgbench 14.0

CPU Power Consumption Monitor



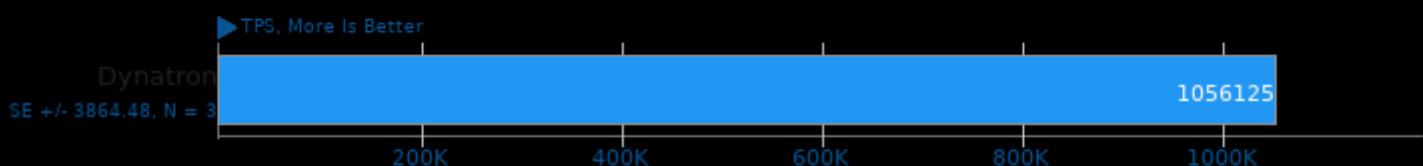
PostgreSQL pgbench 14.0

CPU Temperature Monitor



PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 500 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 1 - Clients: 500 - Mode: Read Only - Average Latency



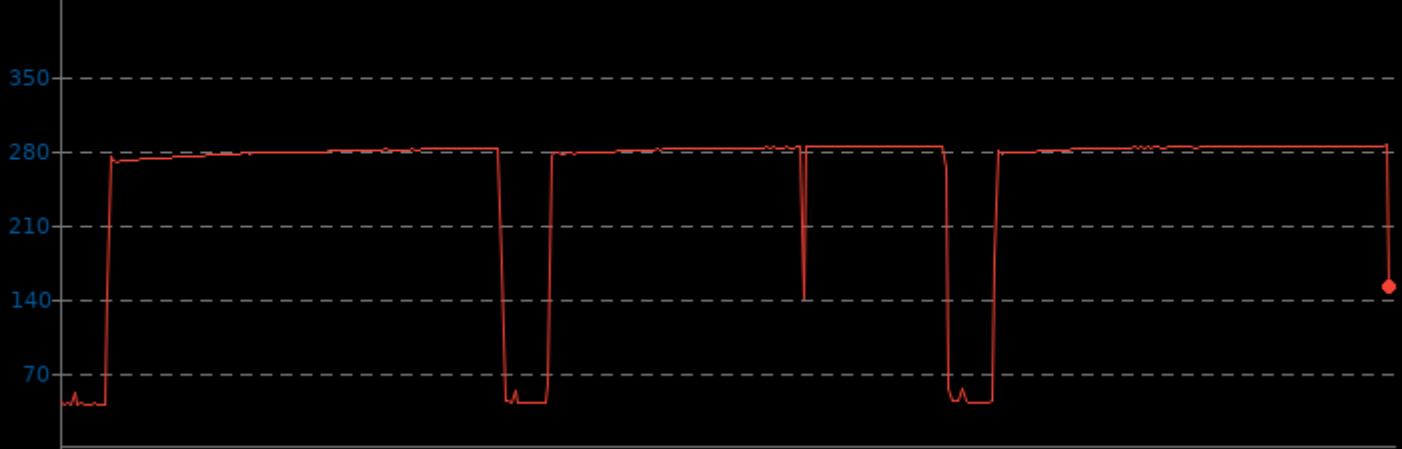
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	41.7	253.9	284.1

▼ Watts, Fewer Is Better

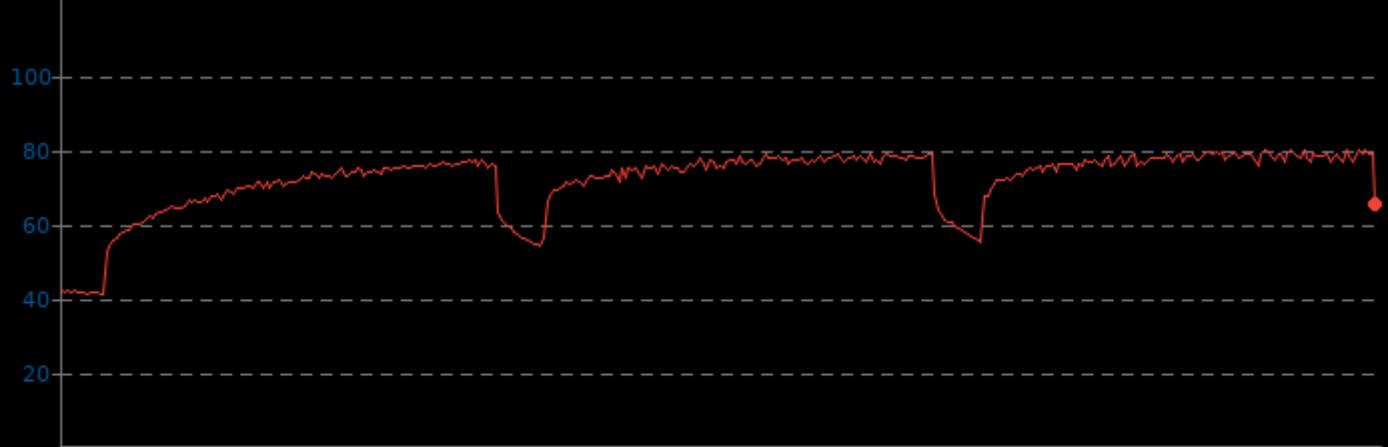


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	41.0	71.9	80.0

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 1 - Mode: Read Write

► TPS, More Is Better

Dynatron
SE +/- 1.83, N = 3

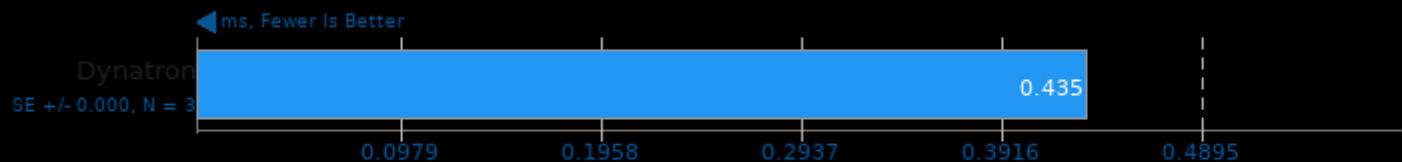
2297

500 1000 1500 2000 2500

1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency

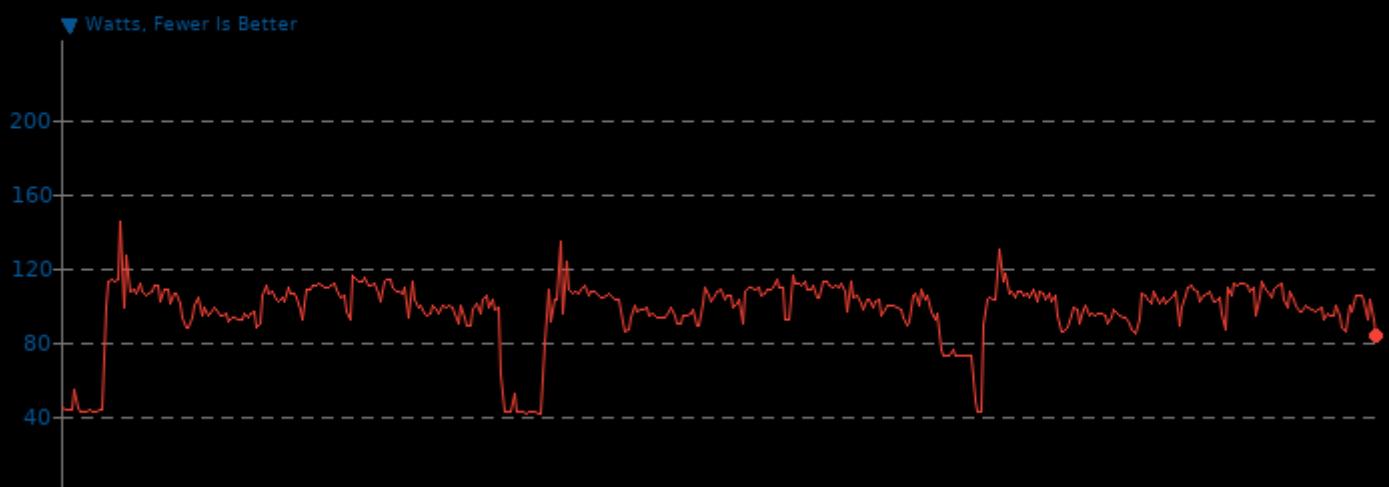


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

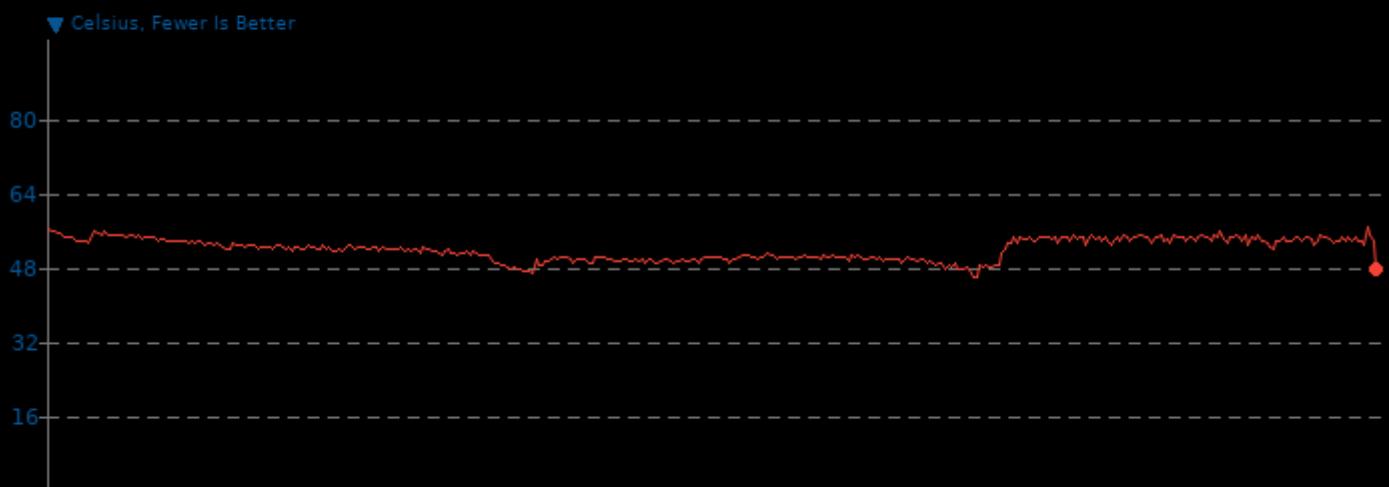
	Min	Avg	Max
Dynatron	42.3	97.1	144.3



PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.0	51.8	56.5



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 1 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	41.8	83.9	141.1

▼ Watts, Fewer Is Better



PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	42.8	47.3	54.5

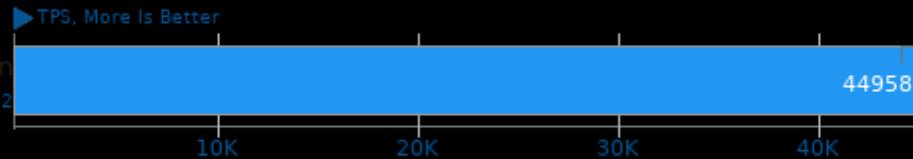
▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 50 - Mode: Read Write

Dynatron
SE +/- 715.99, N = 12

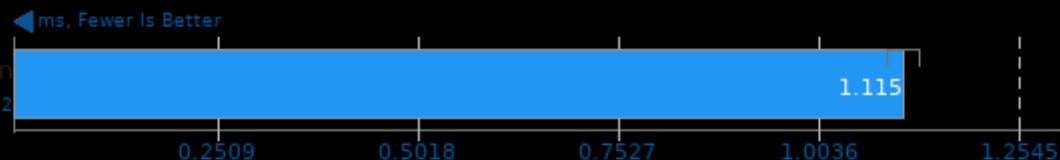


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency

Dynatron
SE +/- 0.019, N = 12



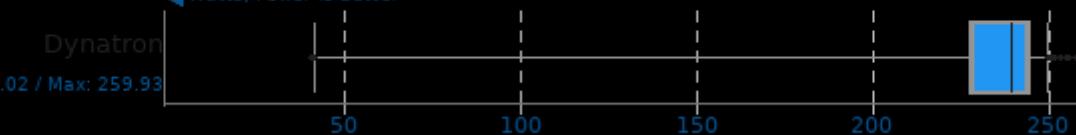
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

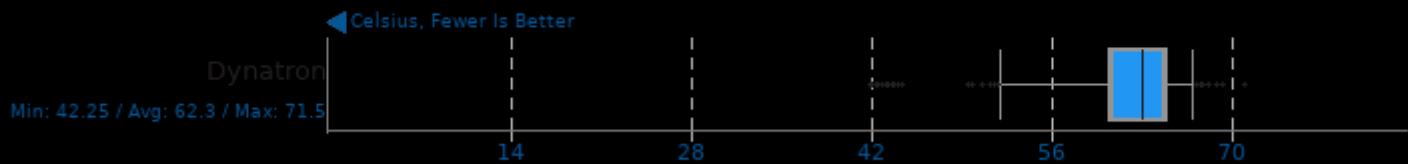
Dynatron
Min: 41.9 / Avg: 214.02 / Max: 259.93

◀ Watts, Fewer Is Better



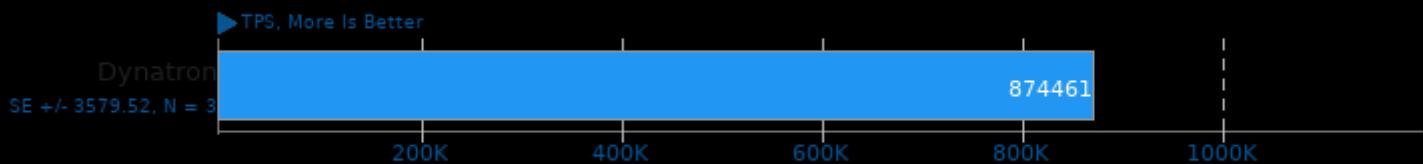
PostgreSQL pgbench 14.0

CPU Temperature Monitor



PostgreSQL pgbench 14.0

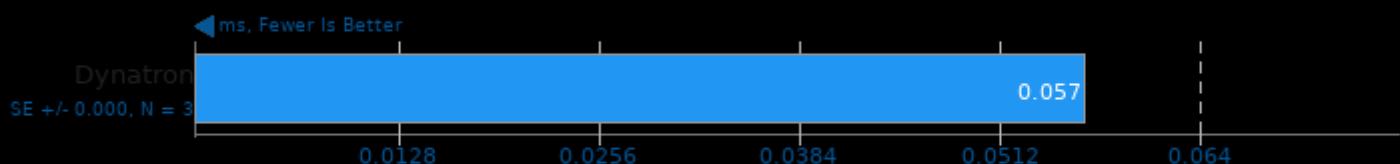
Scaling Factor: 100 - Clients: 50 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.7	244.0	280.5

▼ Watts, Fewer Is Better



PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	50.5	71.9	79.3

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 100 - Mode: Read Write

► TPS, More Is Better

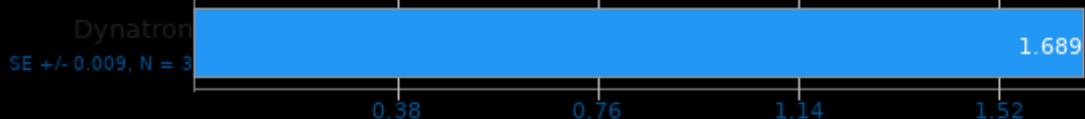


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency

◀ ms, Fewer Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	234.5	274.0

▼ Watts, Fewer Is Better

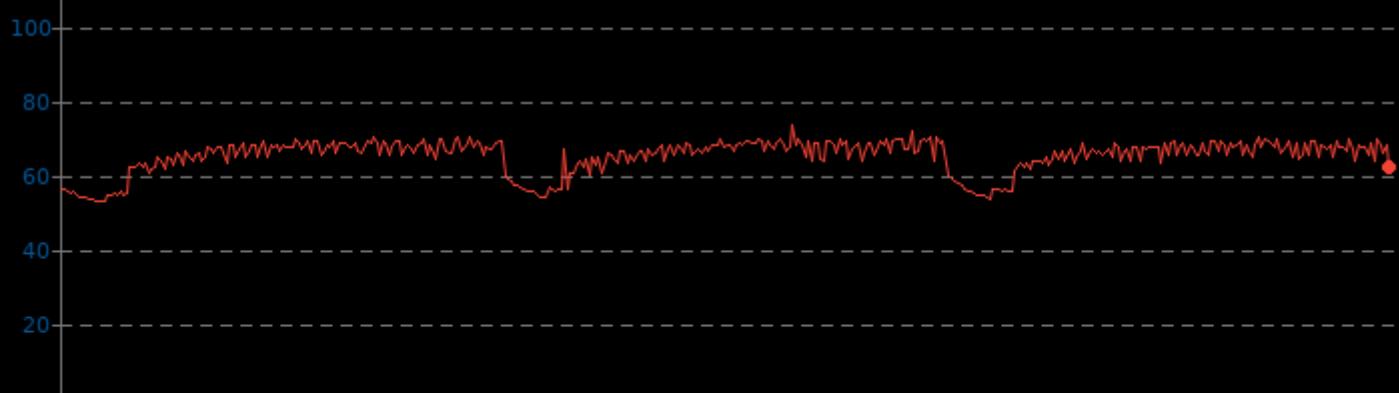


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.0	65.1	73.5

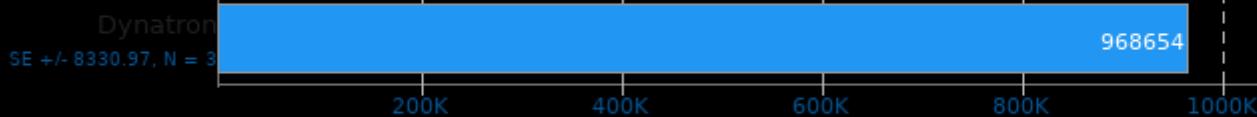
▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 100 - Mode: Read Only

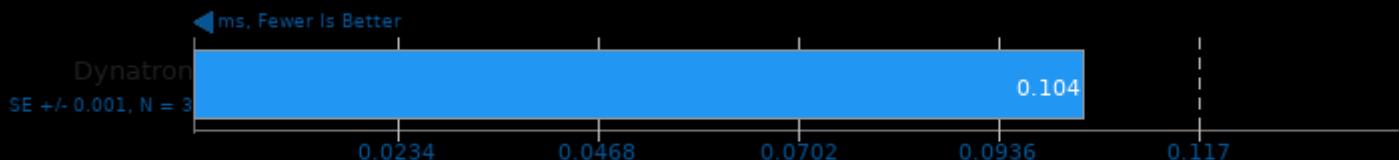
► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency



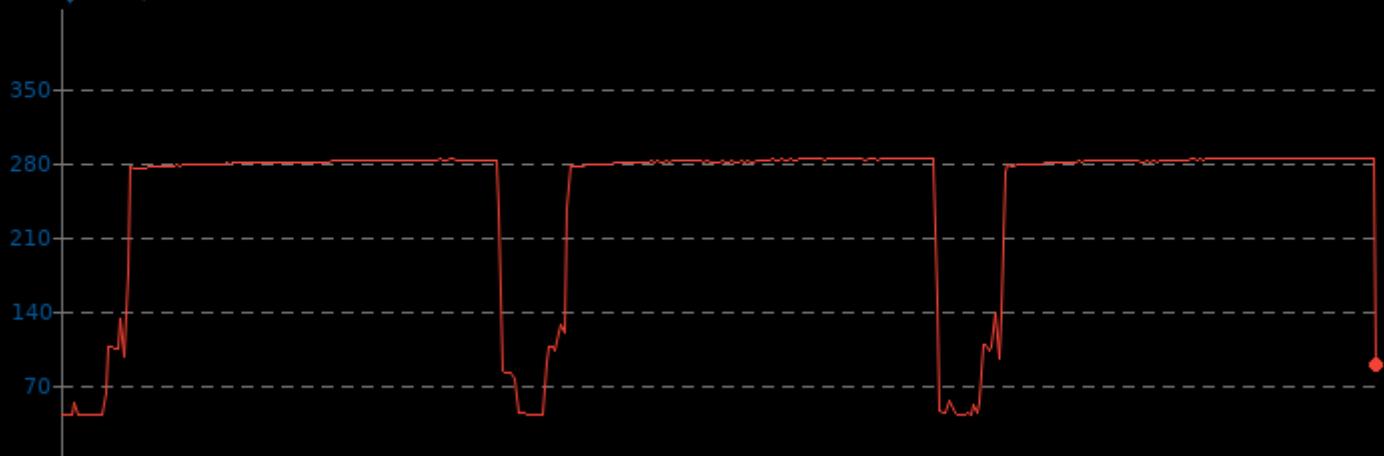
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.6	248.0	283.7

▼ Watts, Fewer Is Better

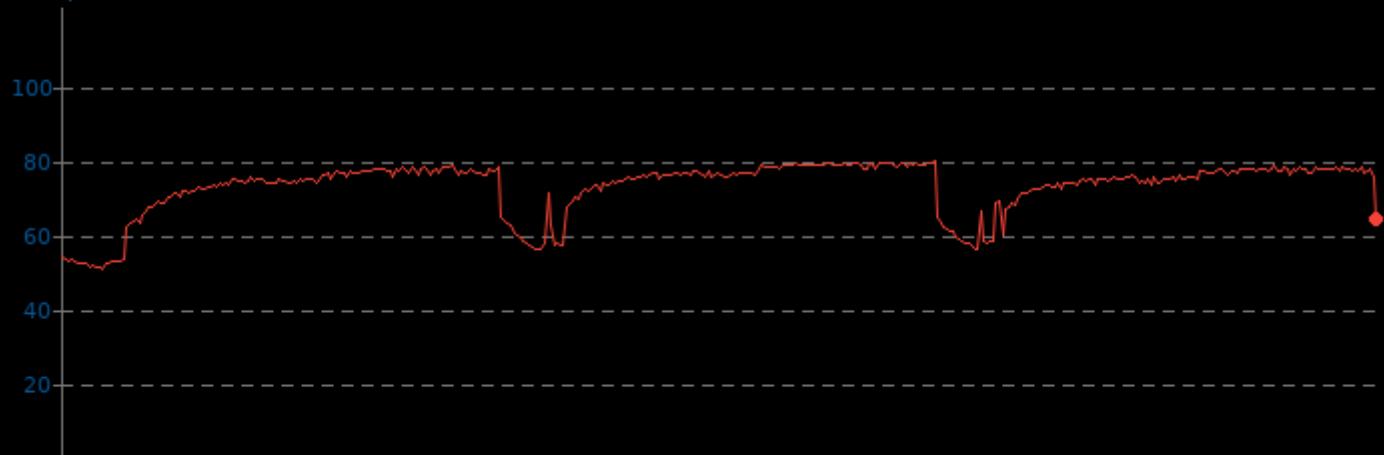


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	51.0	72.8	79.8

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 250 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency

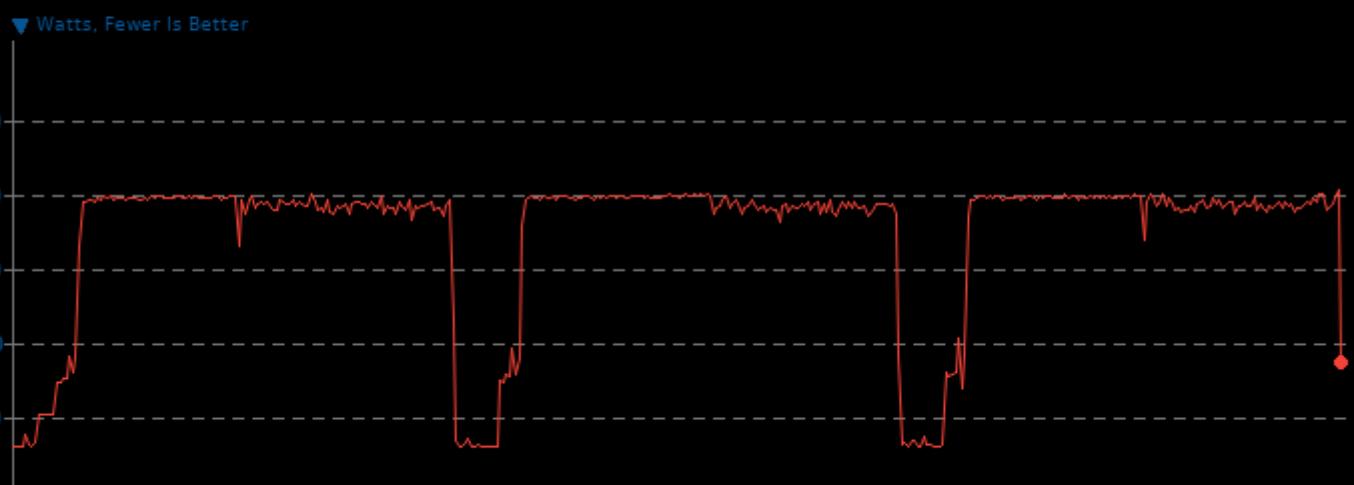


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.1	240.9	282.5

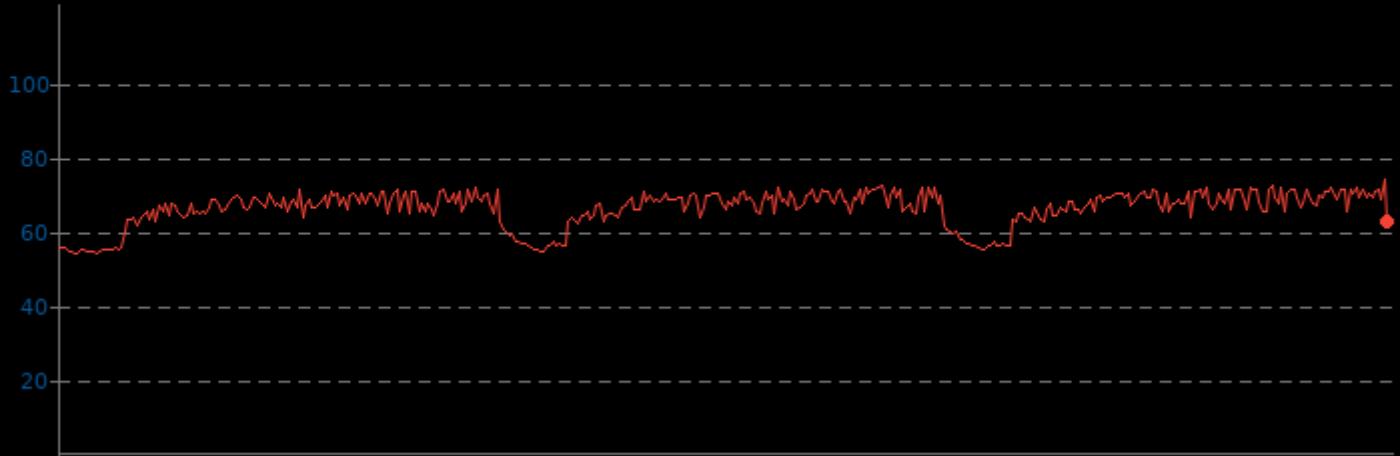


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	54.3	66.2	74.0

▼ Celsius, Fewer Is Better

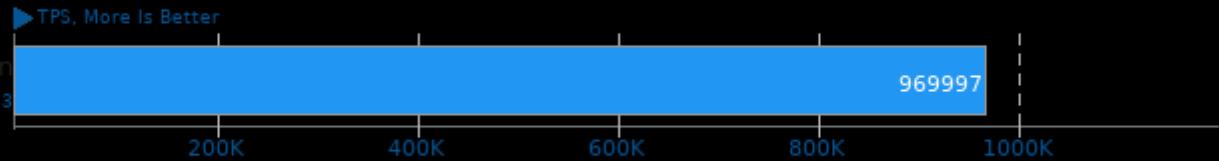


PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 250 - Mode: Read Only

Dynatron

SE +/- 1175.50, N = 3



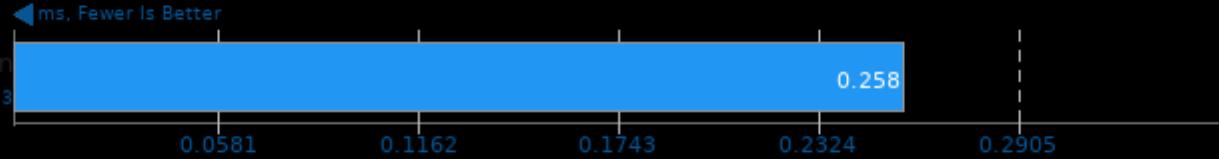
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 250 - Mode: Read Only - Average Latency

Dynatron

SE +/- 0.000, N = 3



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.8	248.6	287.1

▼ Watts, Fewer Is Better

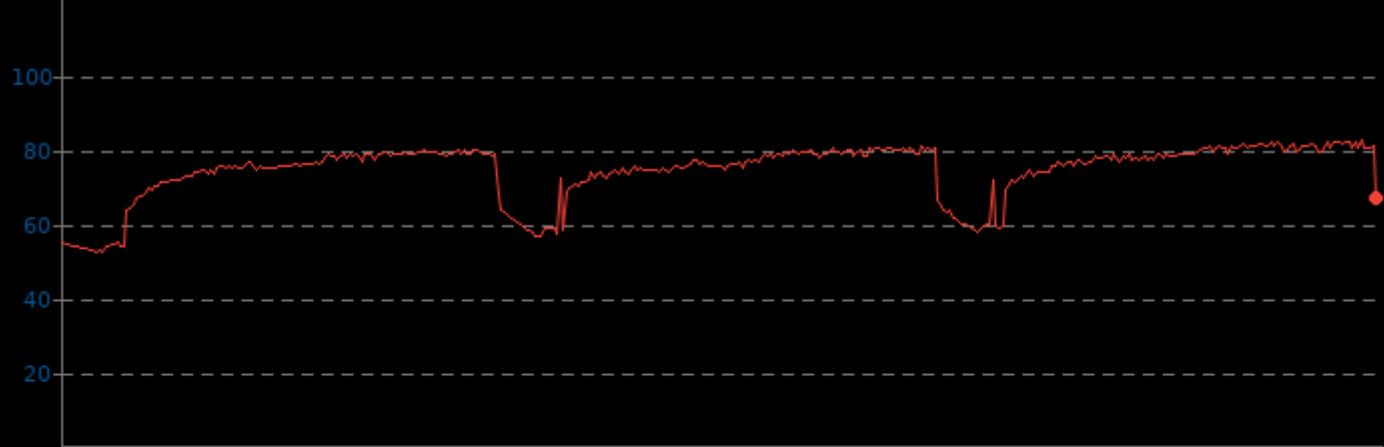


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	52.5	74.2	82.3

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 500 - Mode: Read Write

► TPS, More Is Better



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 500 - Mode: Read Write - Average Latency



PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	242.2	282.3

▼ Watts, Fewer Is Better

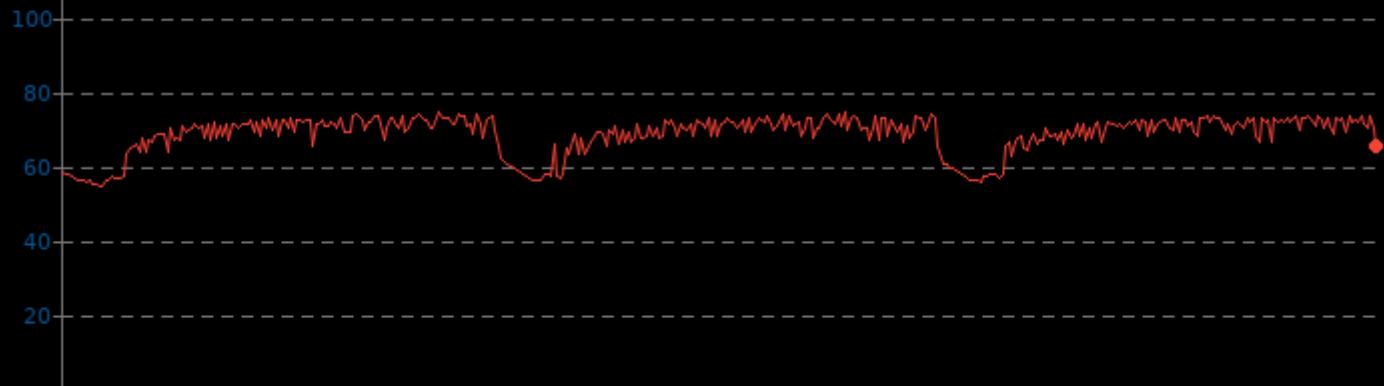


PostgreSQL pgbench 14.0

CPU Temperature Monitor

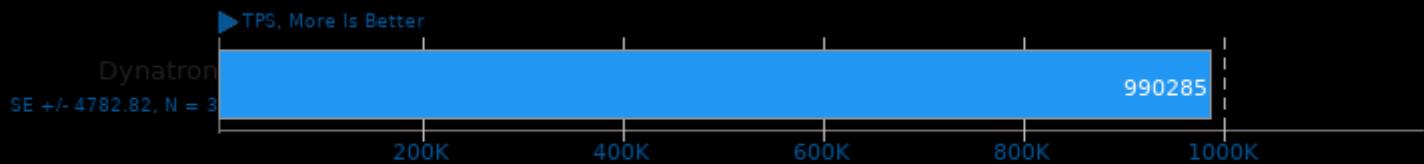
	Min	Avg	Max
Dynatron	54.8	68.4	74.5

▼ Celsius, Fewer Is Better



PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 500 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

Scaling Factor: 100 - Clients: 500 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lm

PostgreSQL pgbench 14.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	249.0	286.8

▼ Watts, Fewer Is Better

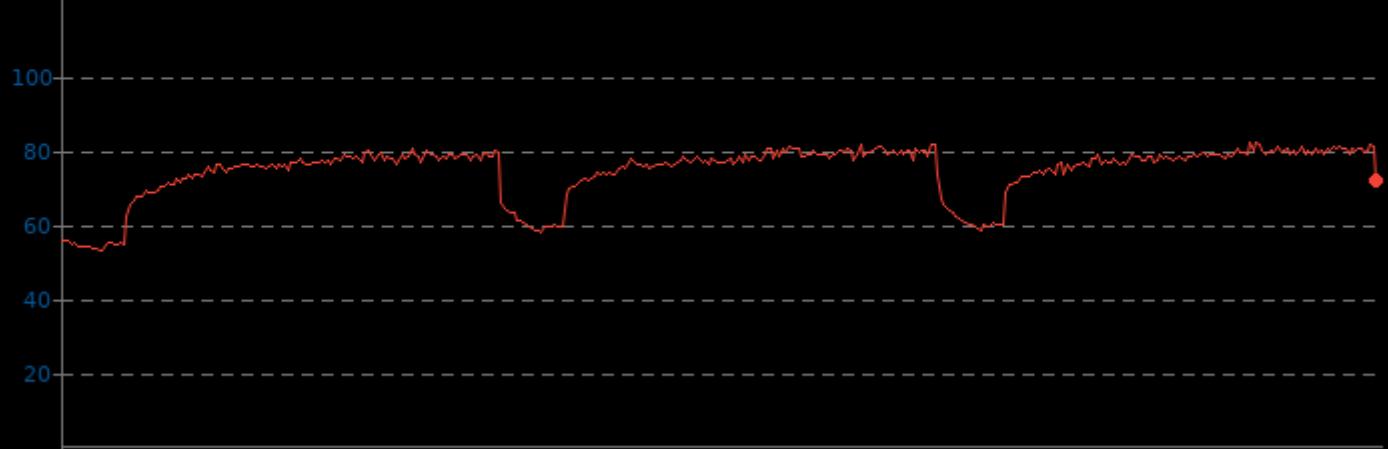


PostgreSQL pgbench 14.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.3	74.2	82.0

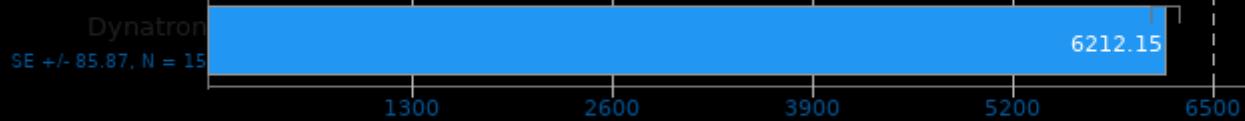
▼ Celsius, Fewer Is Better



Apache HTTP Server 2.4.48

Concurrent Requests: 1

► Requests Per Second, More Is Better



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

◀ Watts, Fewer Is Better

Dynatron
Min: 41.99 / Avg: 76.65 / Max: 95.63



Apache HTTP Server 2.4.48

CPU Temperature Monitor

◀ Celsius, Fewer Is Better

Dynatron
Min: 44.5 / Avg: 48.52 / Max: 59.25



Apache HTTP Server 2.4.48

Concurrent Requests: 20



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

Min Avg Max

Dynatron 41.9	181.4	198.2
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▼ Watts, Fewer Is Better



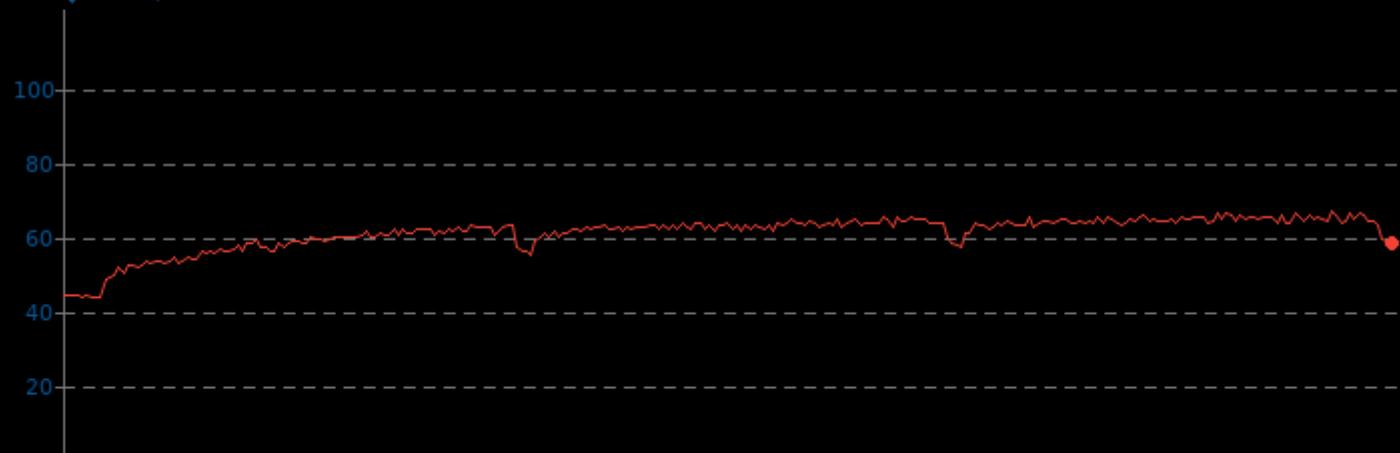
Apache HTTP Server 2.4.48

CPU Temperature Monitor

Min Avg Max

Dynatron 43.8	61.2	66.8
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▼ Celsius, Fewer Is Better



Apache HTTP Server 2.4.48

Concurrent Requests: 100

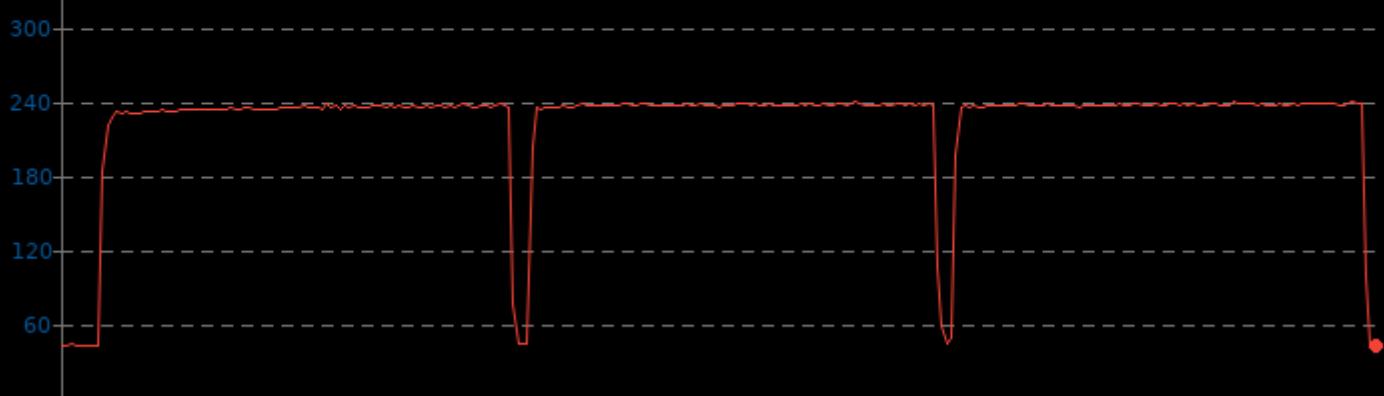


Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.7	222.6	240.1

▼ Watts, Fewer Is Better

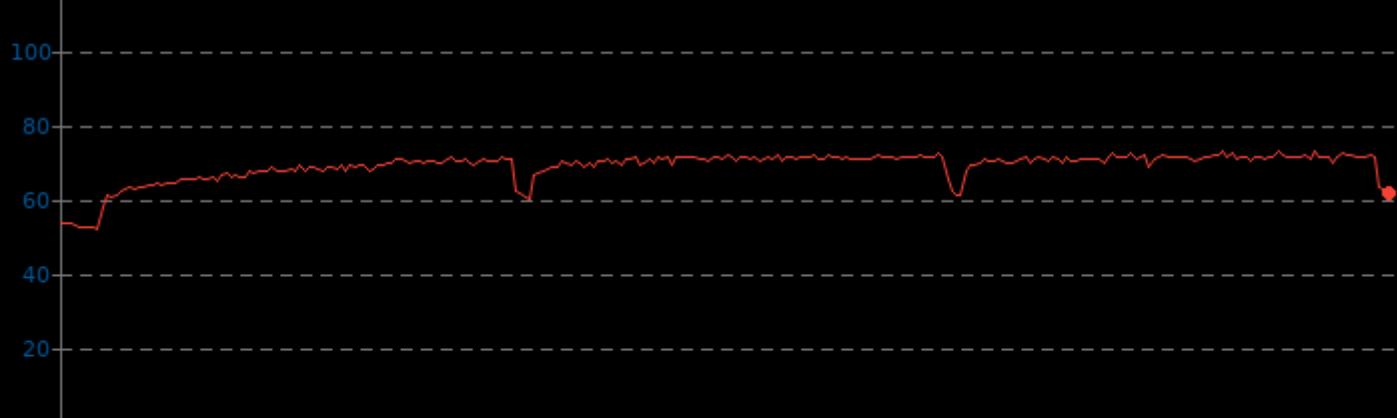


Apache HTTP Server 2.4.48

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	51.8	68.8	73.0

▼ Celsius, Fewer Is Better



Apache HTTP Server 2.4.48

Concurrent Requests: 200



Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

Min Avg Max

Dynatron 43.1 234.0 253.2

▼ Watts, Fewer Is Better



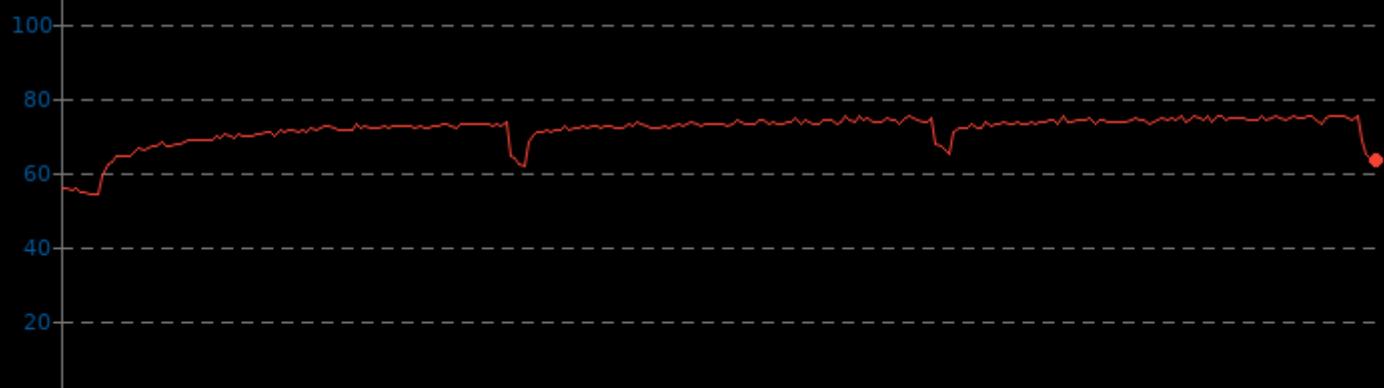
Apache HTTP Server 2.4.48

CPU Temperature Monitor

Min Avg Max

Dynatron 54.0 71.4 75.3

▼ Celsius, Fewer Is Better



Apache HTTP Server 2.4.48

Concurrent Requests: 500

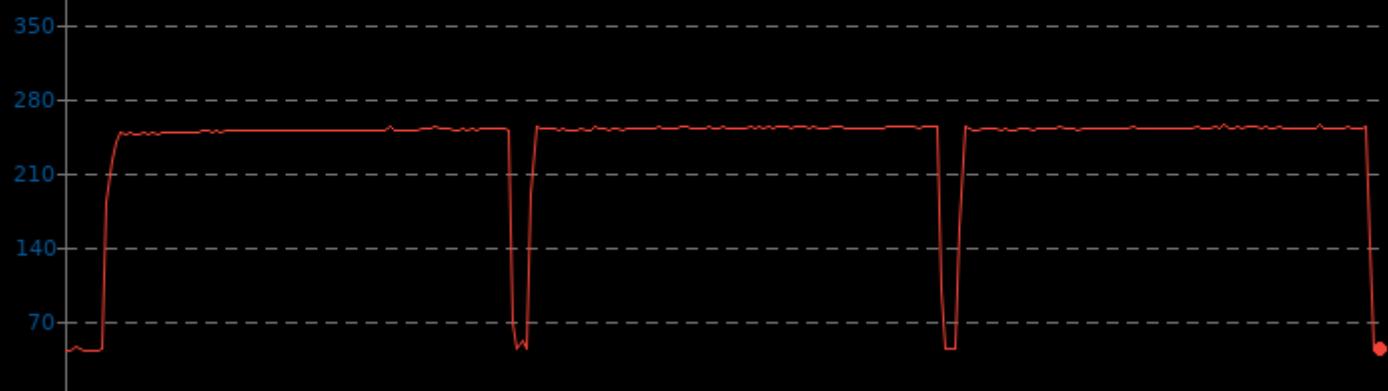


Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.3	236.3	254.5

▼ Watts, Fewer Is Better

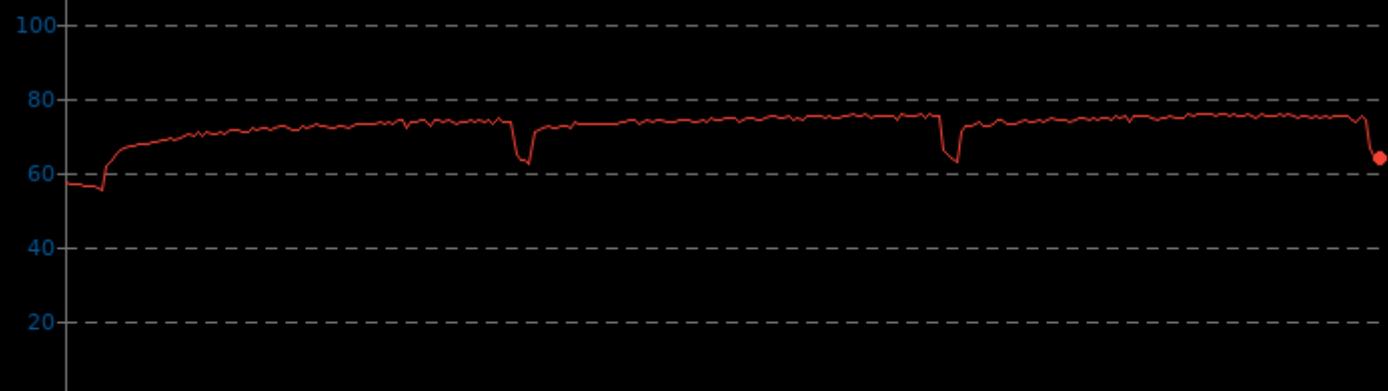


Apache HTTP Server 2.4.48

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	55.3	72.3	75.8

▼ Celsius, Fewer Is Better



Apache HTTP Server 2.4.48

Concurrent Requests: 1000



Apache HTTP Server 2.4.48

CPU Power Consumption Monitor

Min Avg Max

Dynatron 43.3 230.9 256.4

▼ Watts, Fewer Is Better



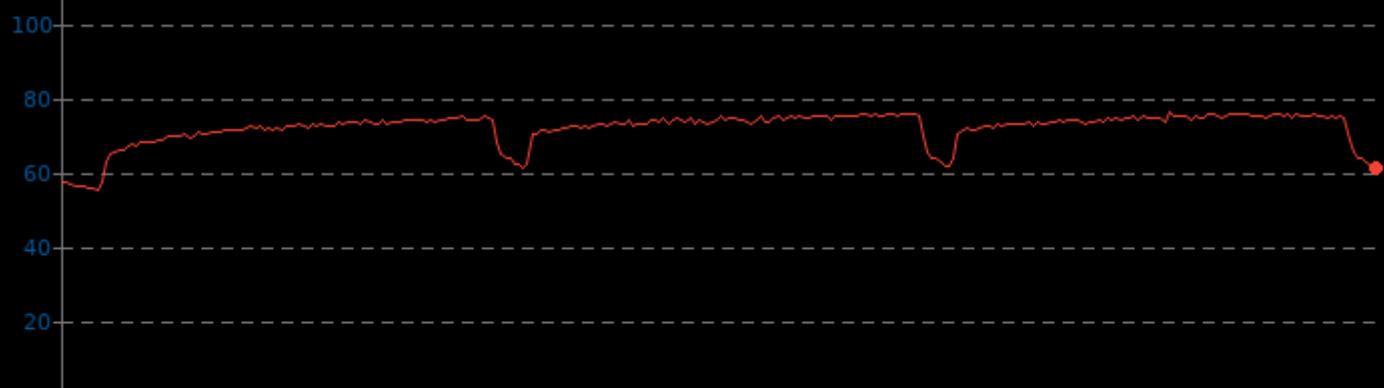
Apache HTTP Server 2.4.48

CPU Temperature Monitor

Min Avg Max

Dynatron 55.3 71.9 76.0

▼ Celsius, Fewer Is Better



nginx 1.21.1

Concurrent Requests: 1



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

nginx 1.21.1

CPU Power Consumption Monitor

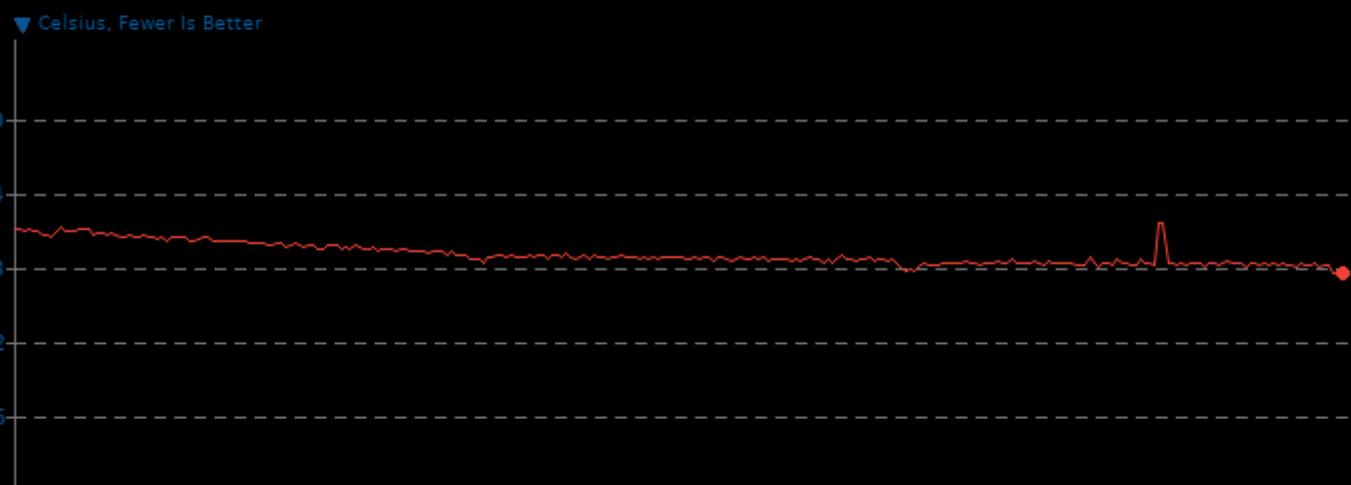
	Min	Avg	Max
Dynatron	42.2	77.0	84.5



nginx 1.21.1

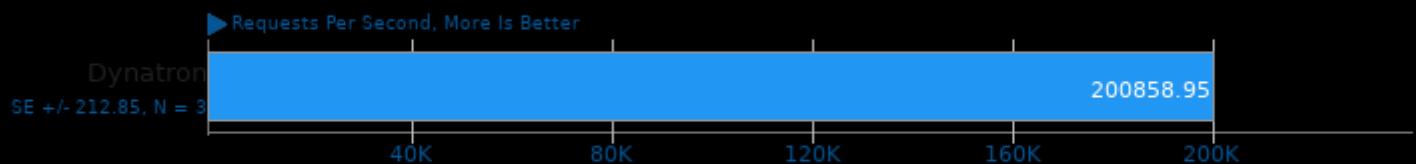
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.5	50.7	57.5



nginx 1.21.1

Concurrent Requests: 20



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

nginx 1.21.1

CPU Power Consumption Monitor

Min Avg Max

Series	Min	Avg	Max
Dynatron	42.0	155.2	166.1

▼ Watts, Fewer Is Better



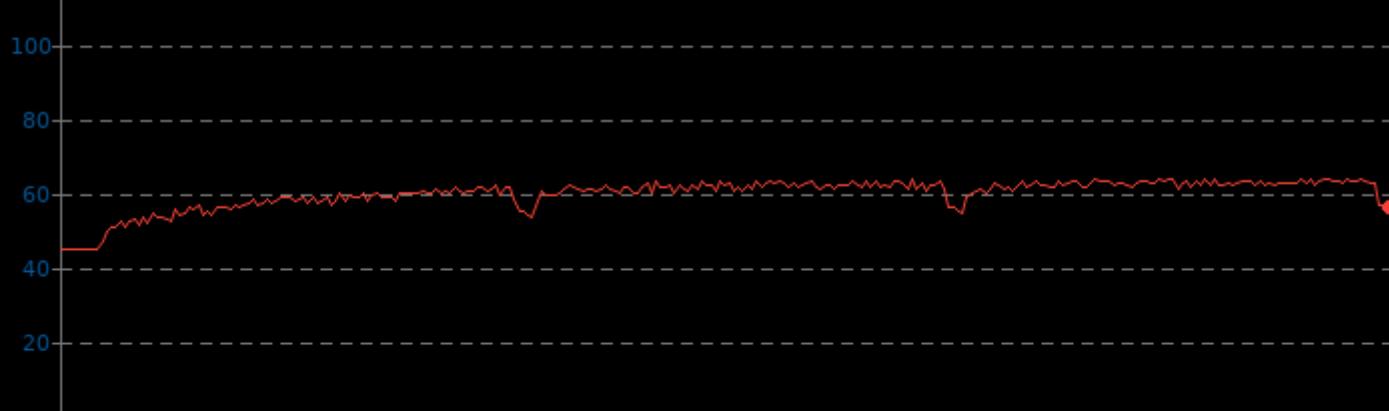
nginx 1.21.1

CPU Temperature Monitor

Min Avg Max

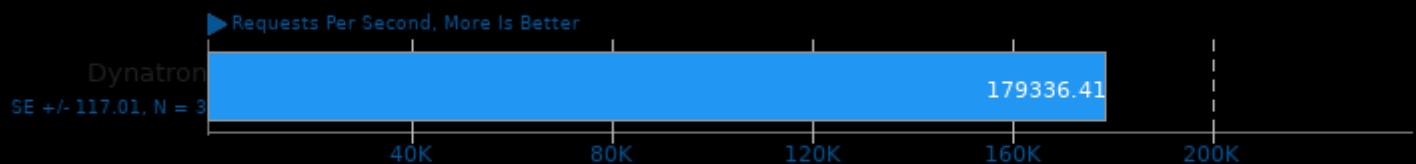
Series	Min	Avg	Max
Dynatron	44.8	59.9	64.0

▼ Celsius, Fewer Is Better



nginx 1.21.1

Concurrent Requests: 100



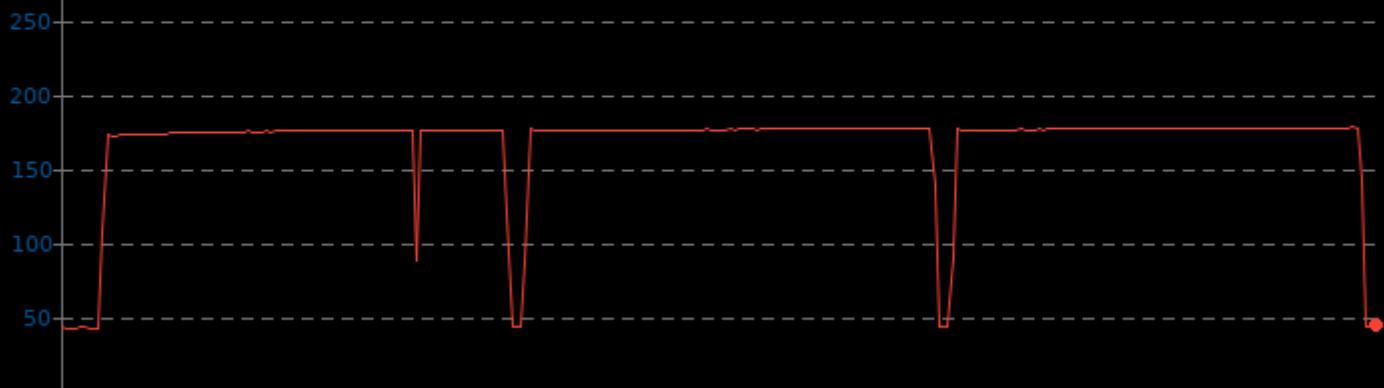
1. (CC) gcc options: -lcrypt -lz -O3 -march=native

nginx 1.21.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.6	166.0	177.5

▼ Watts, Fewer Is Better

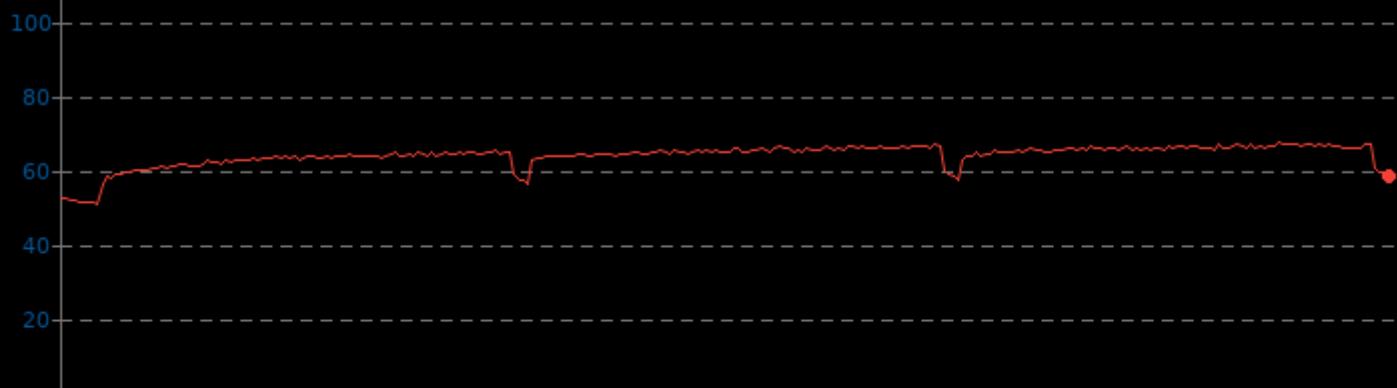


nginx 1.21.1

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	50.8	63.9	67.3

▼ Celsius, Fewer Is Better



nginx 1.21.1

Concurrent Requests: 200



nginx 1.21.1

CPU Power Consumption Monitor

Min Avg Max

Series	Min	Avg	Max
Dynatron	42.8	167.3	177.7

▼ Watts, Fewer Is Better



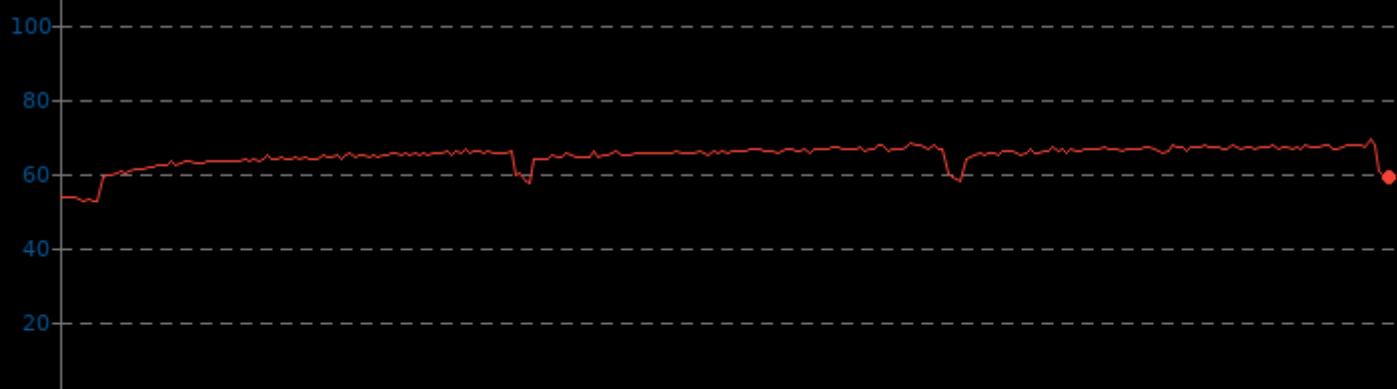
nginx 1.21.1

CPU Temperature Monitor

Min Avg Max

Series	Min	Avg	Max
Dynatron	52.3	64.7	69.0

▼ Celsius, Fewer Is Better



nginx 1.21.1

Concurrent Requests: 500



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

nginx 1.21.1

CPU Power Consumption Monitor

Min Avg Max

System	Min	Avg	Max
Dynatron	42.9	167.1	177.9

▼ Watts, Fewer Is Better



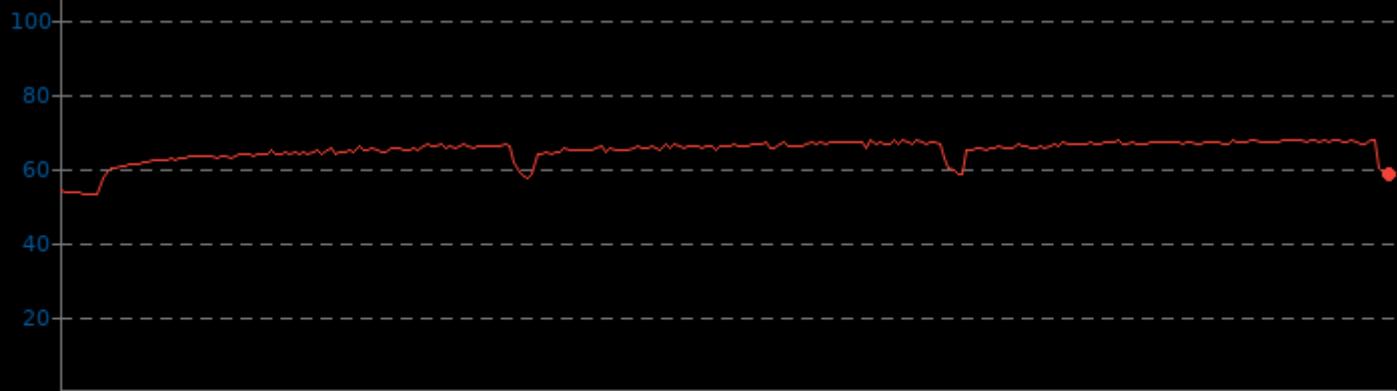
nginx 1.21.1

CPU Temperature Monitor

Min Avg Max

System	Min	Avg	Max
Dynatron	53.0	64.8	67.5

▼ Celsius, Fewer Is Better



nginx 1.21.1

Concurrent Requests: 1000



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

nginx 1.21.1

CPU Power Consumption Monitor

System	Min	Avg	Max
Dynatron	42.9	167.5	178.4

▼ Watts, Fewer Is Better

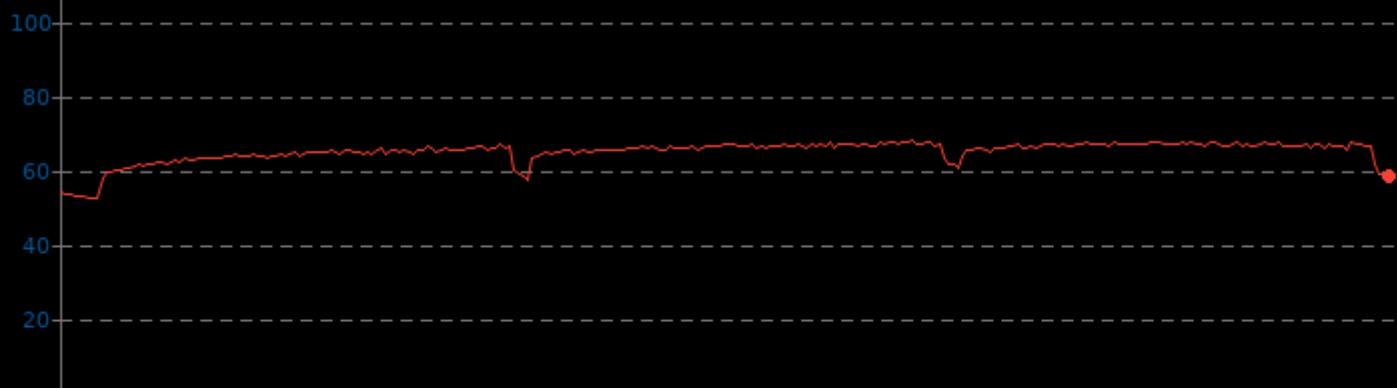


nginx 1.21.1

CPU Temperature Monitor

System	Min	Avg	Max
Dynatron	52.3	64.9	68.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Triple SHA-256, Onecoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.5	93.3	211.1

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

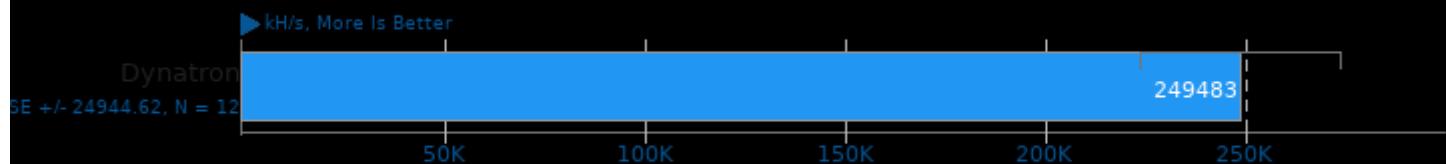
	Min	Avg	Max
Dynatron	49.5	53.3	68.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Quad SHA-256, Pyrite



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	93.0	199.8

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

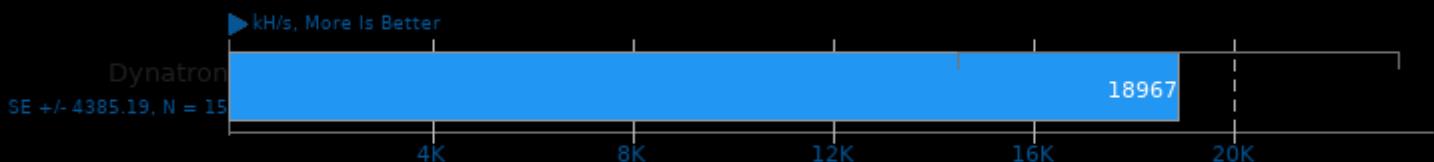
	Min	Avg	Max
Dynatron	46.8	50.8	64.8

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Myriad-Groestl



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	143.3	201.3

▼ Watts, Fewer Is Better

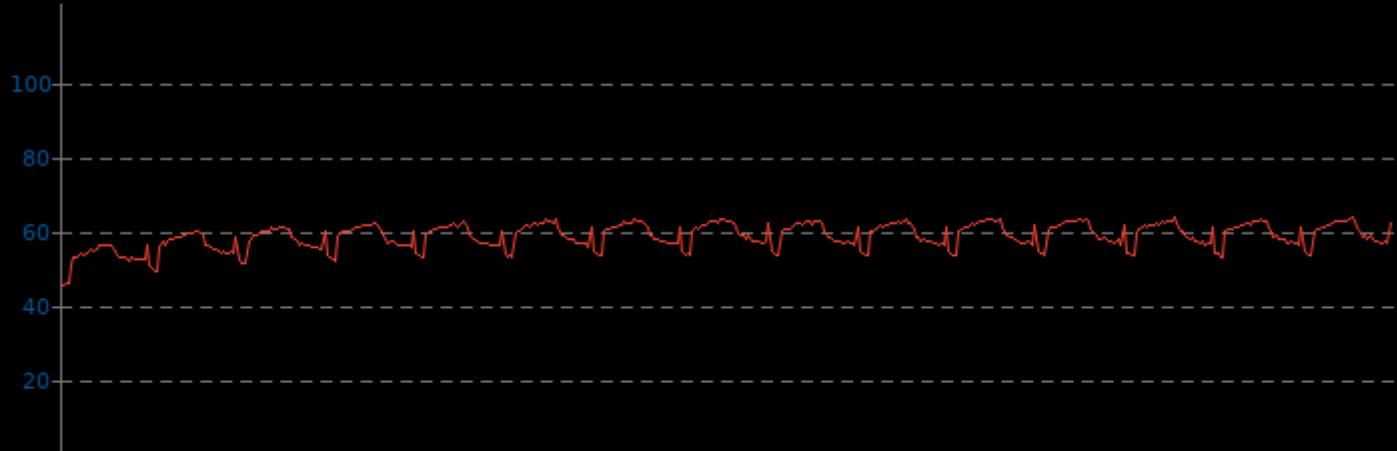


Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.8	58.6	63.8

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Magi



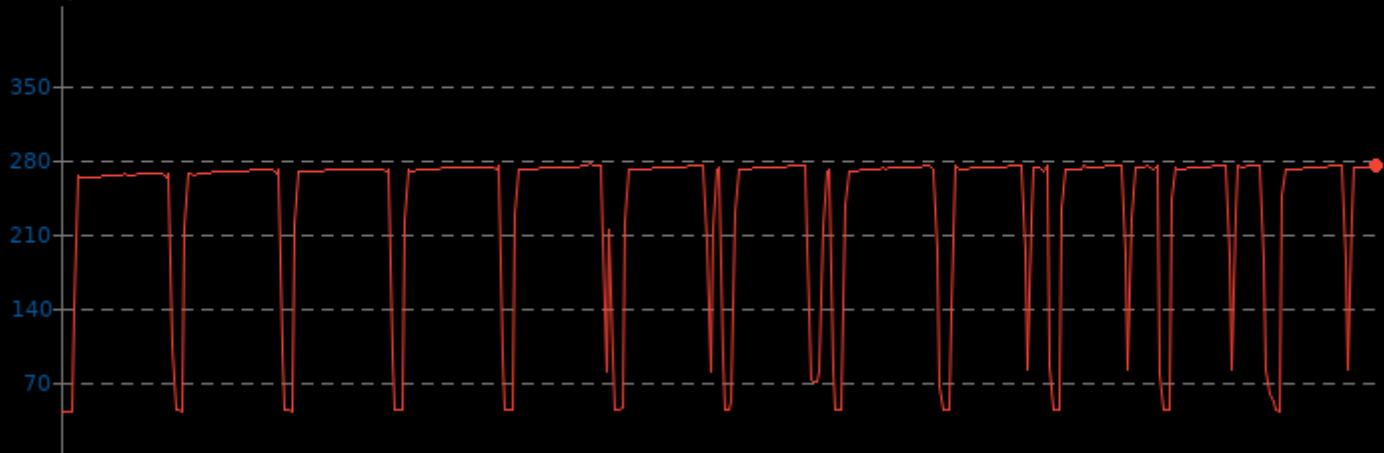
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.6	236.7	274.8

▼ Watts, Fewer Is Better

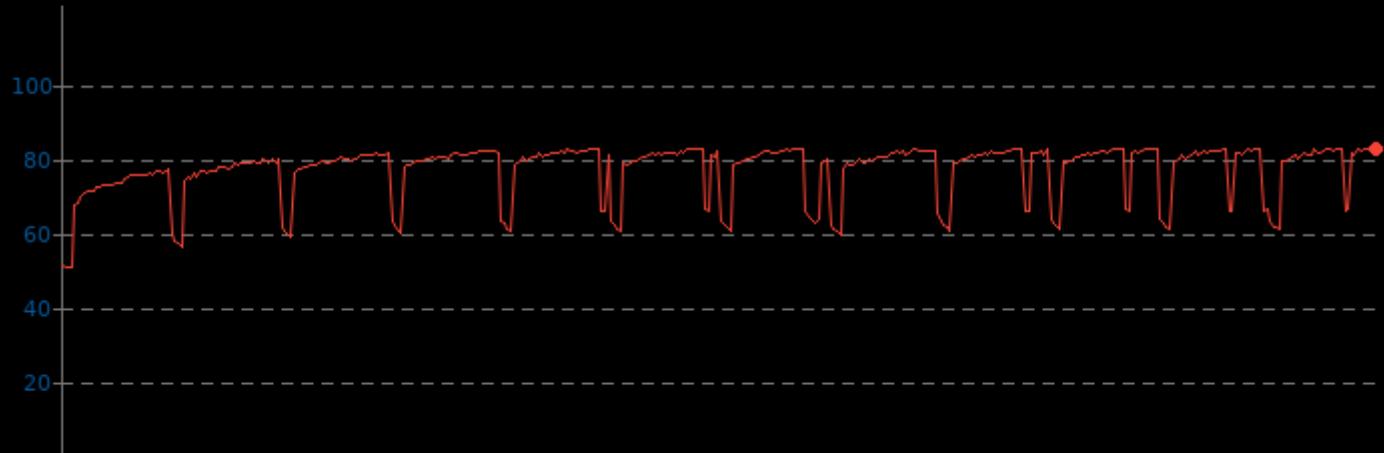


Cpuminer-Opt 3.18

CPU Temperature Monitor

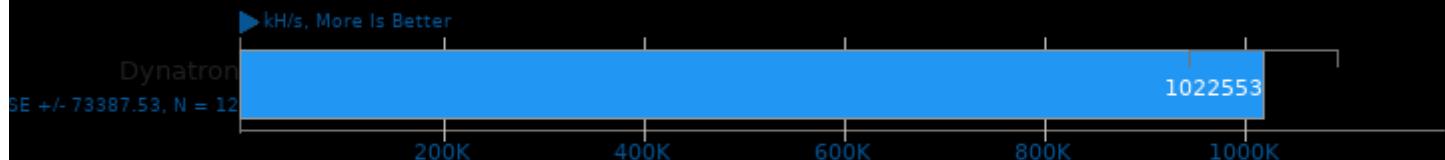
	Min	Avg	Max
Dynatron	51.0	77.0	82.8

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Blake-2 S



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	87.2	154.6

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	48.0	52.7	59.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: x25x



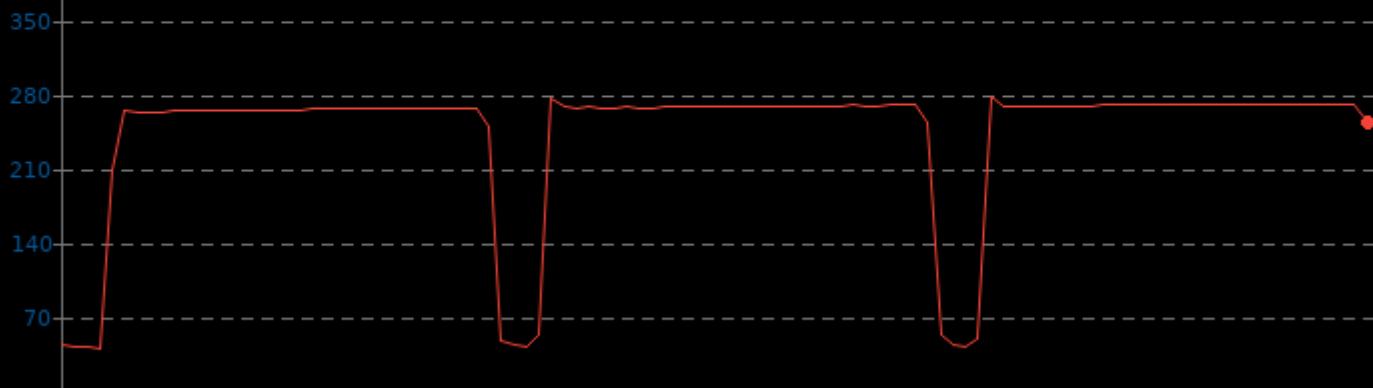
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	241.5	278.1

▼ Watts, Fewer Is Better

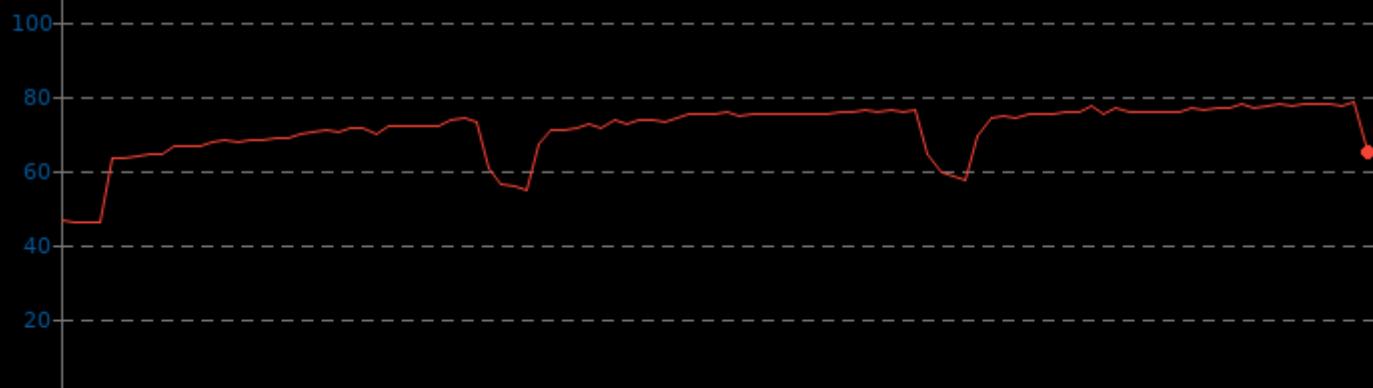


Cpuminer-Opt 3.18

CPU Temperature Monitor

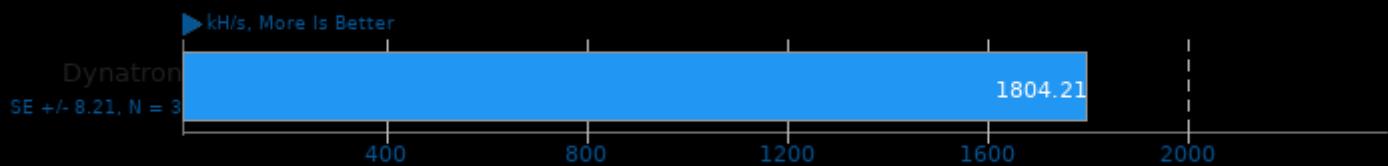
	Min	Avg	Max
Dynatron	46.3	70.8	78.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Garlicoin



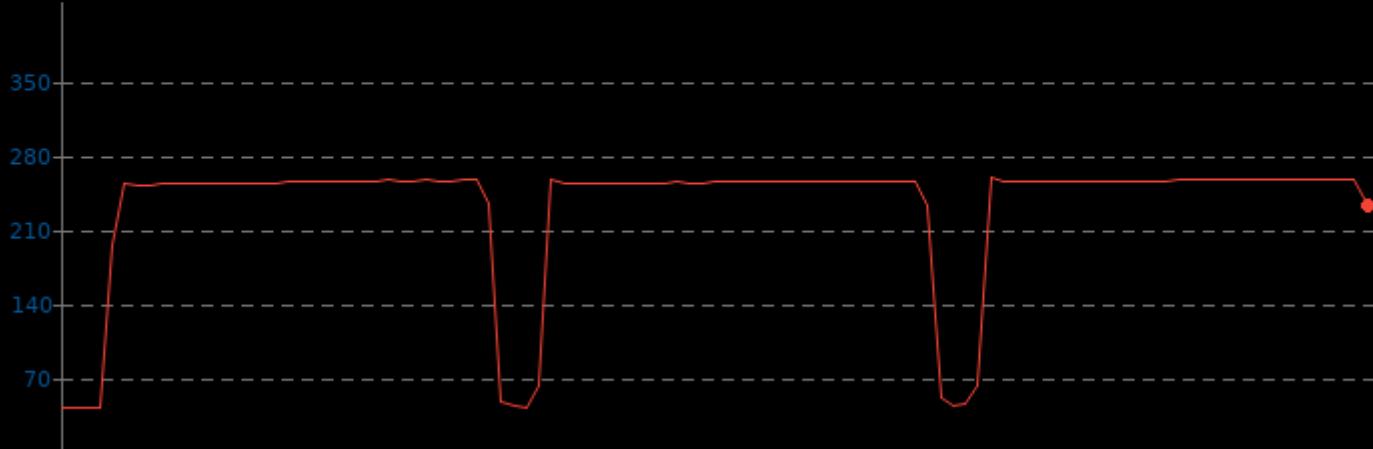
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	230.2	258.4

▼ Watts, Fewer Is Better

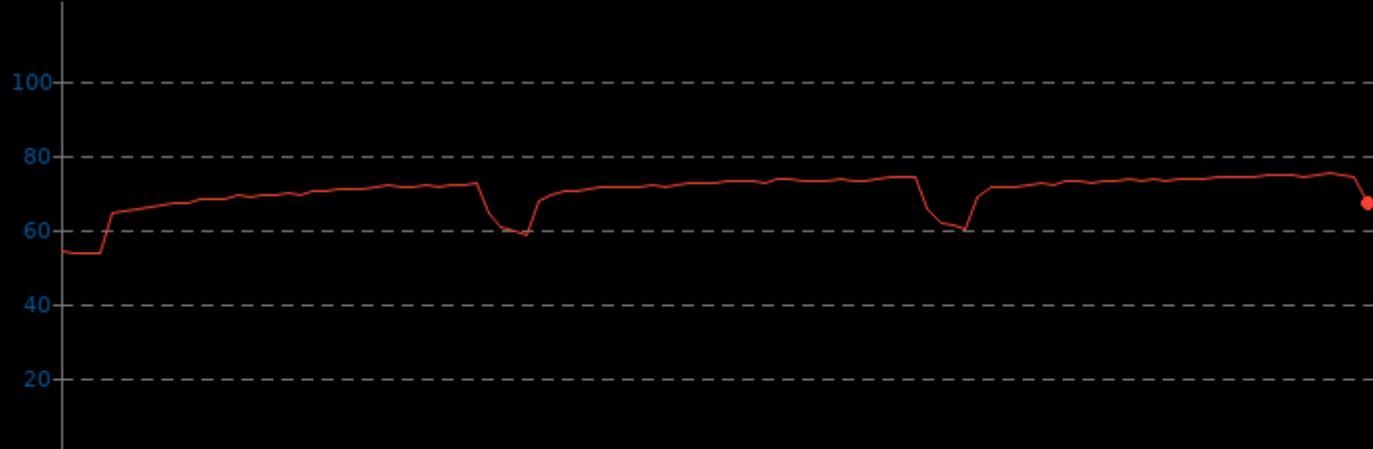


Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.5	70.0	75.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Ringcoin

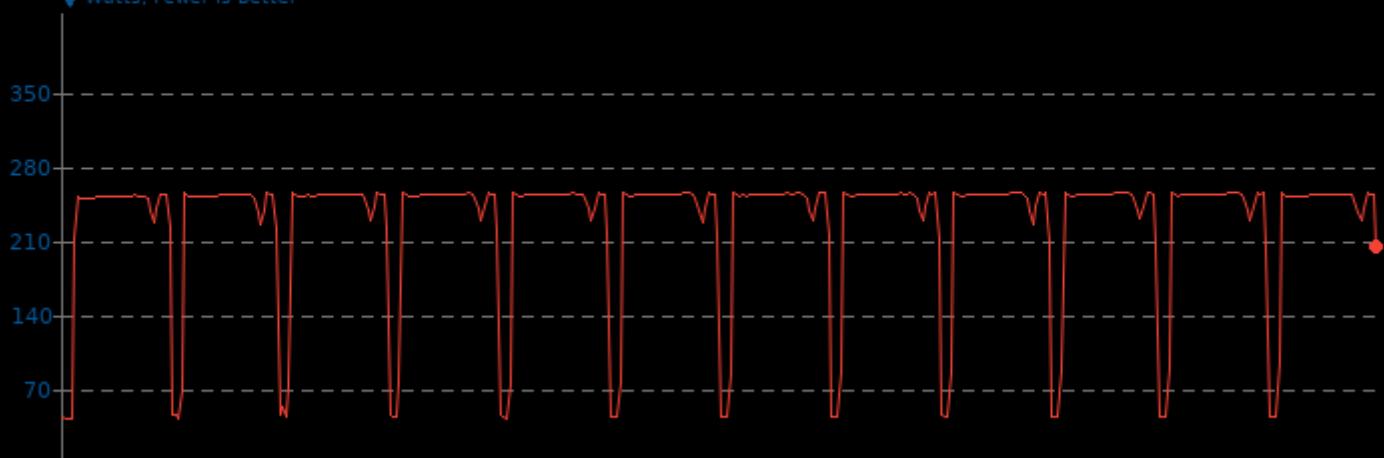


Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.3	227.4	255.8

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	55.5	72.4	76.3

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Deepcoin

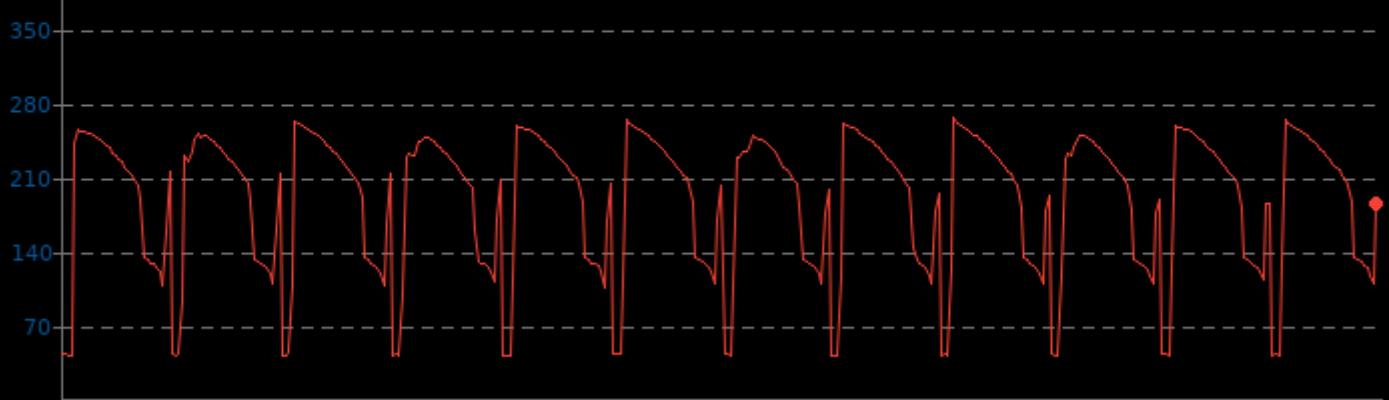


Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.4	189.3	265.6

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

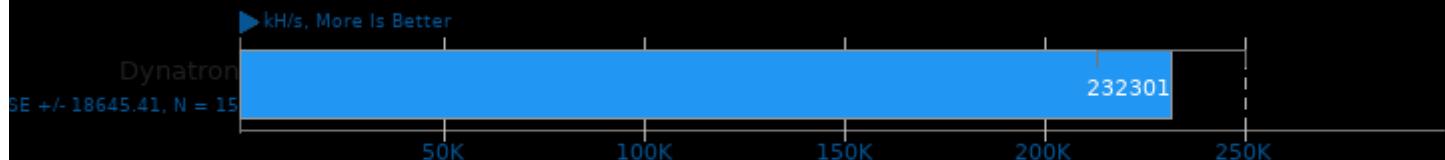
	Min	Avg	Max
Dynatron	55.0	67.1	75.0

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: Skeincoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.4	91.4	213.2

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	47.3	52.0	68.3

▼ Celsius, Fewer Is Better



Cpuminer-Opt 3.18

Algorithm: LBC, LBRY Credits



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.18

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	99.3	246.1

▼ Watts, Fewer Is Better



Cpuminer-Opt 3.18

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.3	51.5	65.0

▼ Celsius, Fewer Is Better



FLAC Audio Encoding 1.3.3

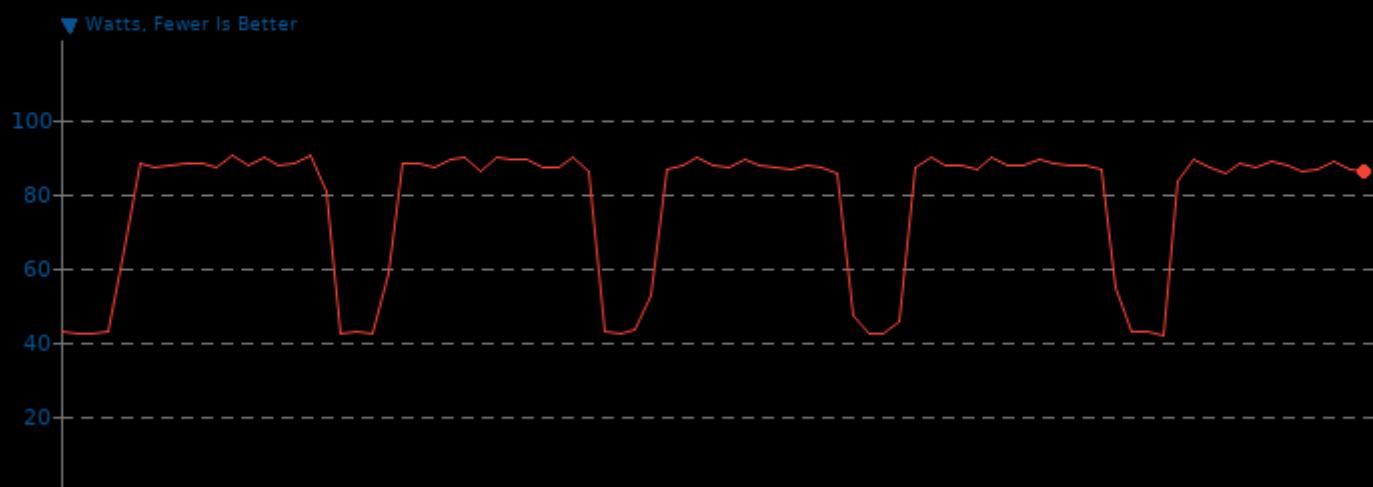
WAV To FLAC



FLAC Audio Encoding 1.3.3

CPU Power Consumption Monitor

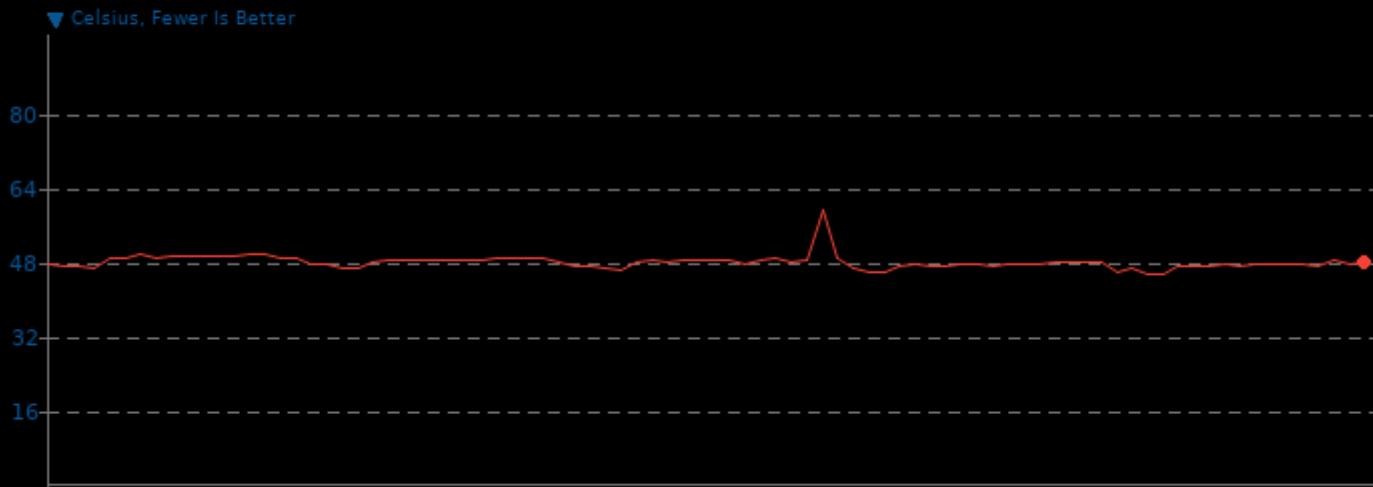
	Min	Avg	Max
Dynatron	42.0	77.1	90.0



FLAC Audio Encoding 1.3.3

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.3	48.0	59.0



Stress-NG 0.13.02

Test: CPU Stress

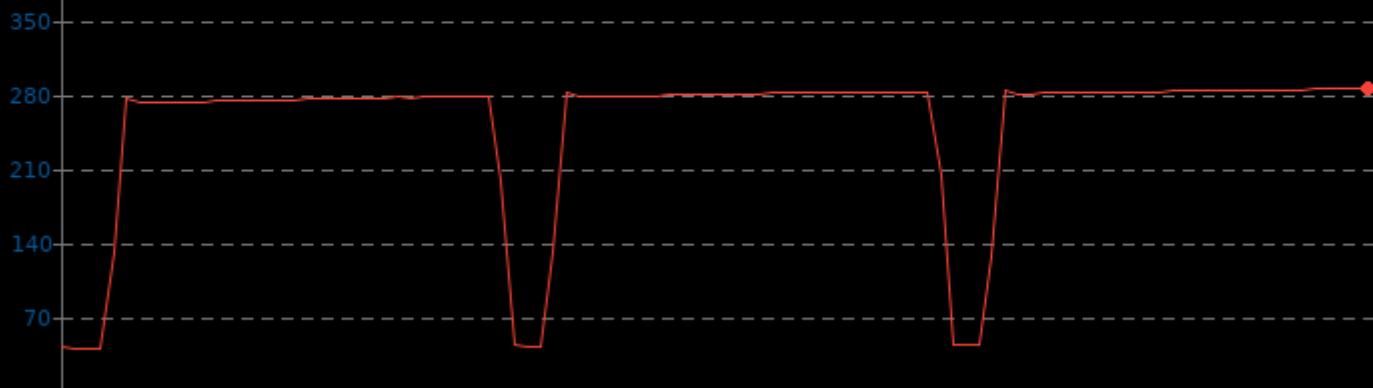


Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	41.9	250.1	285.0

▼ Watts, Fewer Is Better

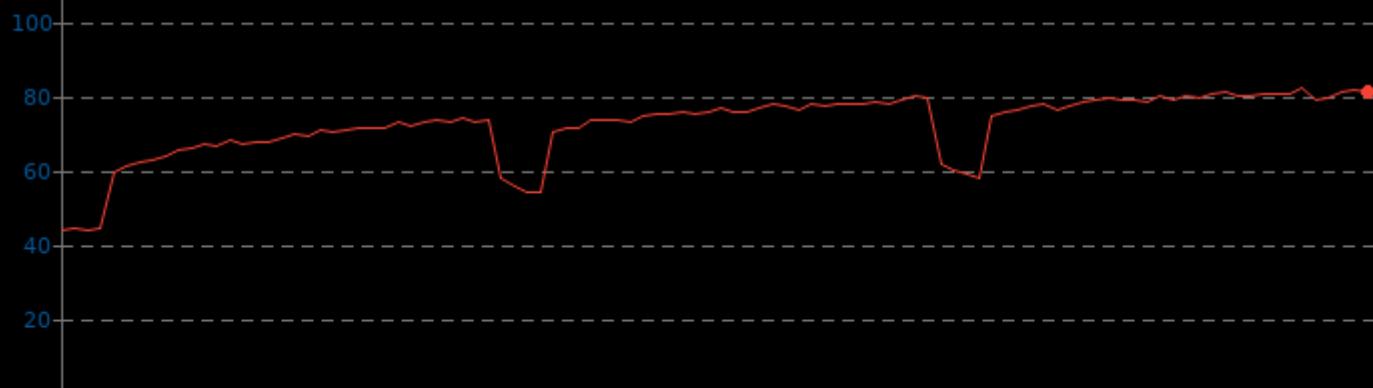


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	44.0	72.0	81.8

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Crypto



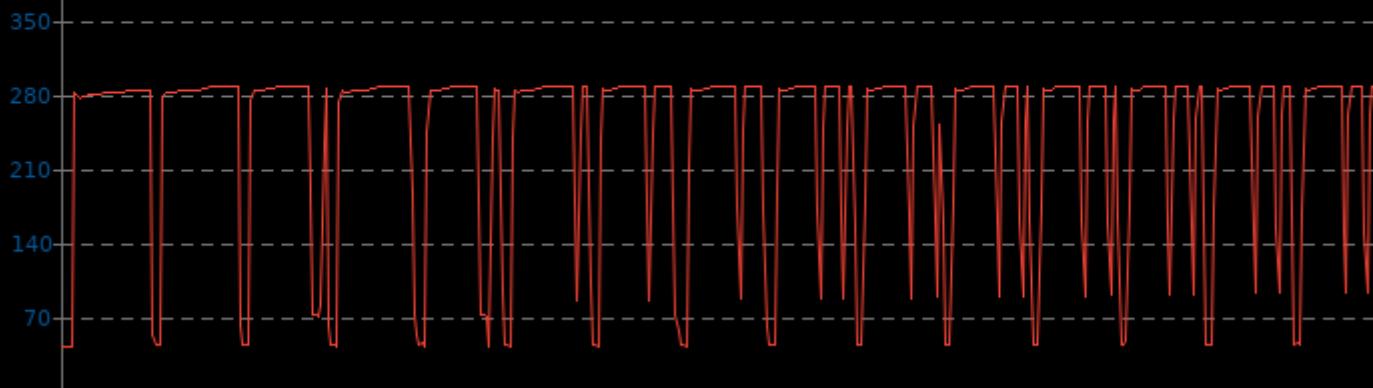
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.2	239.2	287.2

▼ Watts, Fewer Is Better

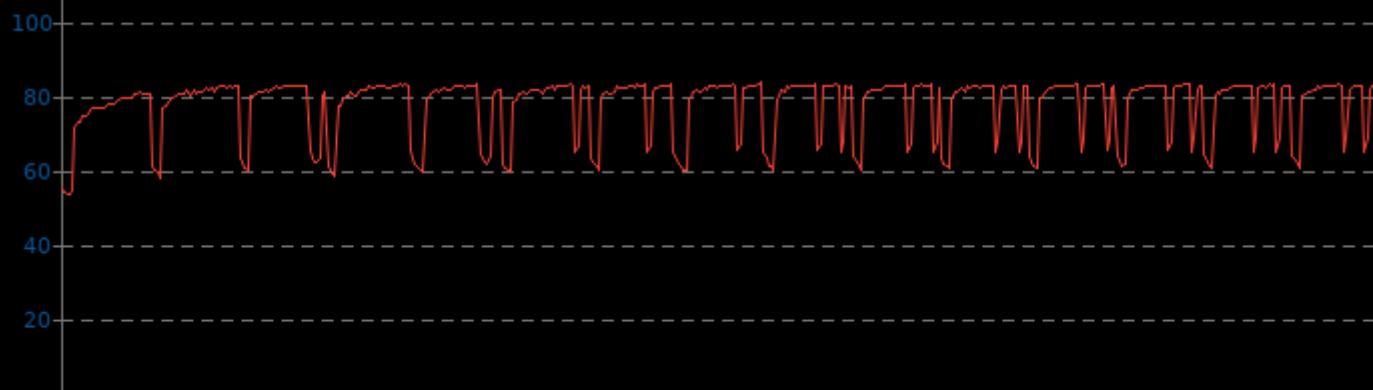


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.5	77.4	83.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Memory Copying



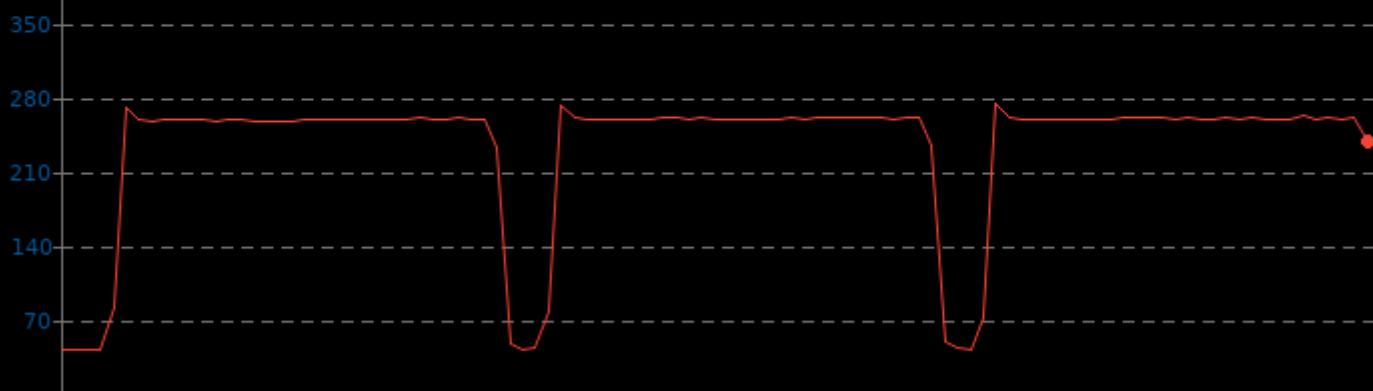
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.0	232.8	273.4

▼ Watts, Fewer Is Better

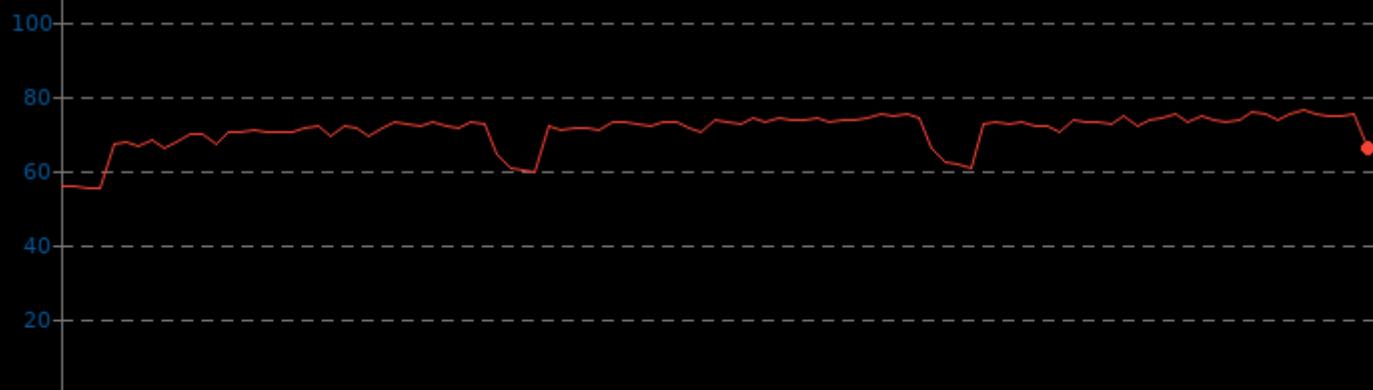


Stress-NG 0.13.02

CPU Temperature Monitor

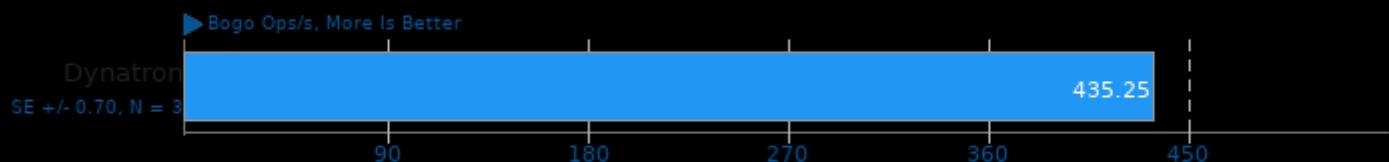
	Min	Avg	Max
Dynatron	55.3	70.6	76.0

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Glibc Qsort Data Sorting

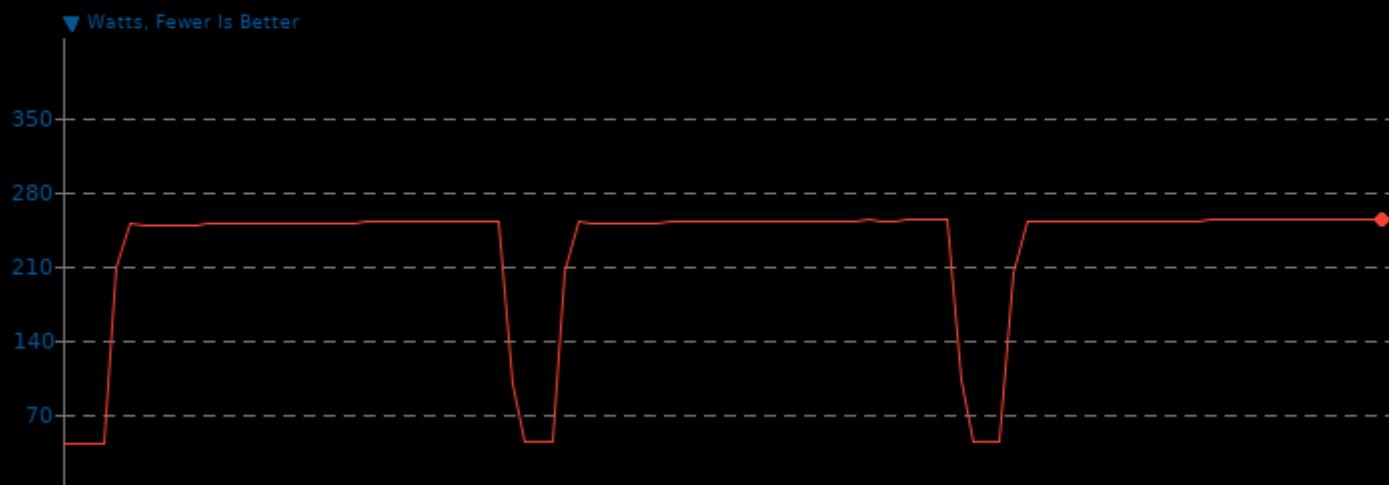


Stress-NG 0.13.02

CPU Power Consumption Monitor

Min Avg Max

Dynatron 43.3 226.2 253.5

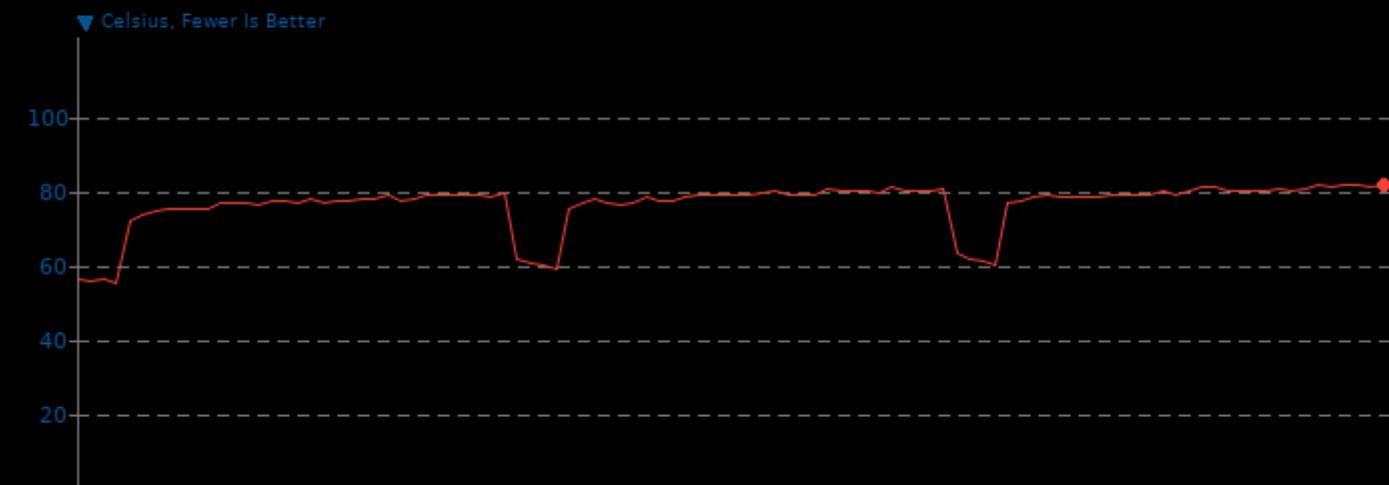


Stress-NG 0.13.02

CPU Temperature Monitor

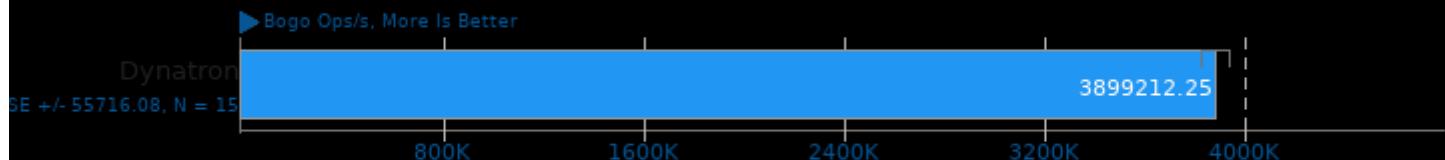
Min Avg Max

Dynatron 55.0 76.0 81.5



Stress-NG 0.13.02

Test: Glibc C String Functions



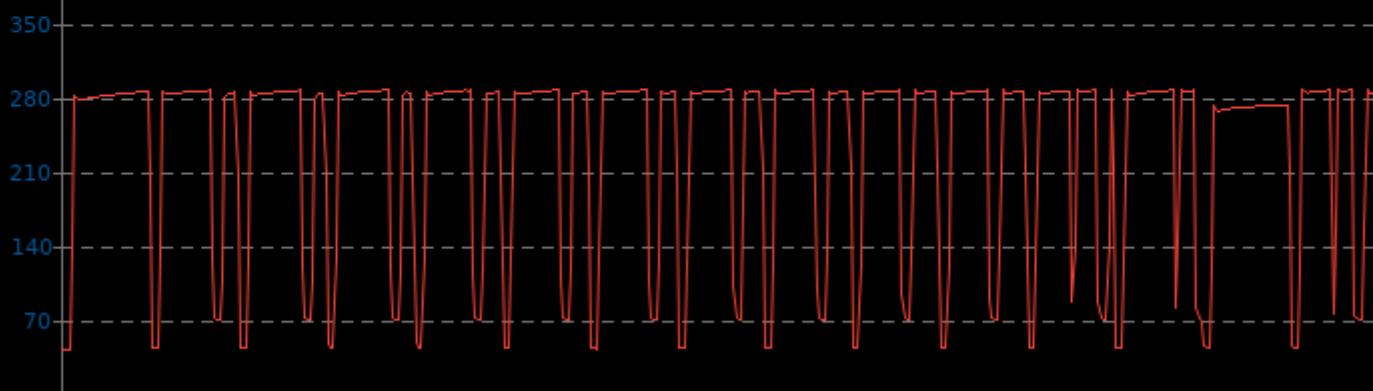
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.1	229.4	287.2

▼ Watts, Fewer Is Better

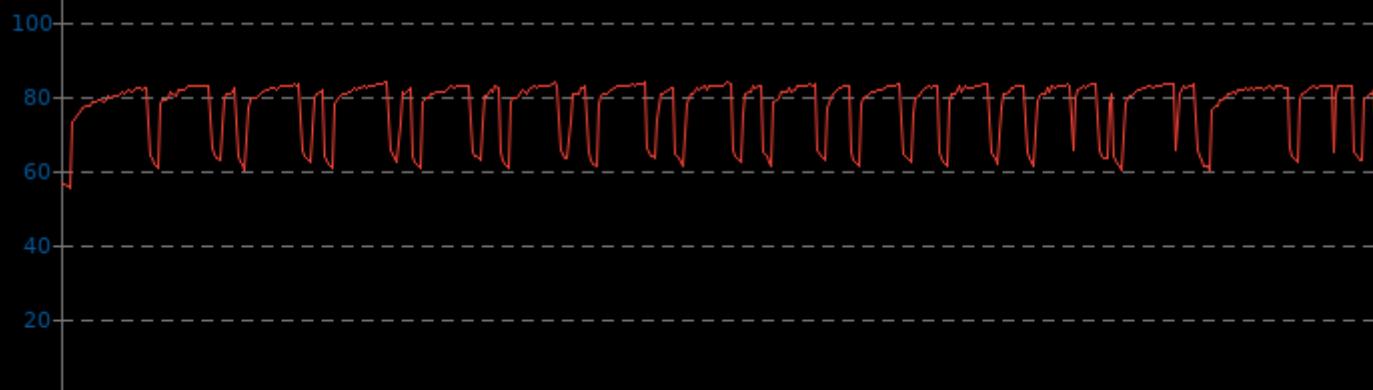


Stress-NG 0.13.02

CPU Temperature Monitor

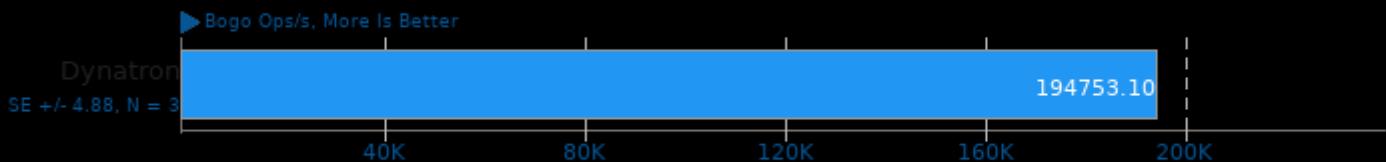
	Min	Avg	Max
Dynatron	55.0	77.0	83.8

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Vector Math



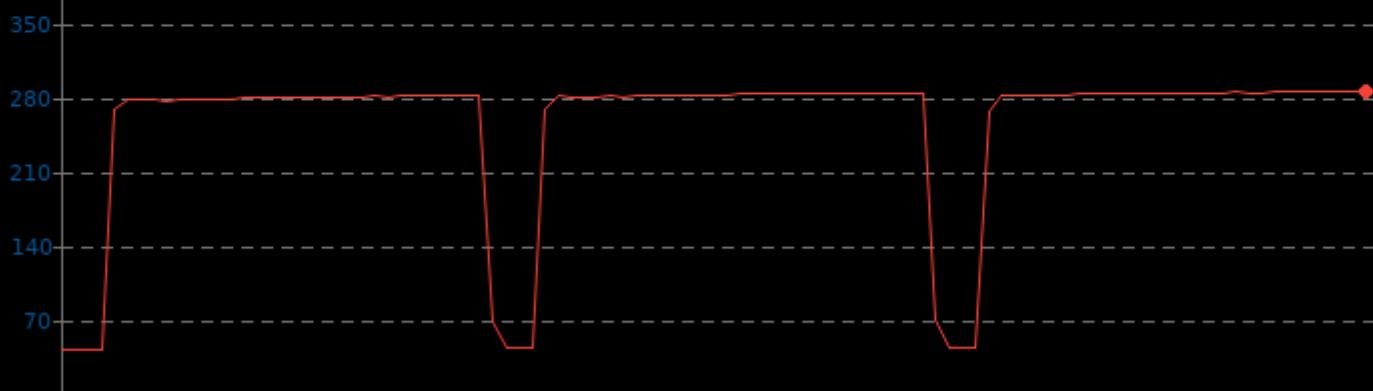
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	253.4	284.9

▼ Watts, Fewer Is Better

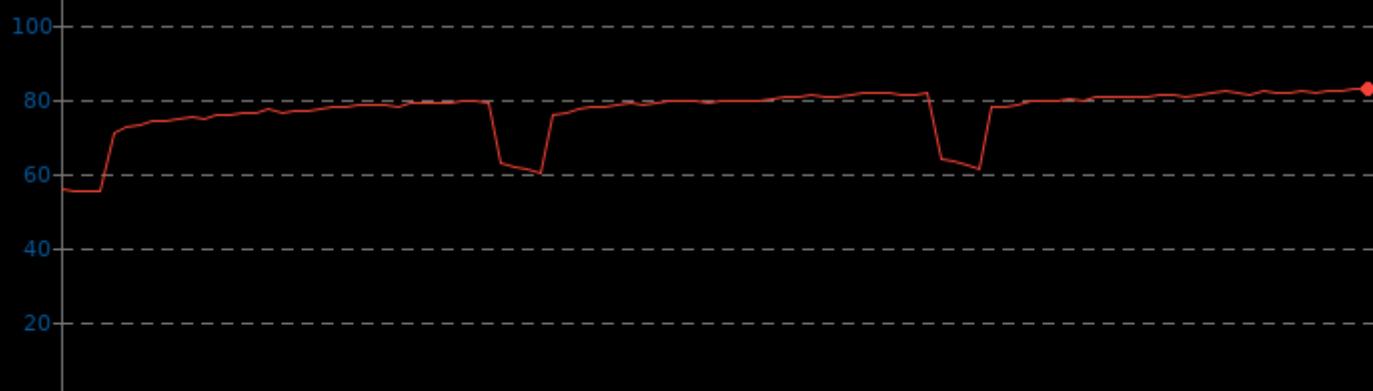


Stress-NG 0.13.02

CPU Temperature Monitor

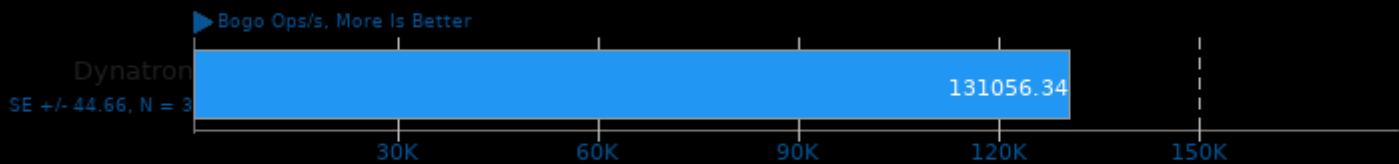
	Min	Avg	Max
Dynatron	55.0	76.6	82.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Matrix Math

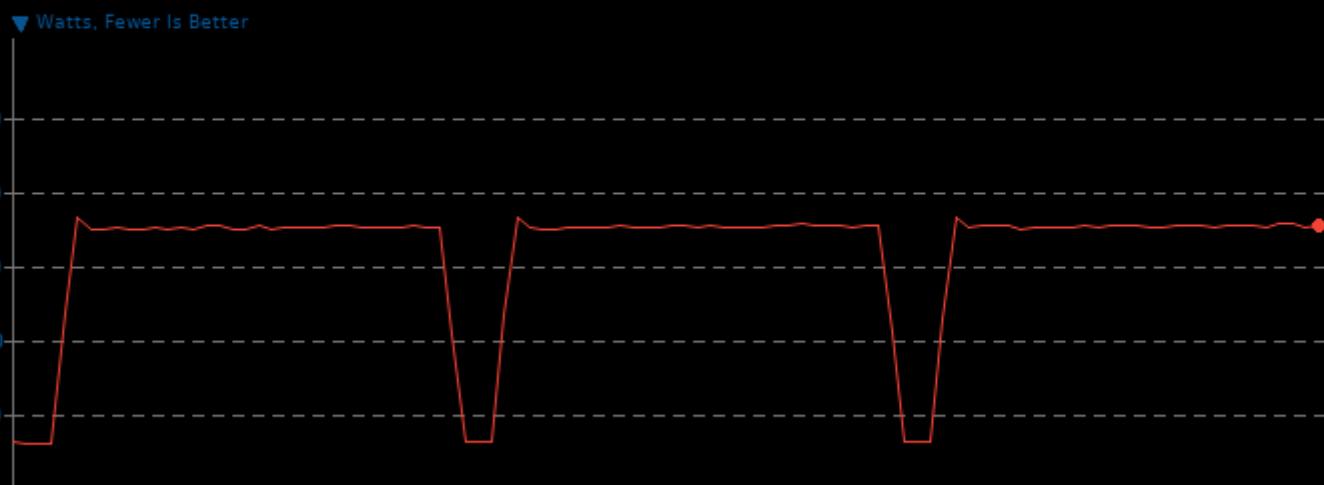


1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

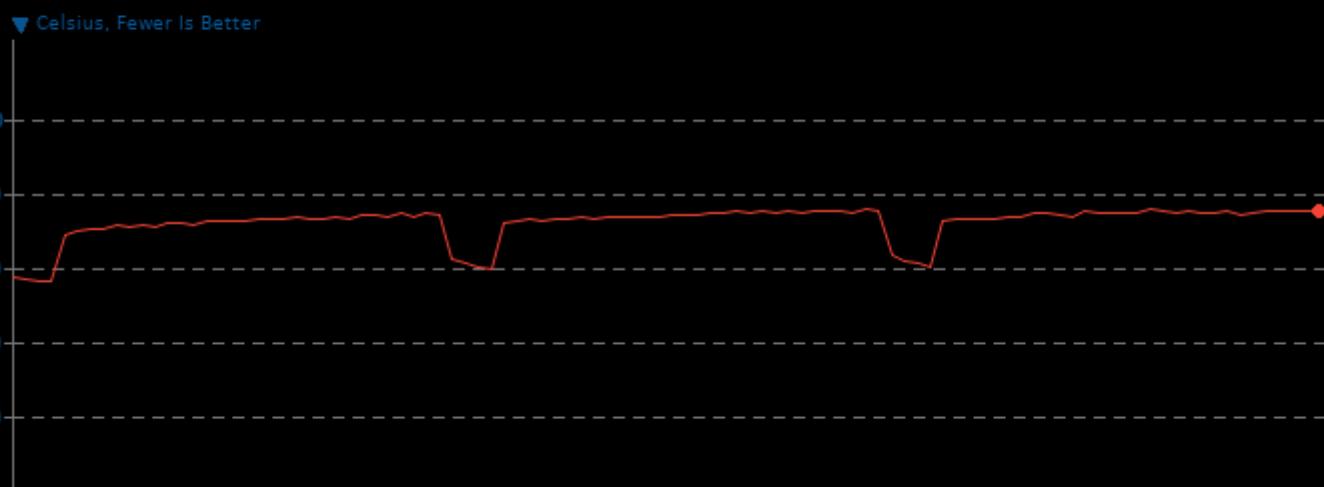
	Min	Avg	Max
Dynatron	43.3	222.3	255.6



Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	56.3	71.8	75.5



Stress-NG 0.13.02

Test: Forking



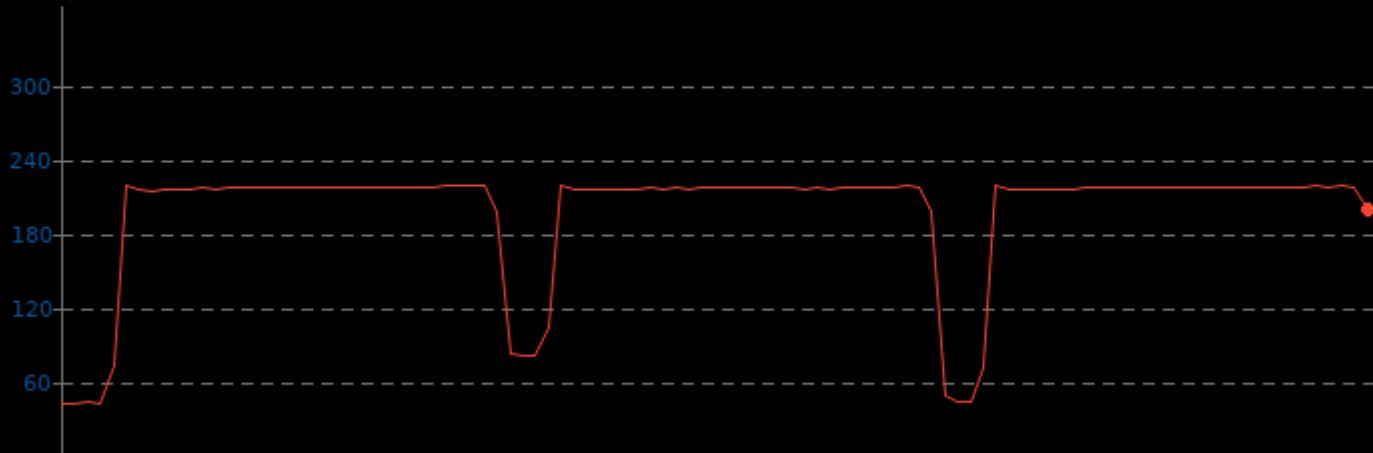
1. (CC) gcc options: -O2 -std=gnu99 -lm -lai0 -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	196.7	219.0

▼ Watts, Fewer Is Better

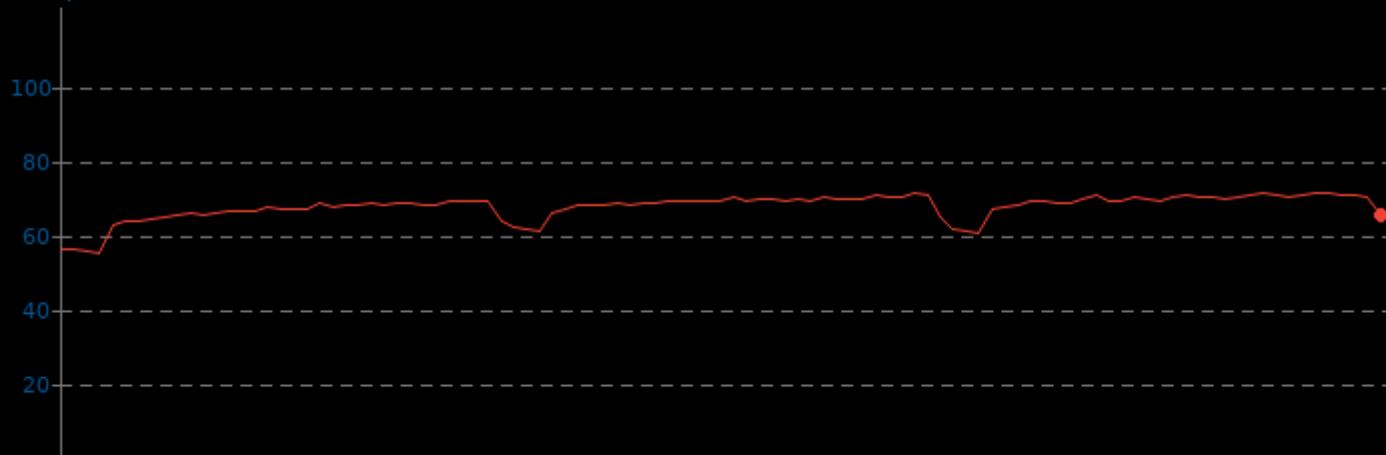


Stress-NG 0.13.02

CPU Temperature Monitor

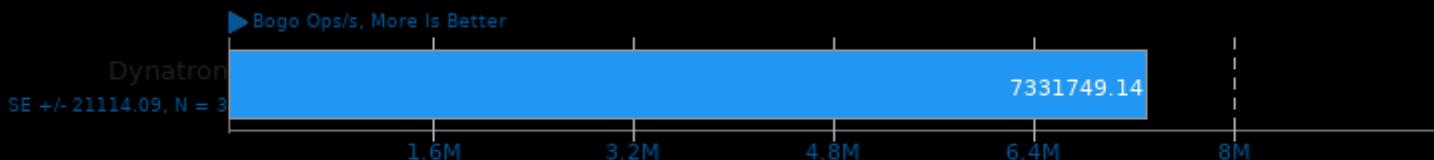
	Min	Avg	Max
Dynatron	55.3	67.6	71.3

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: System V Message Passing

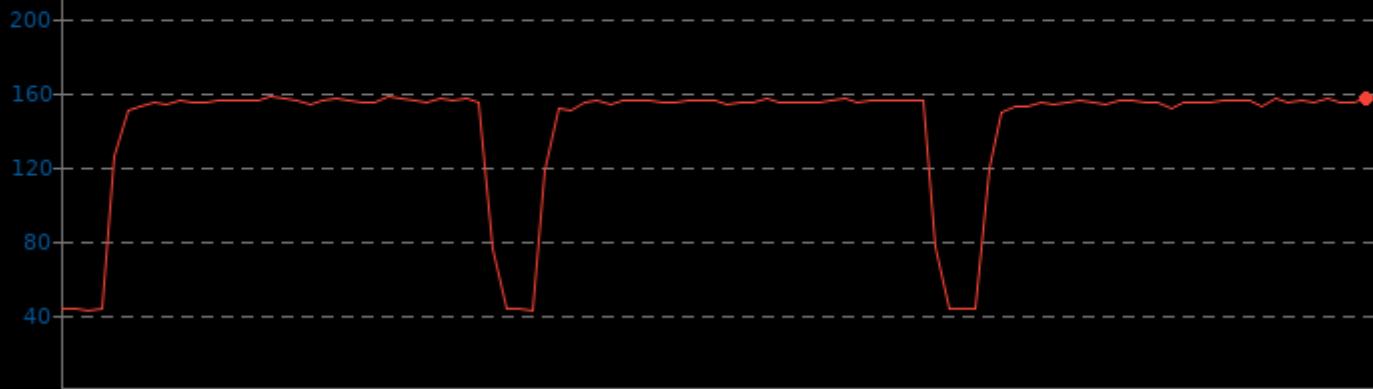


Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	141.1	157.8

▼ Watts, Fewer Is Better

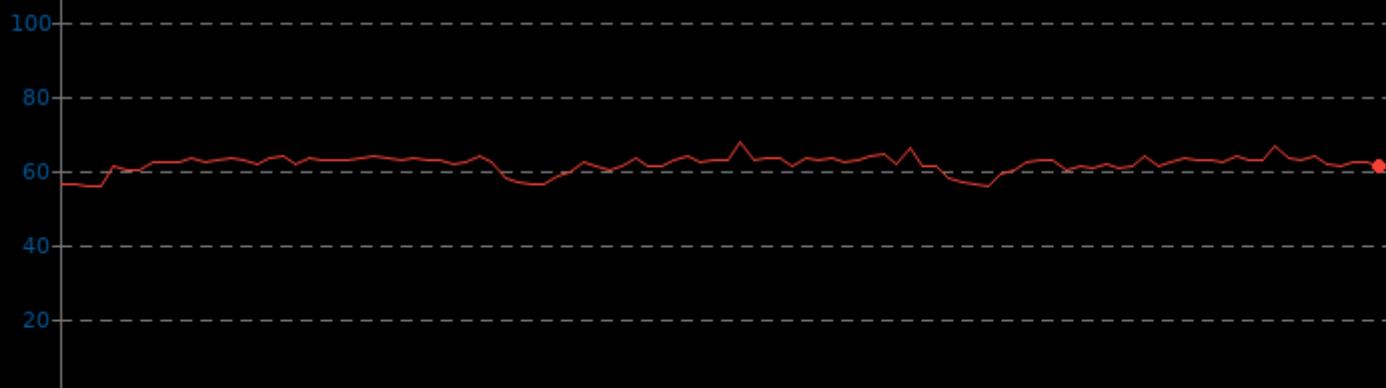


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	55.5	61.6	67.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Semaphores



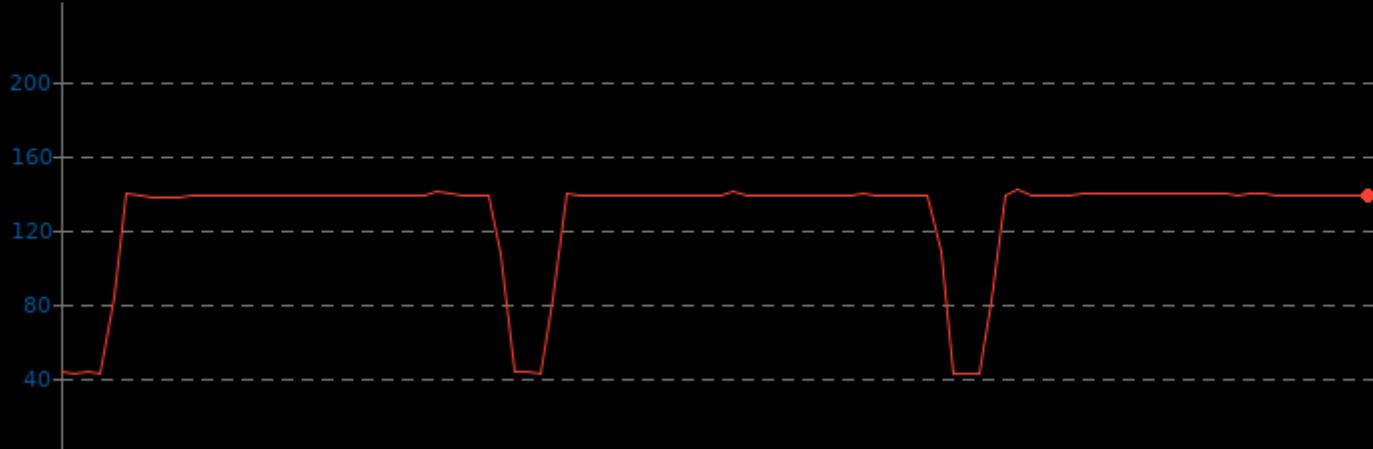
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.0	127.0	141.5

▼ Watts, Fewer Is Better

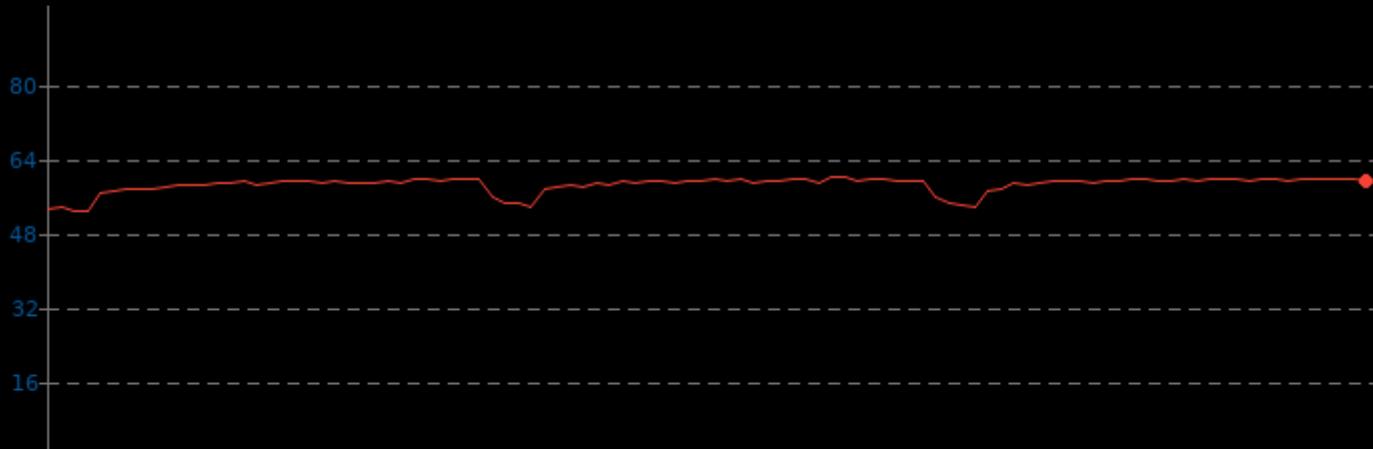


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	52.5	58.3	60.0

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Socket Activity



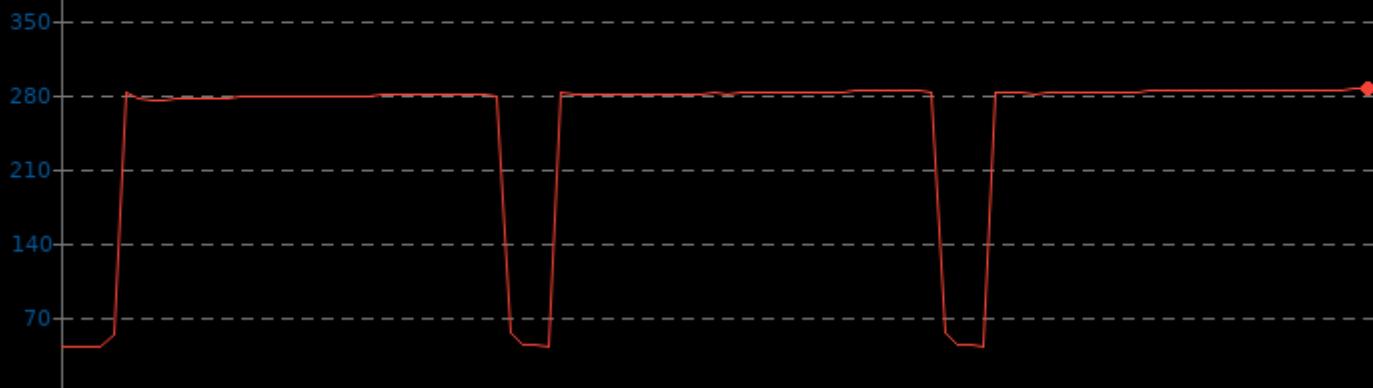
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.8	250.8	284.2

▼ Watts, Fewer Is Better

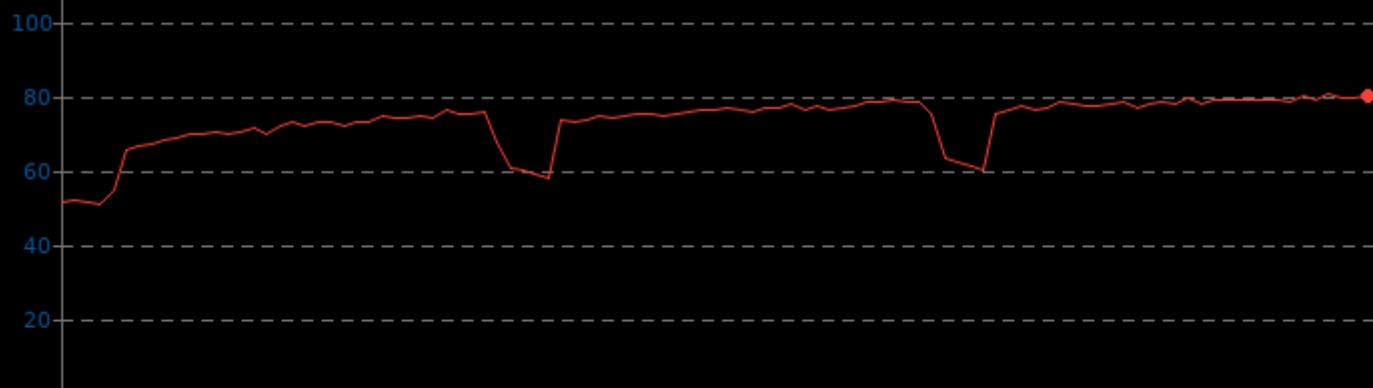


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	51.0	72.9	80.3

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Context Switching



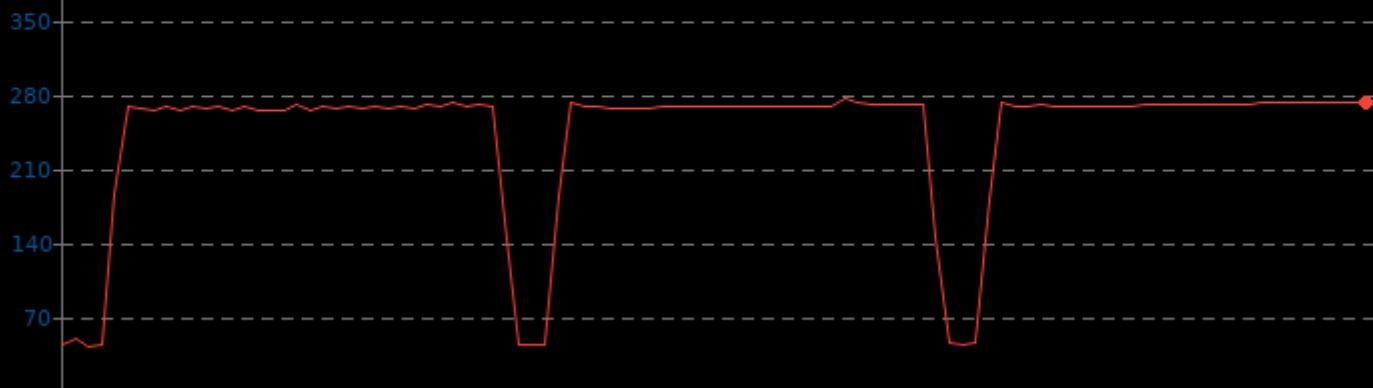
1. (CC) gcc options: -O2 -std=gnu99 -lm -lai0 -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.4	241.4	275.4

▼ Watts, Fewer Is Better



Stress-NG 0.13.02

CPU Temperature Monitor

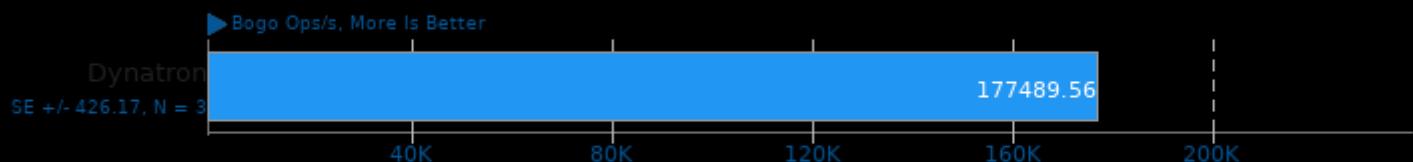
	Min	Avg	Max
Dynatron	55.5	77.4	82.8

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Atomic



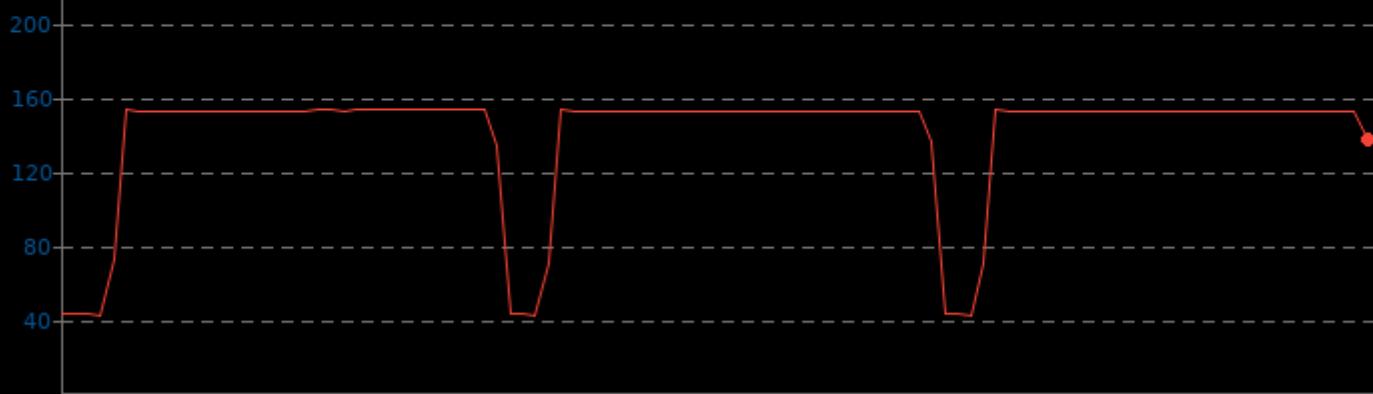
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	138.9	153.2

▼ Watts, Fewer Is Better

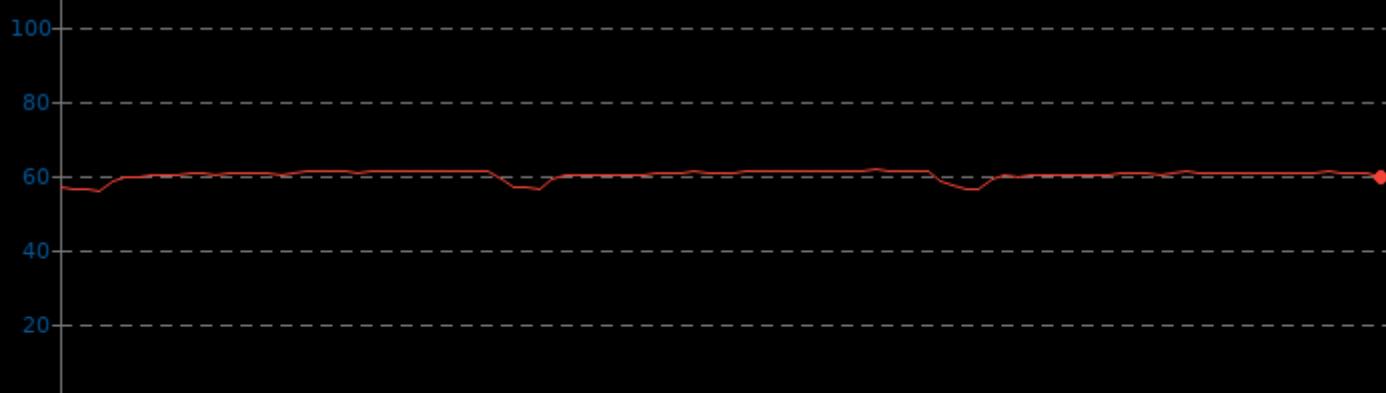


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	55.8	60.1	61.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: CPU Cache

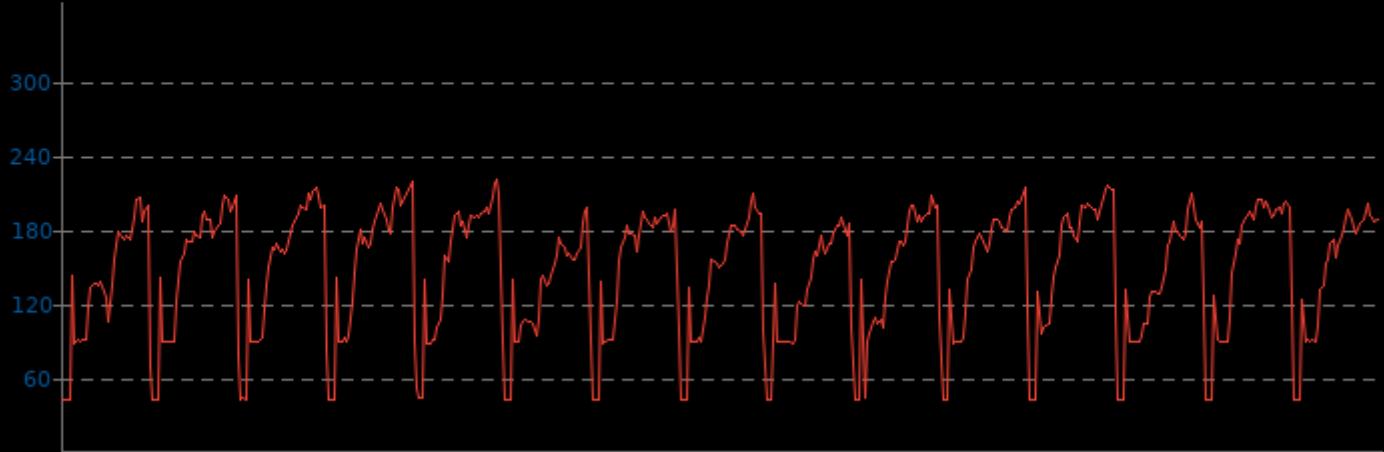


Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.7	146.2	219.5

▼ Watts, Fewer Is Better

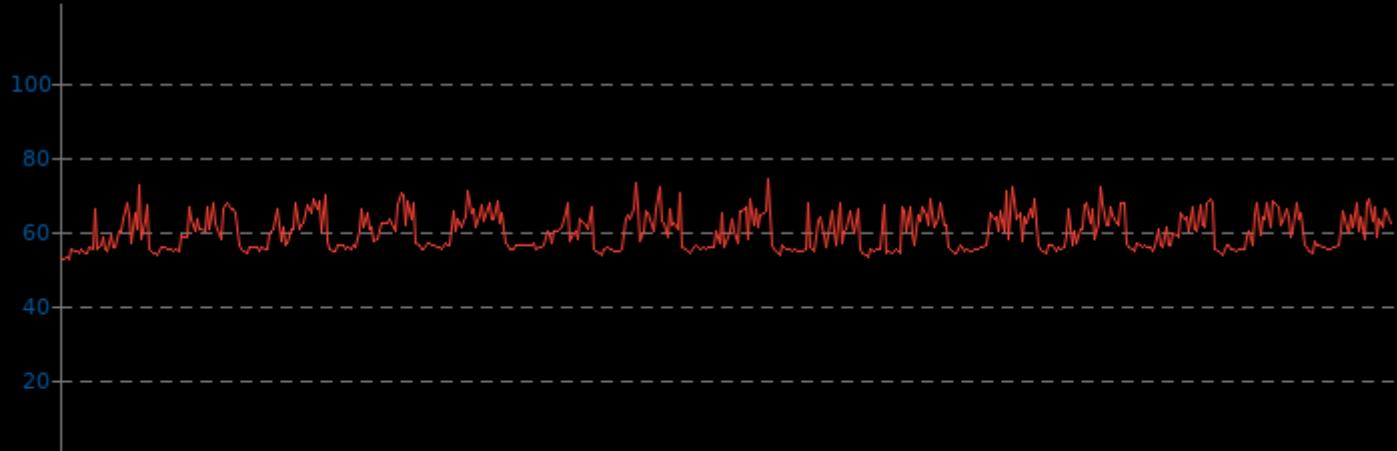


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	52.8	59.8	73.8

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: Malloc



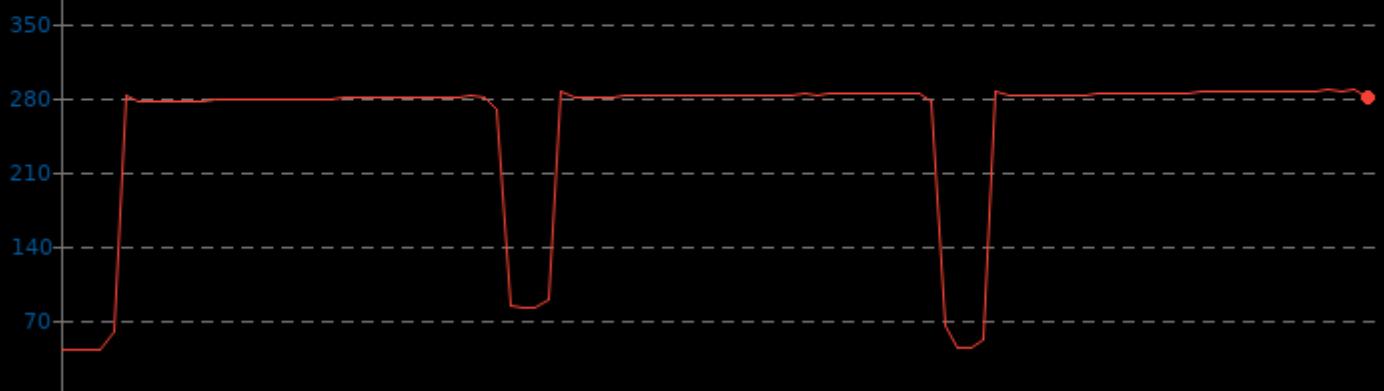
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.0	253.1	286.2

▼ Watts, Fewer Is Better

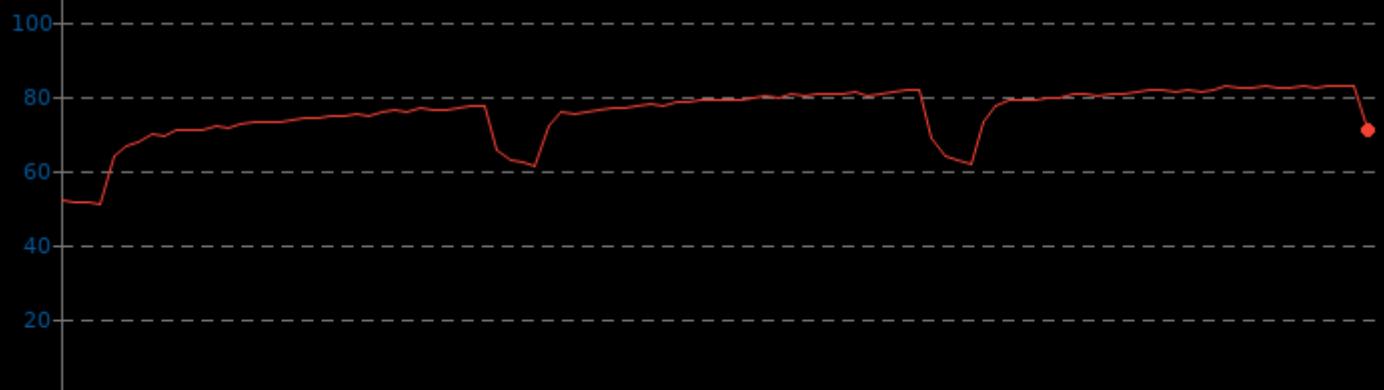


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	51.0	75.2	82.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: MEMFD



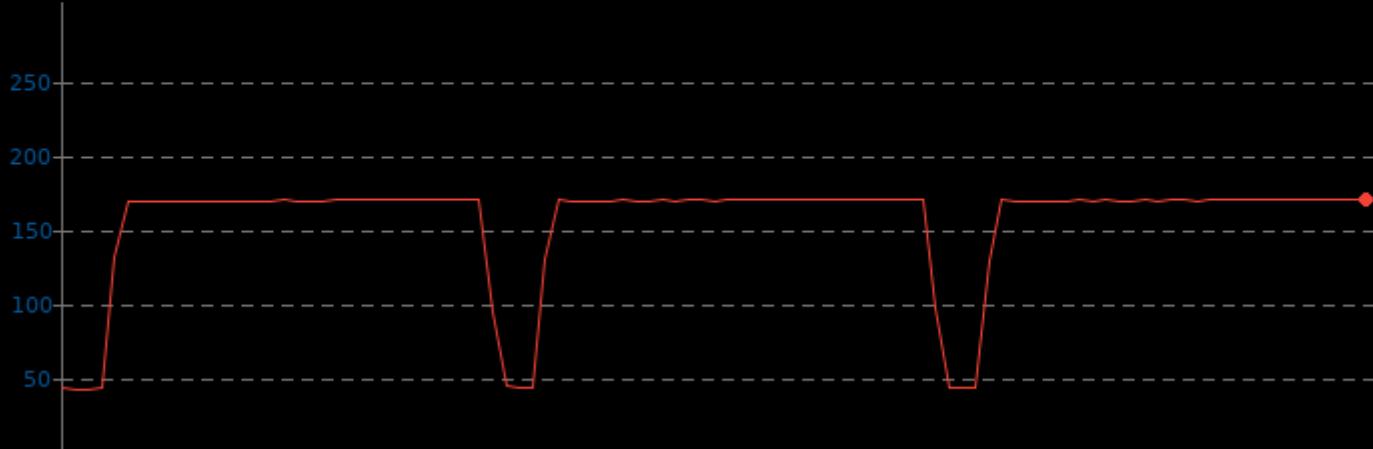
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.3	154.4	170.1

▼ Watts, Fewer Is Better

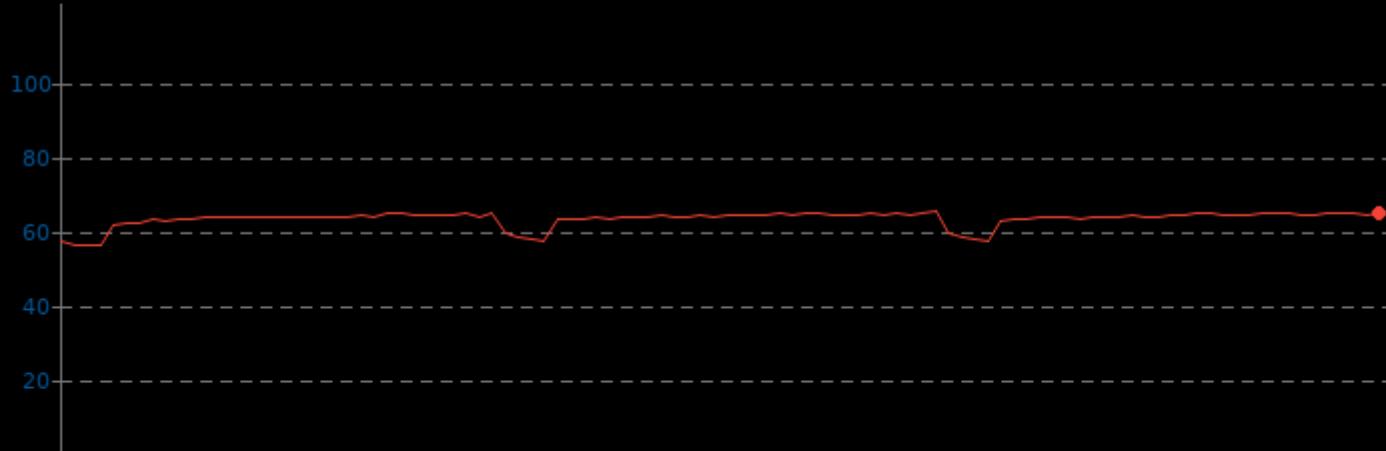


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	56.0	63.3	65.3

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: MMAP



Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	215.4	249.1

▼ Watts, Fewer Is Better

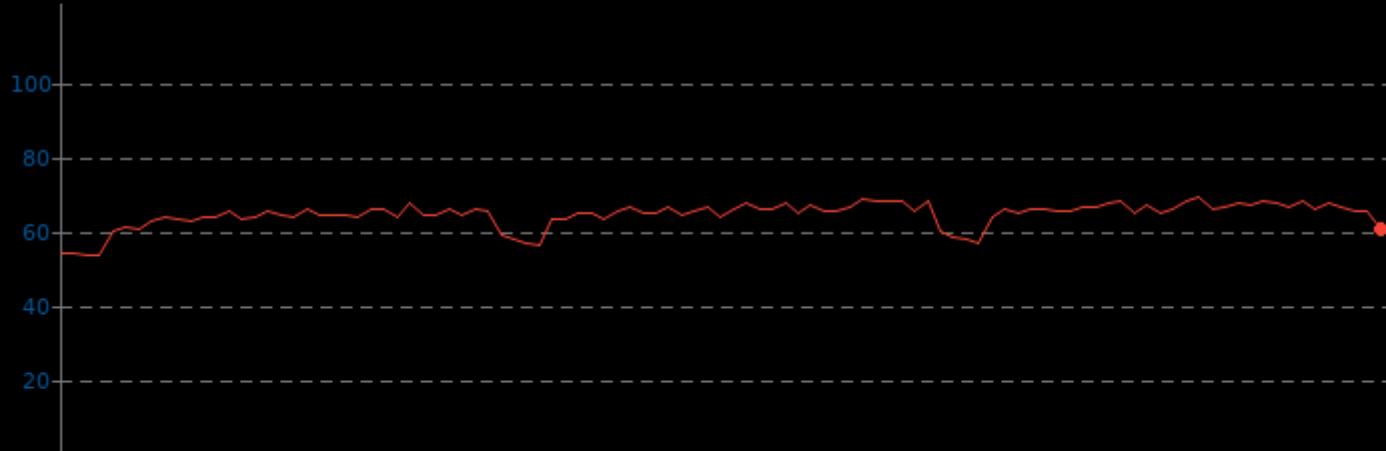


Stress-NG 0.13.02

CPU Temperature Monitor

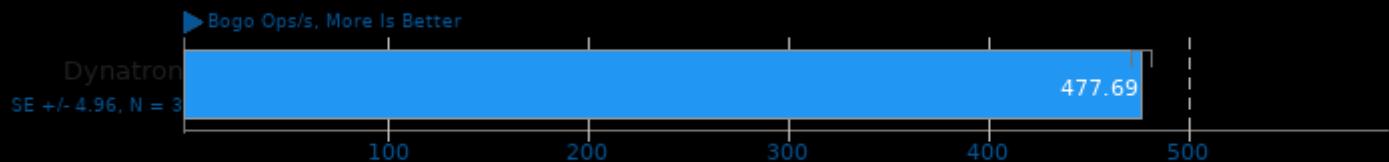
	Min	Avg	Max
Dynatron	53.5	64.4	69.0

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: NUMA



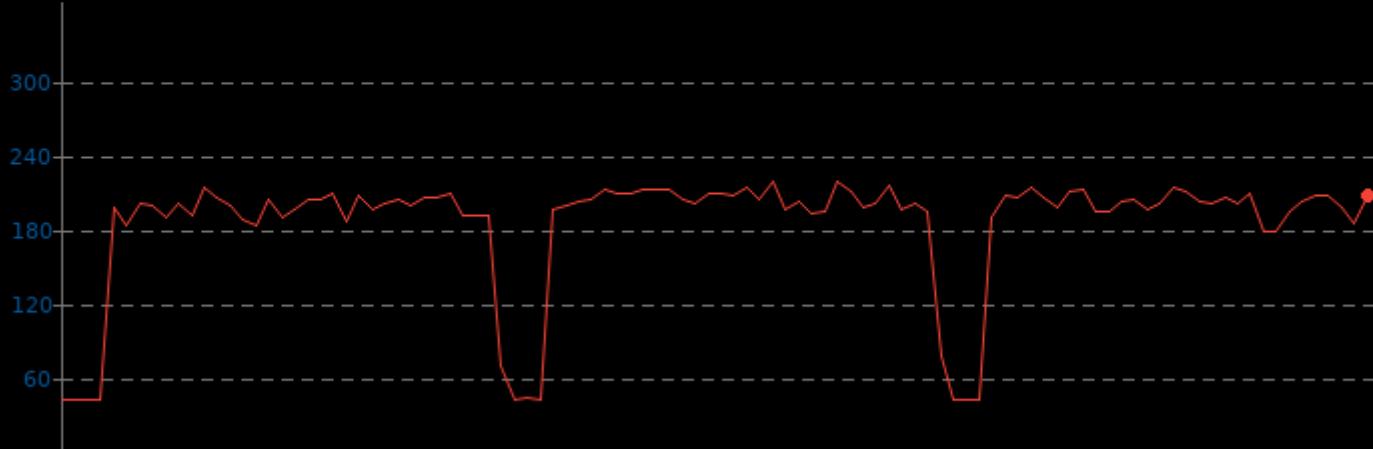
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.0	183.6	219.0

▼ Watts, Fewer Is Better

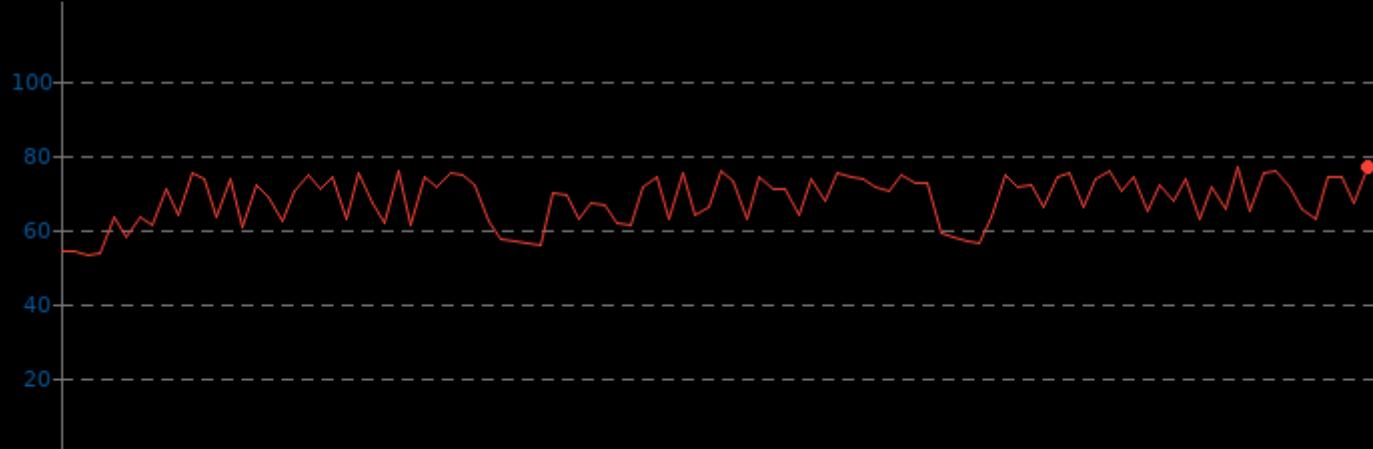


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.3	67.8	76.8

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: SENDFILE



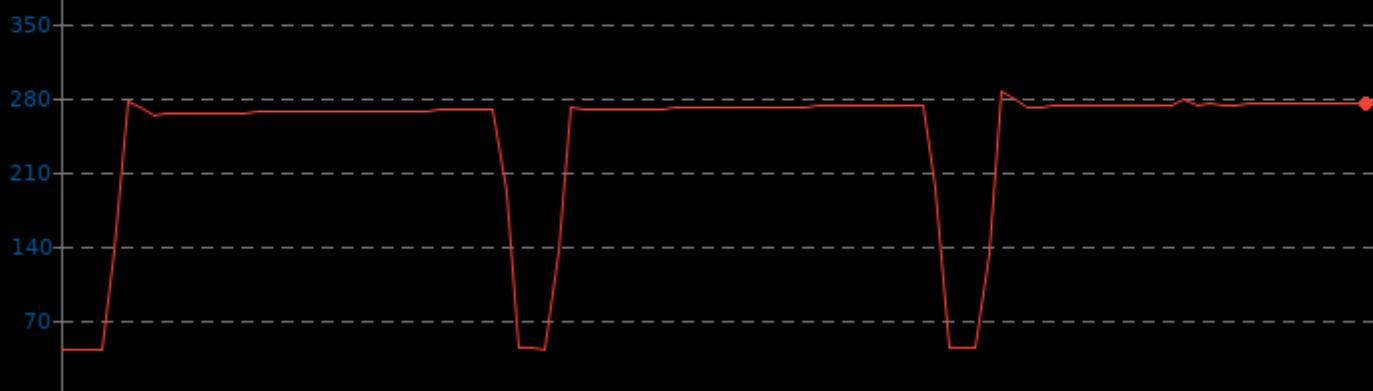
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.4	242.0	284.2

▼ Watts, Fewer Is Better

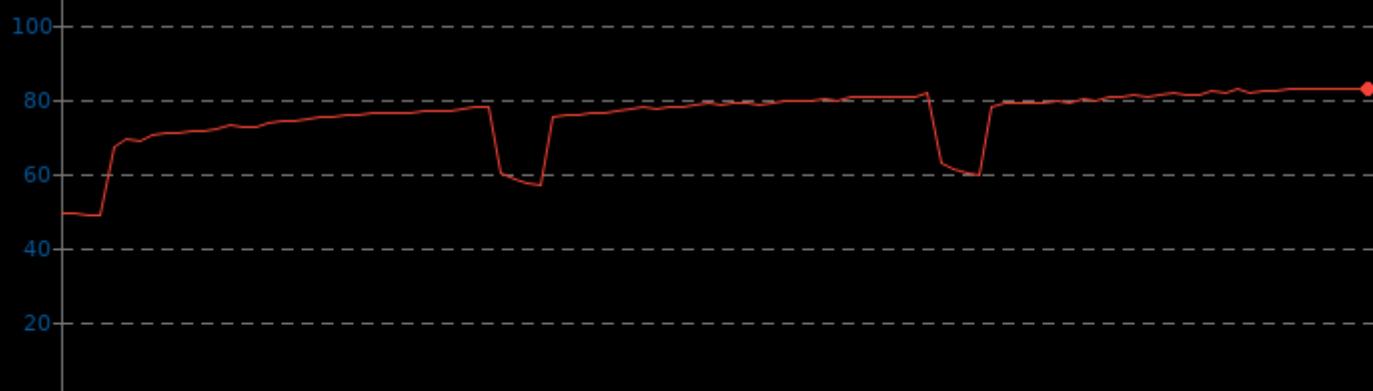


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	49.0	75.1	82.5

▼ Celsius, Fewer Is Better



Stress-NG 0.13.02

Test: IO_uring



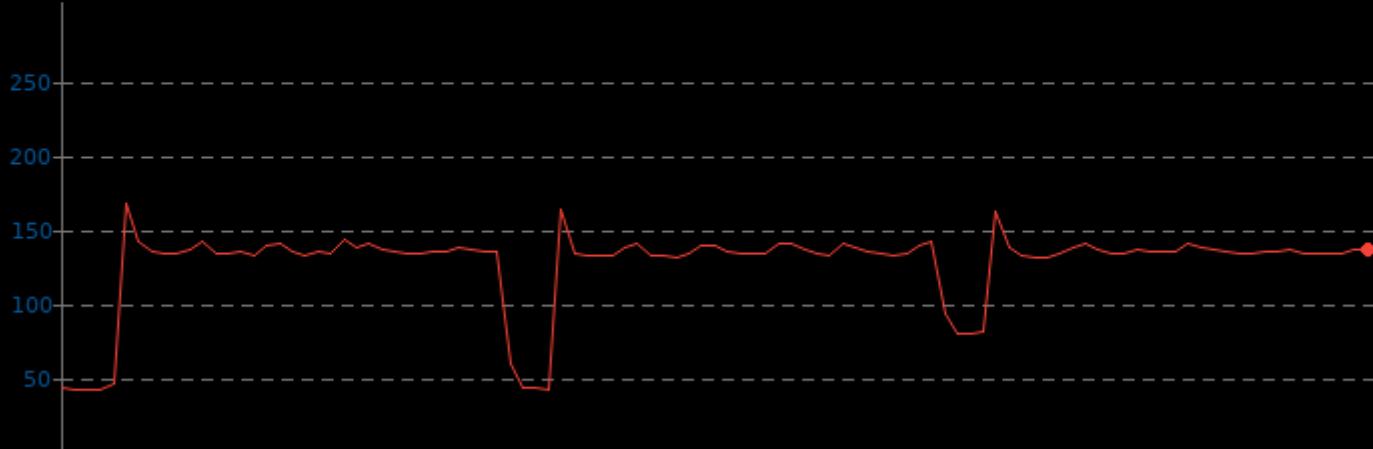
1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lsctp -lz -ldl -pthread -lc -latomic

Stress-NG 0.13.02

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	126.7	167.8

▼ Watts, Fewer Is Better

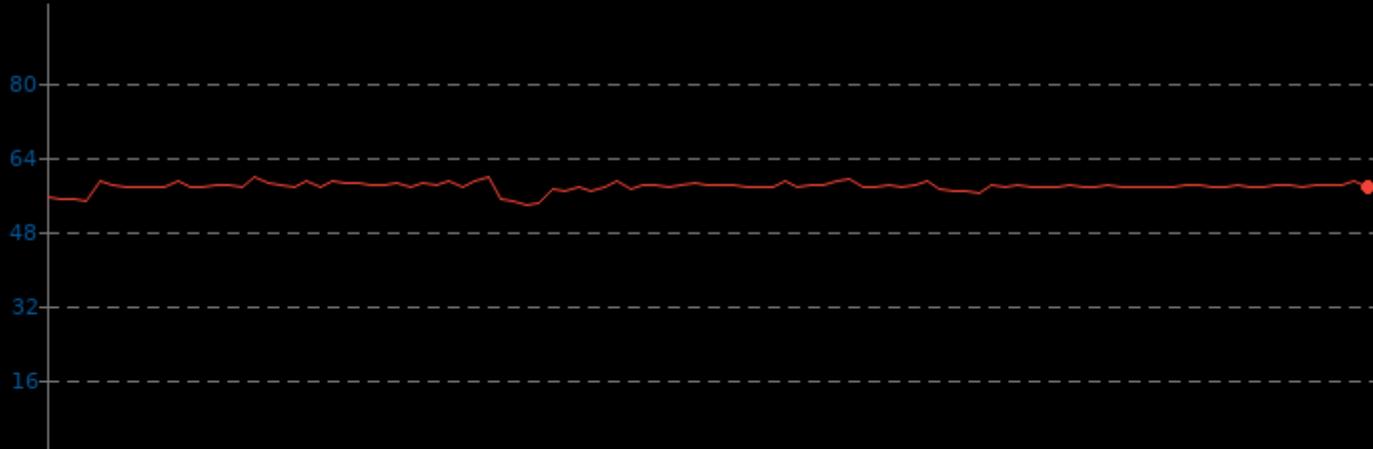


Stress-NG 0.13.02

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	53.8	57.5	59.8

▼ Celsius, Fewer Is Better



JPEG XL libjxl 0.5

Input: JPEG - Encode Speed: 5

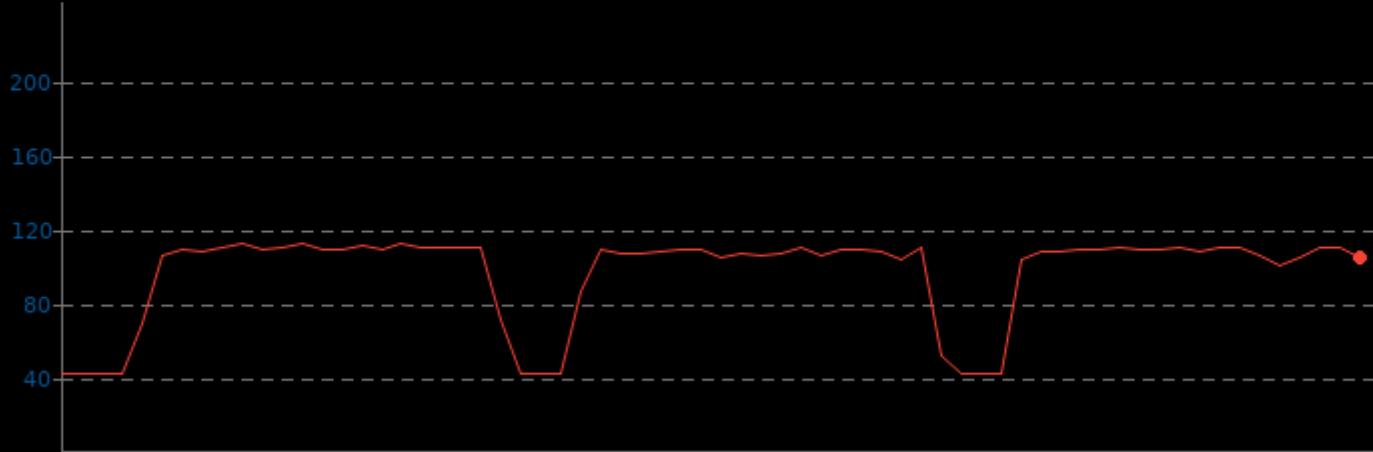


JPEG XL libjxl 0.5

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.5	96.3	112.3

▼ Watts, Fewer Is Better

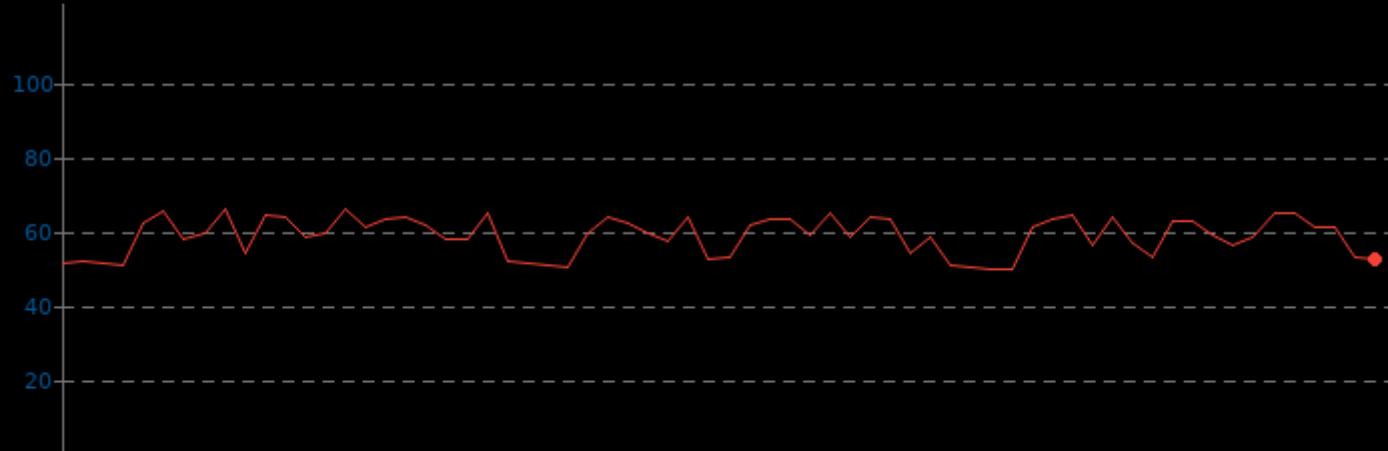


JPEG XL libjxl 0.5

CPU Temperature Monitor

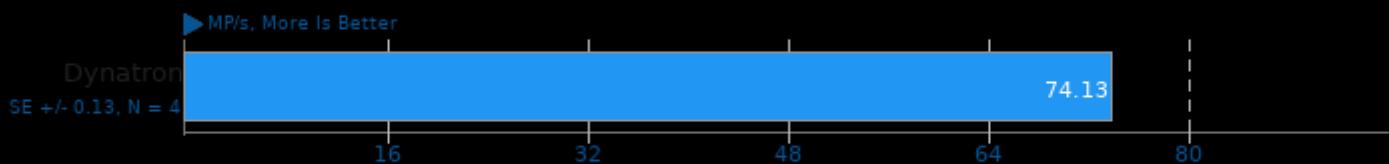
	Min	Avg	Max
Dynatron	49.8	58.7	66.0

▼ Celsius, Fewer Is Better



JPEG XL libjxl 0.5

Input: JPEG - Encode Speed: 7



JPEG XL libjxl 0.5

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.2 93.7 111.4

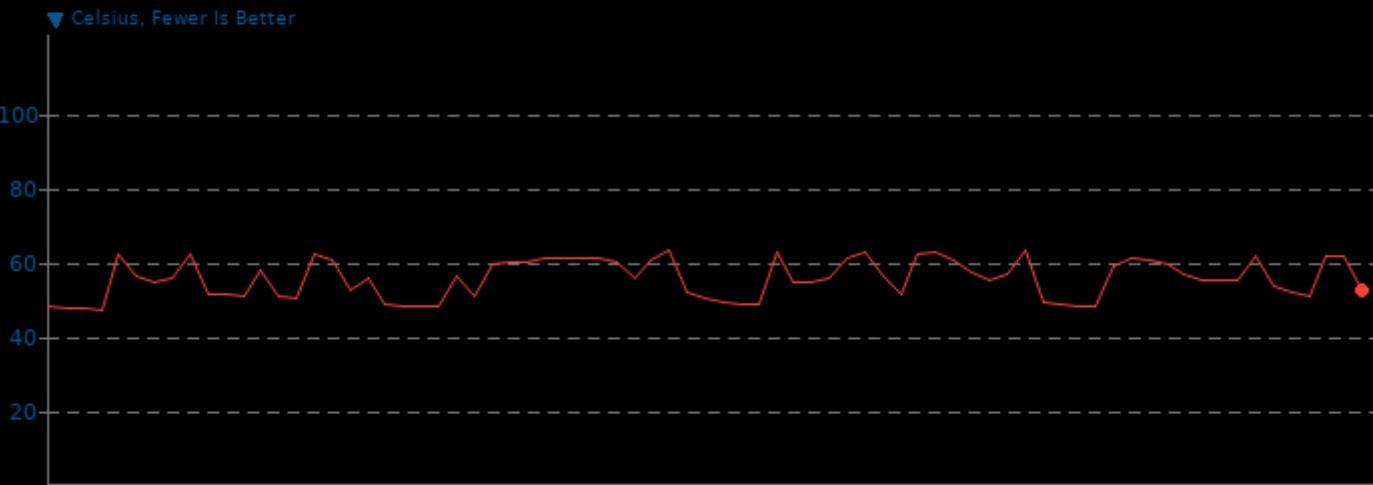


JPEG XL libjxl 0.5

CPU Temperature Monitor

Min Avg Max

Dynatron 47.3 55.5 63.3



JPEG XL libjxl 0.5

Input: JPEG - Encode Speed: 8

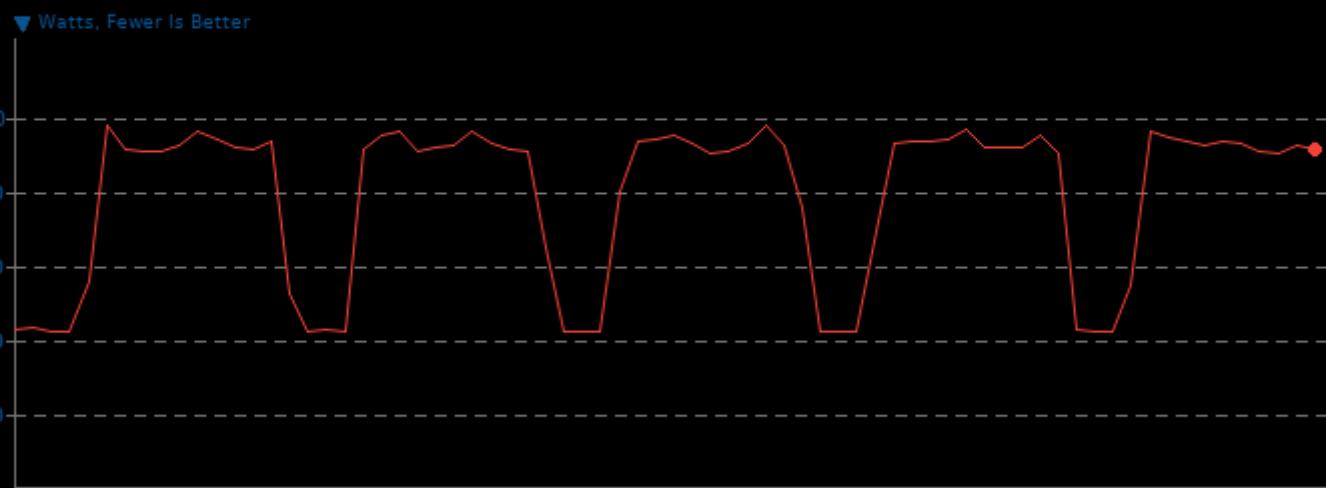


JPEG XL libjxl 0.5

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.1 78.8 97.5

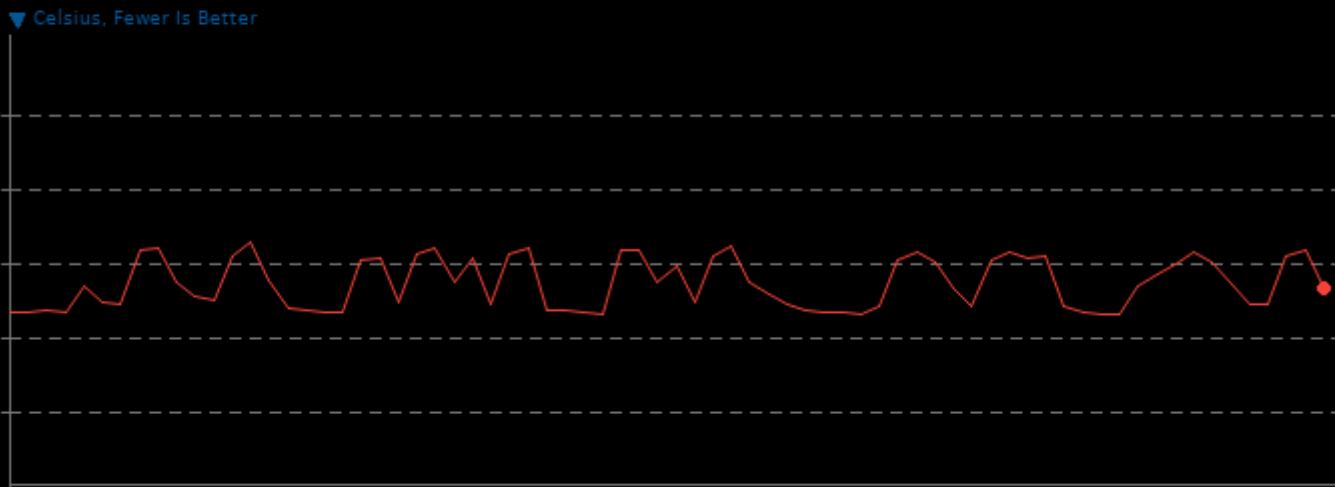


JPEG XL libjxl 0.5

CPU Temperature Monitor

Min Avg Max

Dynatron 46.0 54.3 65.5



JPEG XL libjxl 0.5

Input: PNG - Encode Speed: 5



1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

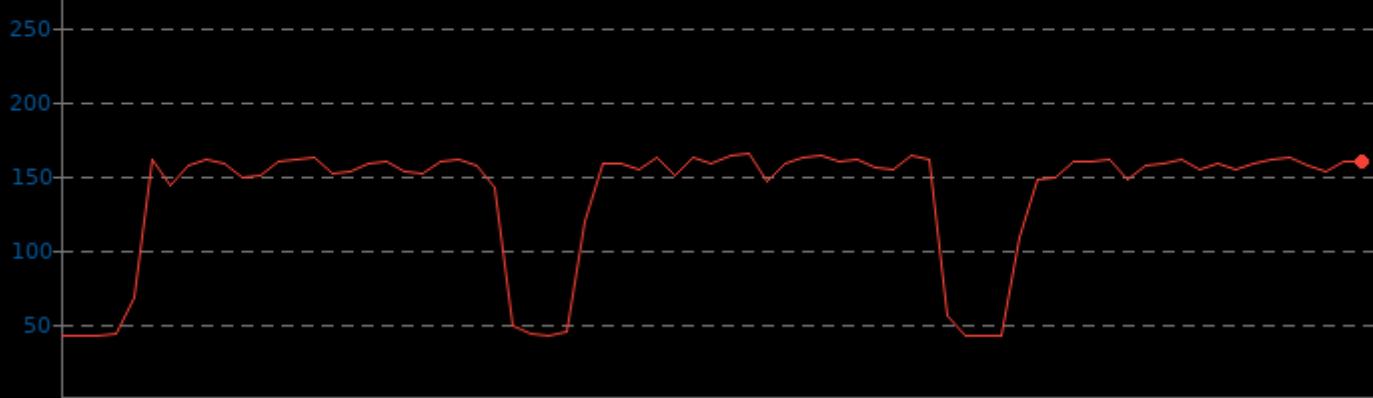
JPEG XL libjxl 0.5

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.4	136.0	164.7
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▼ Watts, Fewer Is Better



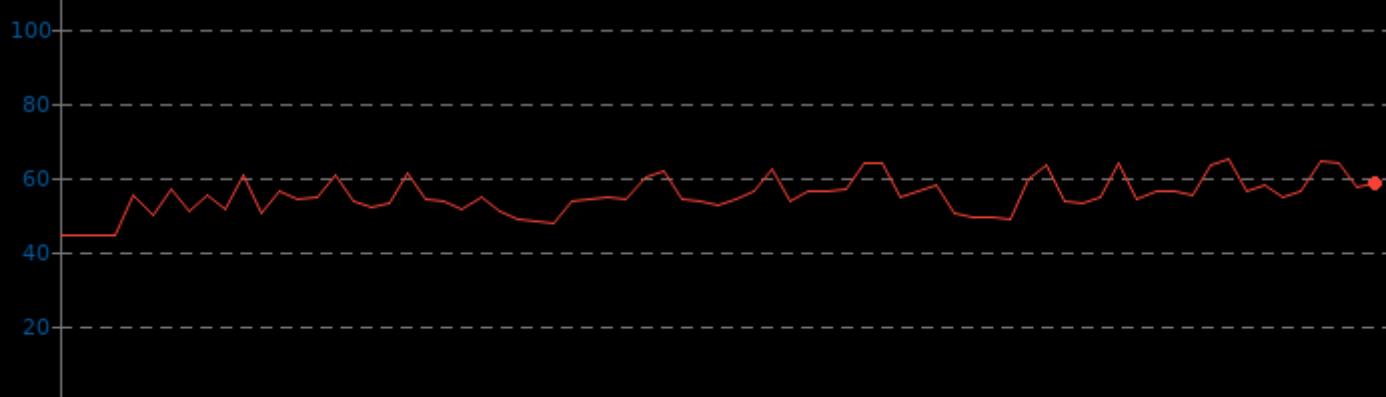
JPEG XL libjxl 0.5

CPU Temperature Monitor

Min Avg Max

Dynatron 44.5	55.0	64.8
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▼ Celsius, Fewer Is Better



JPEG XL libjxl 0.5

Input: PNG - Encode Speed: 7



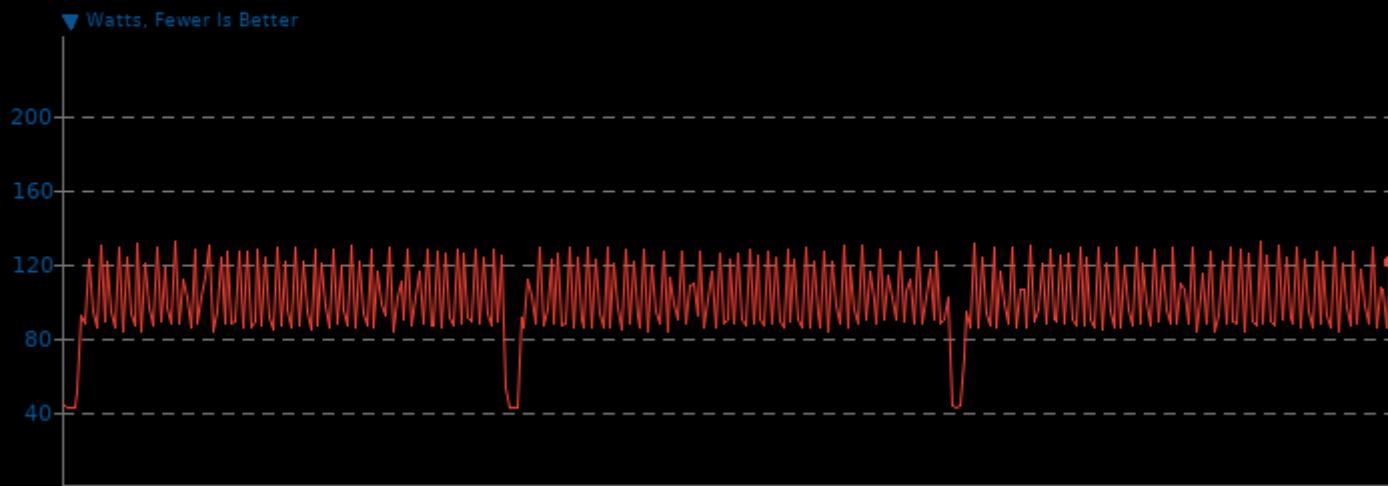
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

JPEG XL libjxl 0.5

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.4	101.0	131.9
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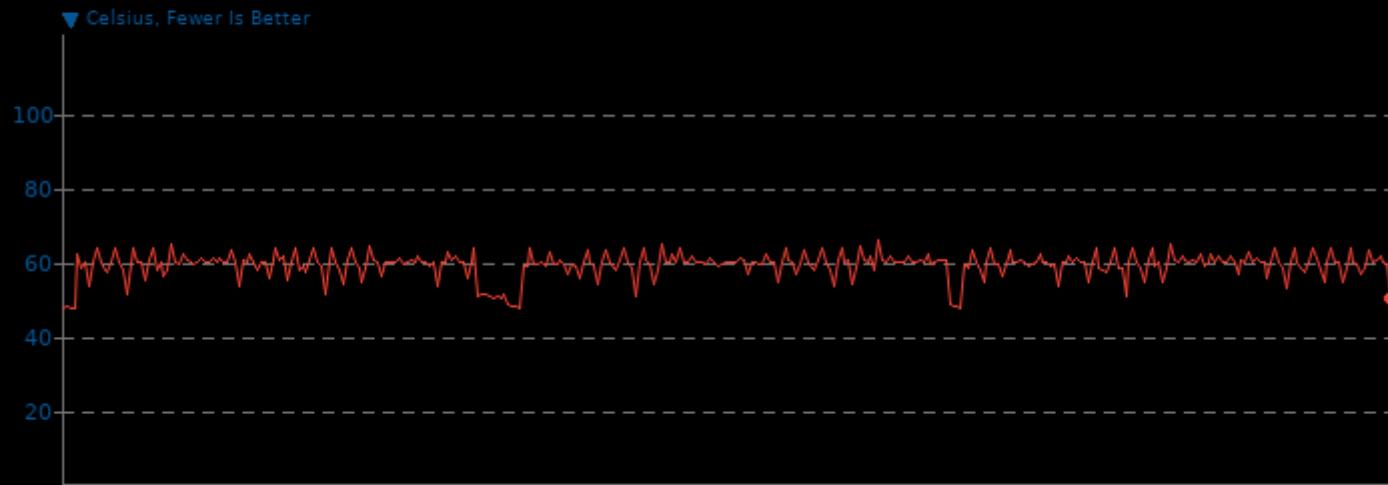


JPEG XL libjxl 0.5

CPU Temperature Monitor

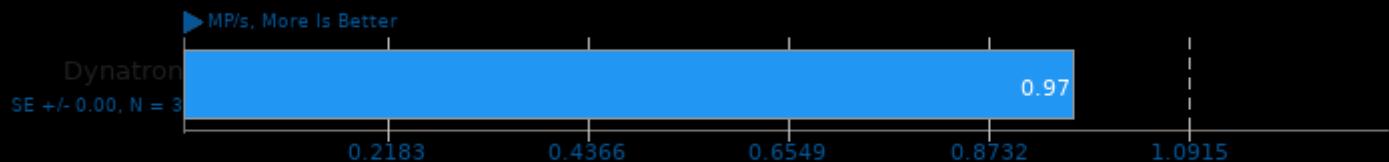
Min Avg Max

Dynatron 47.5	59.2	65.8
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JPEG XL libjxl 0.5

Input: PNG - Encode Speed: 8



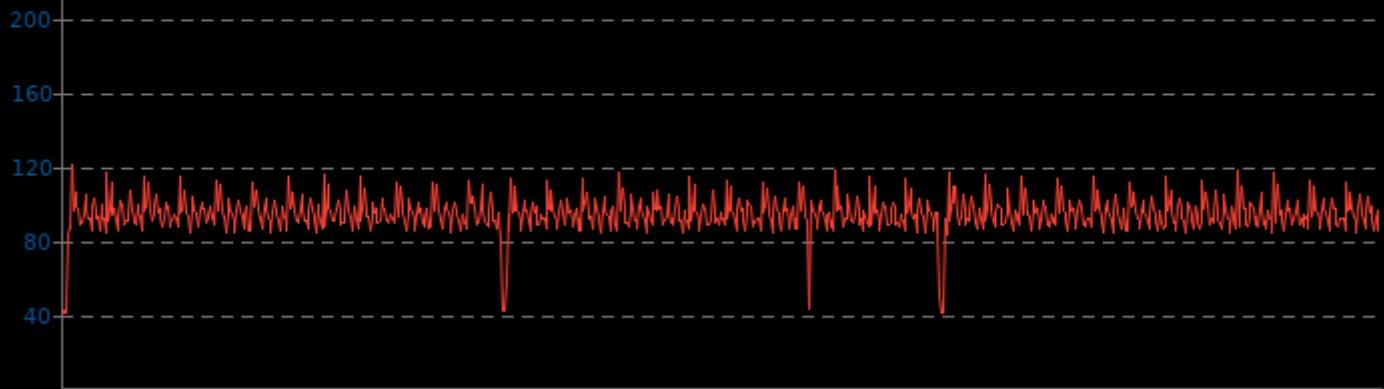
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

JPEG XL libjxl 0.5

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.3	94.5	120.9

▼ Watts, Fewer Is Better

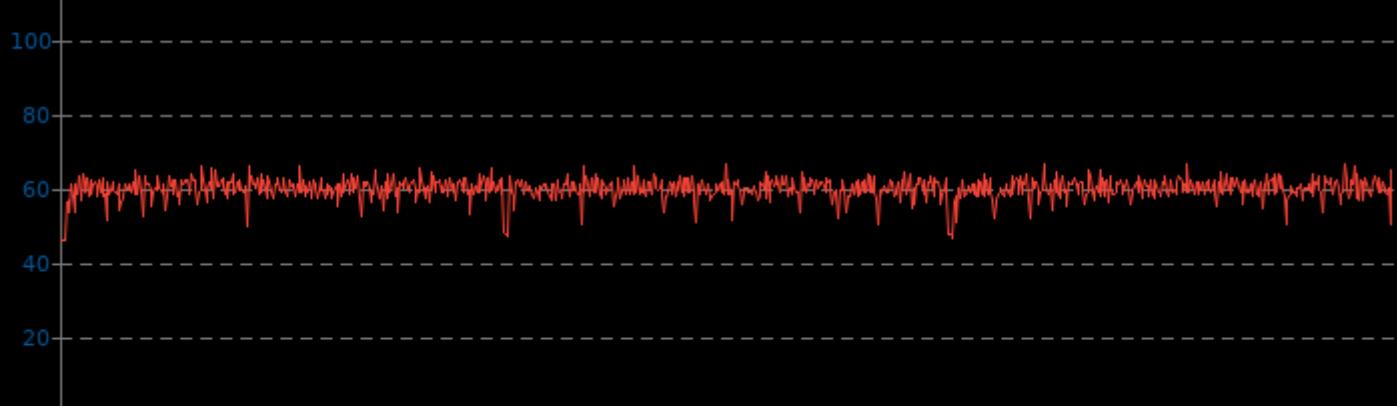


JPEG XL libjxl 0.5

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.0	59.8	66.3

▼ Celsius, Fewer Is Better



JPEG XL Decoding libjxl 0.5

CPU Threads: 1



JPEG XL Decoding libjxl 0.5

CPU Power Consumption Monitor

CPU	Min	Avg	Max
Dynatron	42.1	83.8	92.4

▼ Watts, Fewer Is Better

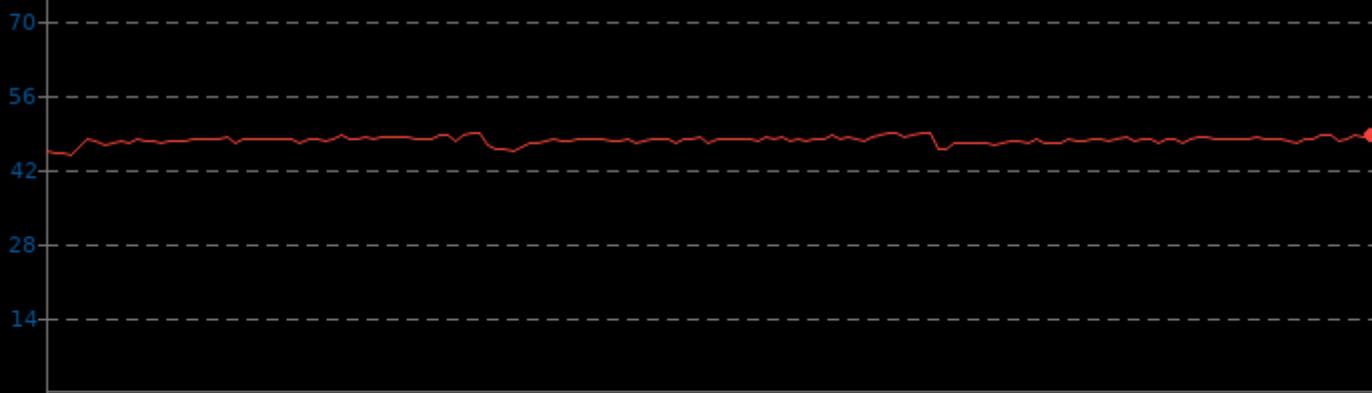


JPEG XL Decoding libjxl 0.5

CPU Temperature Monitor

CPU	Min	Avg	Max
Dynatron	44.8	47.4	48.8

▼ Celsius, Fewer Is Better



JPEG XL Decoding libjxl 0.5

CPU Threads: All



JPEG XL Decoding libjxl 0.5

CPU Power Consumption Monitor

CPU	Min	Avg	Max
Dynatron	42.0	125.3	164.8

▼ Watts, Fewer Is Better

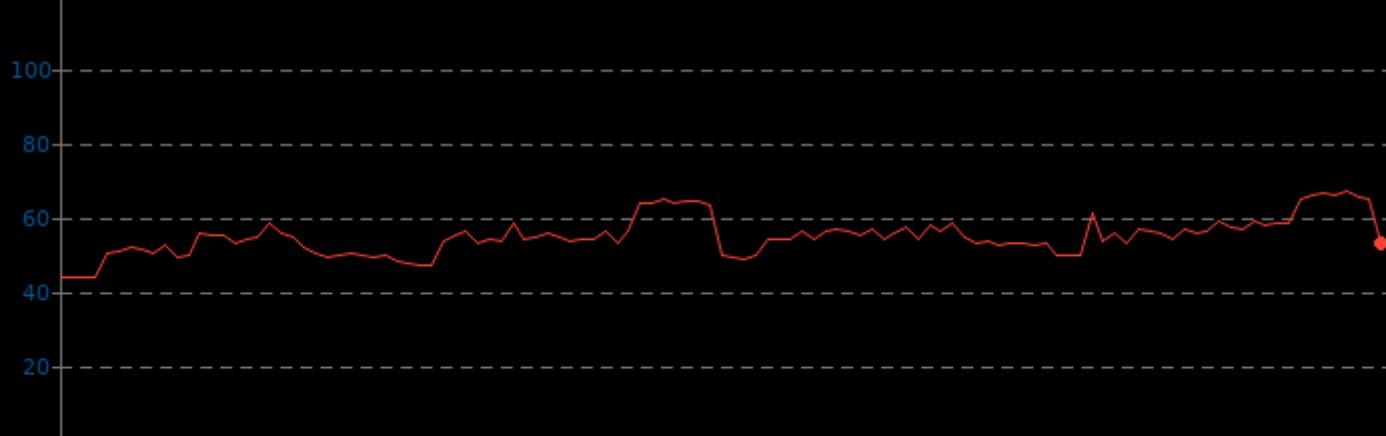


JPEG XL Decoding libjxl 0.5

CPU Temperature Monitor

CPU	Min	Avg	Max
Dynatron	43.8	54.8	67.0

▼ Celsius, Fewer Is Better



OpenSSL 3.0

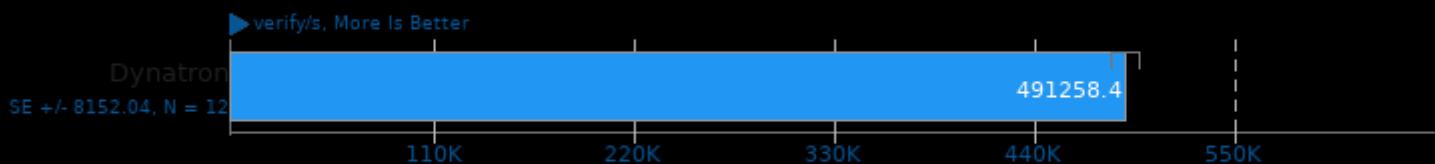
Algorithm: RSA4096



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

Algorithm: RSA4096



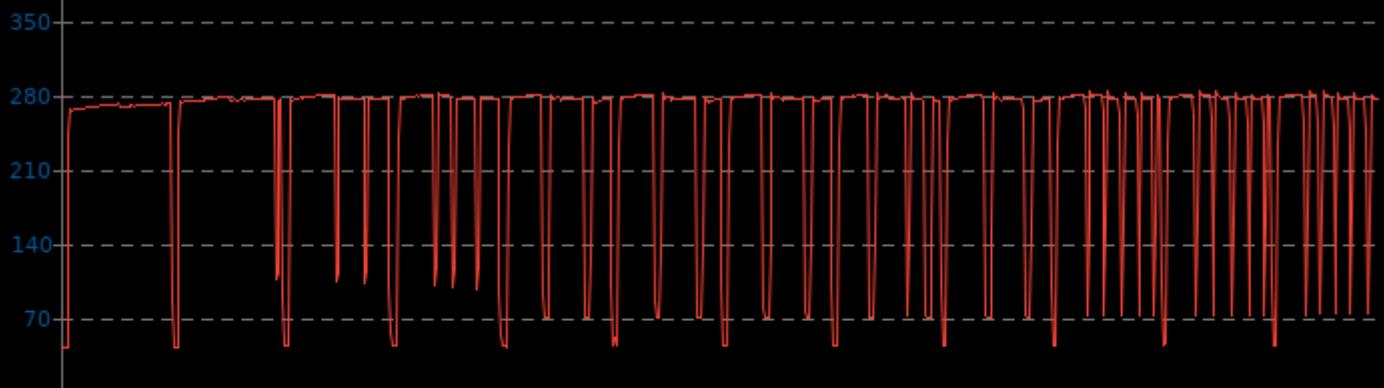
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.5	239.1	283.8

▼ Watts, Fewer Is Better



OpenSSL 3.0 CPU Temperature Monitor

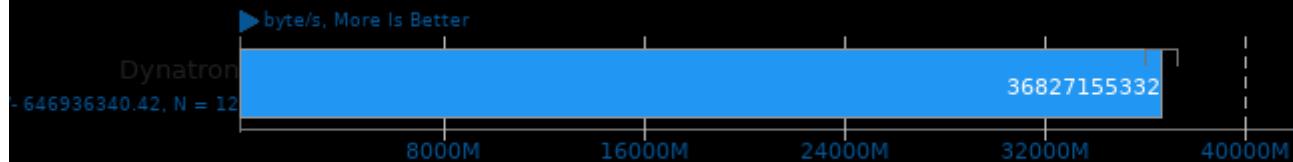
Min 47.5 Avg 78.0 Max 83.3

▼ Celsius, Fewer Is Better



OpenSSL 3.0

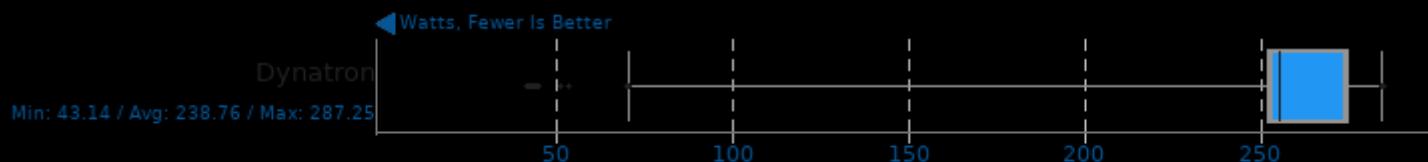
Algorithm: SHA256



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

CPU Power Consumption Monitor



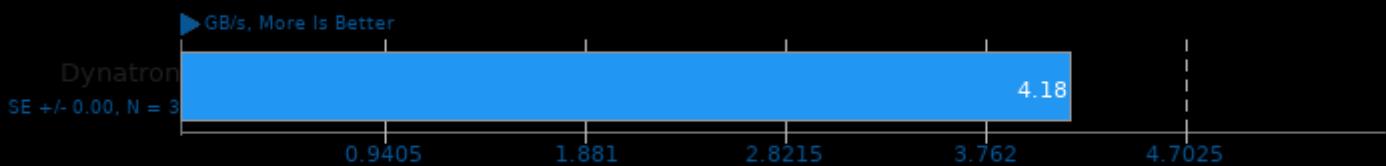
OpenSSL 3.0

CPU Temperature Monitor



simdjson 1.0

Throughput Test: Partial Tweets



simdjson 1.0

CPU Power Consumption Monitor

Min Avg Max
Dynatron 42.8 86.4 90.8



simdjson 1.0

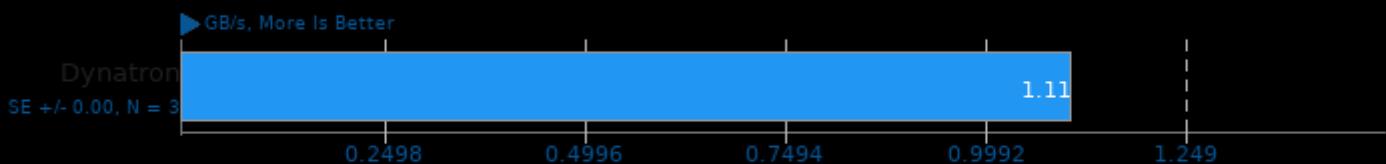
CPU Temperature Monitor

Min Avg Max
Dynatron 48.5 52.5 59.8



simdjson 1.0

Throughput Test: LargeRandom



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

simdjson 1.0

CPU Power Consumption Monitor

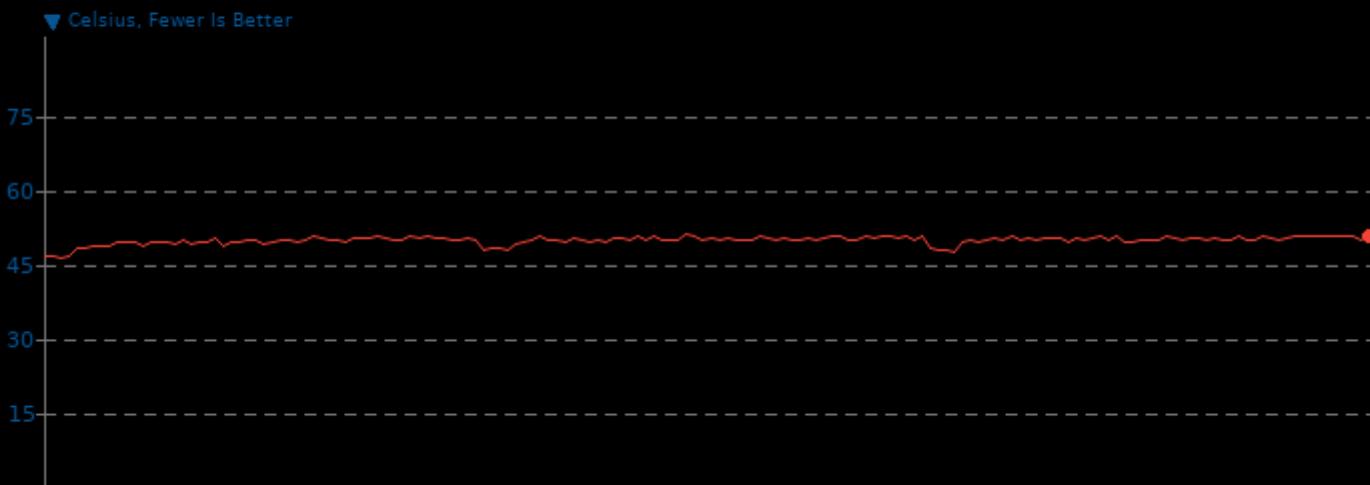
	Min	Avg	Max
Dynatron	42.3	97.3	103.4



simdjson 1.0

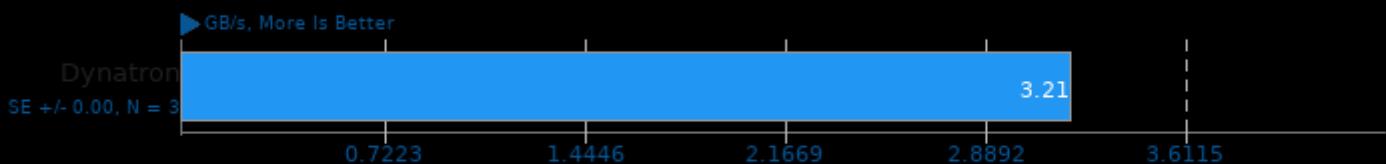
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.3	49.8	51.0



simdjson 1.0

Throughput Test: Kostya



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

simdjson 1.0

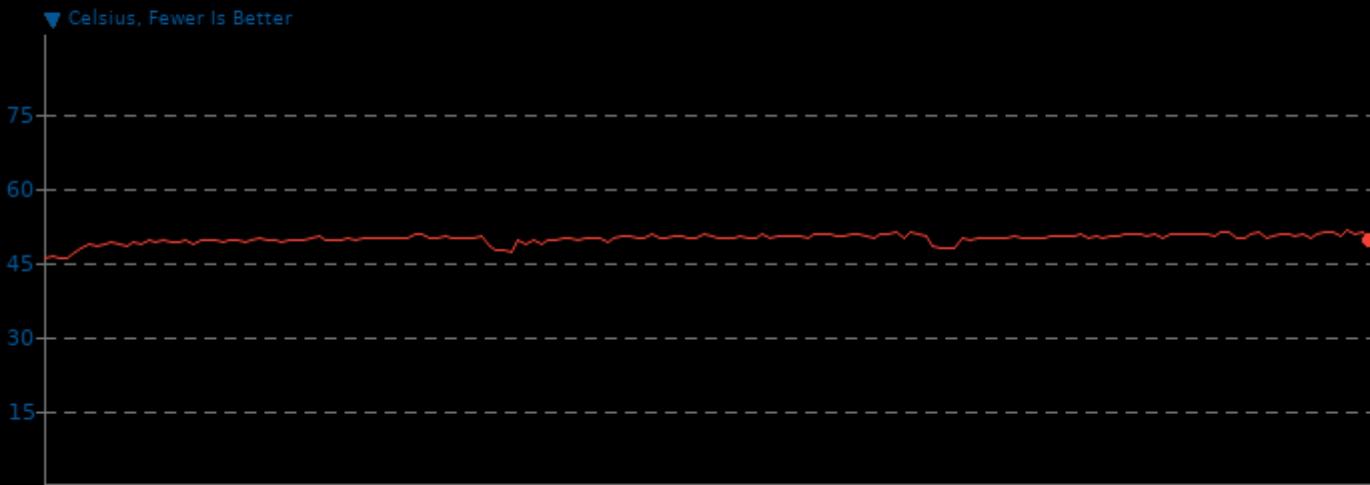
CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.3	100.4	107.5

**simdjson 1.0**

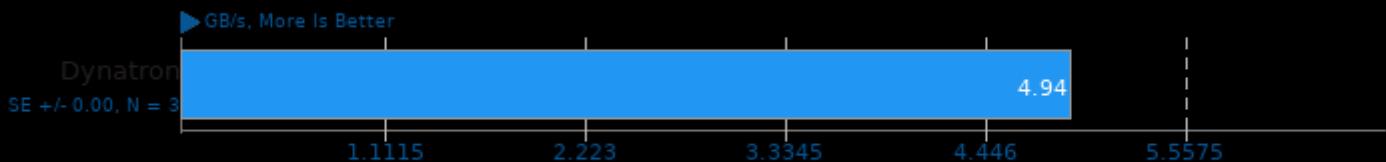
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.8	49.7	51.3



simdjson 1.0

Throughput Test: DistinctUserID



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

simdjson 1.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	85.0	90.2



simdjson 1.0

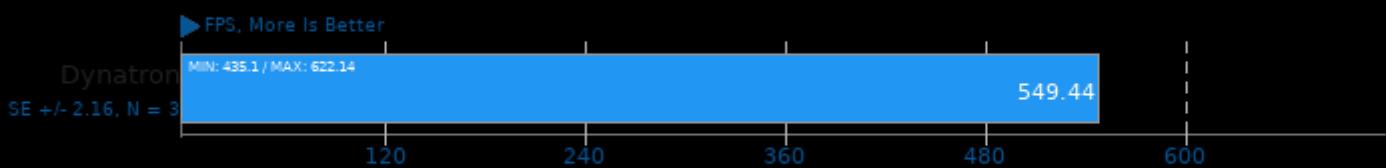
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	45.3	48.1	49.3



dav1d 0.9.2

Video Input: Summer Nature 1080p



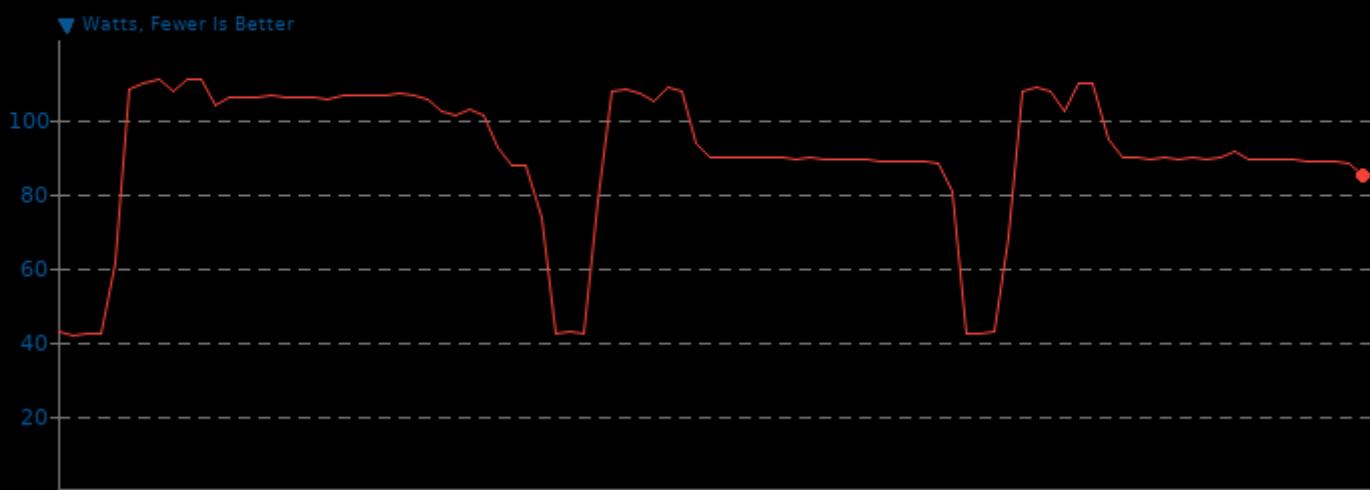
1. (CC) gcc options: -pthread -lm

dav1d 0.9.2

CPU Power Consumption Monitor

Min Avg Max

Dynatron 41.9 90.2 110.5

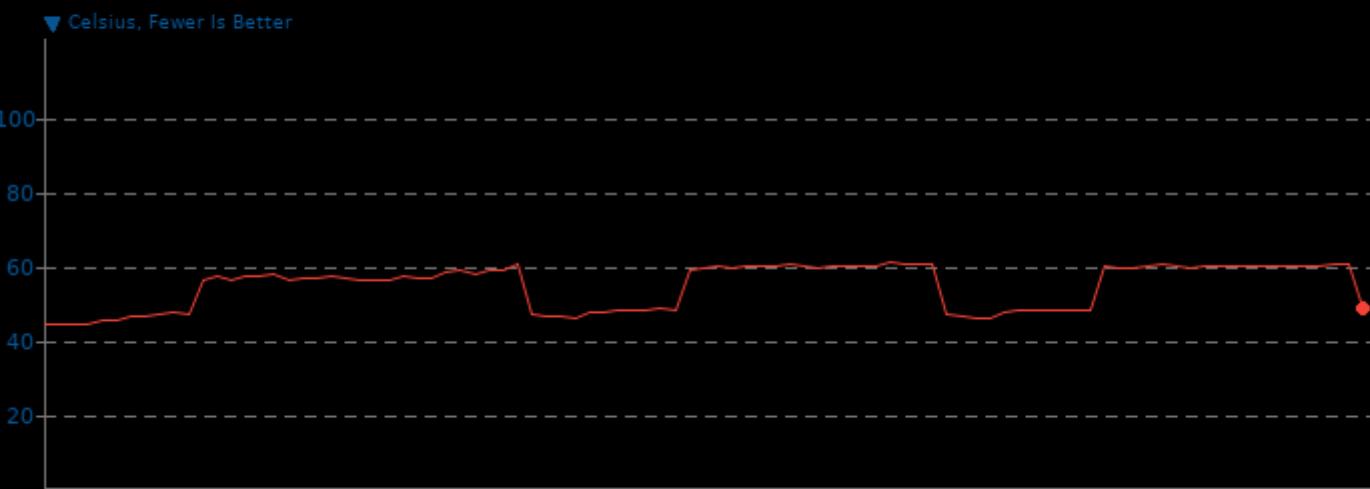


dav1d 0.9.2

CPU Temperature Monitor

Min Avg Max

Dynatron 44.3 54.6 61.0



dav1d 0.9.2

Video Input: Summer Nature 4K



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

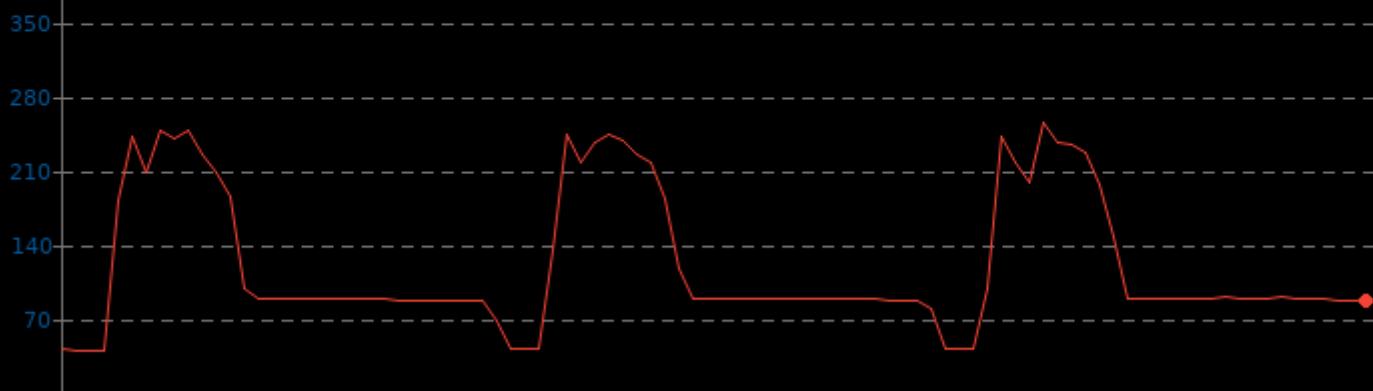
dav1d 0.9.2

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.1 121.6 254.8

▼ Watts, Fewer Is Better



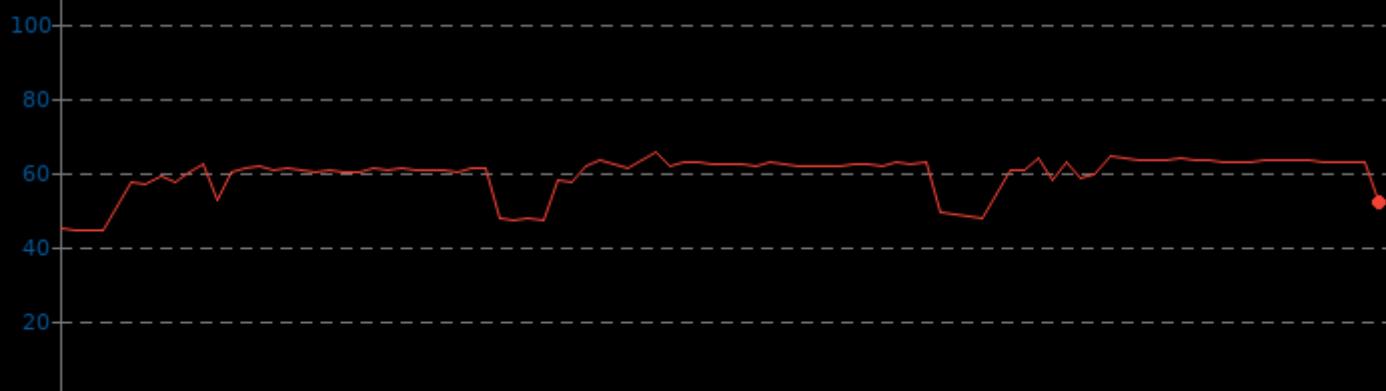
dav1d 0.9.2

CPU Temperature Monitor

Min Avg Max

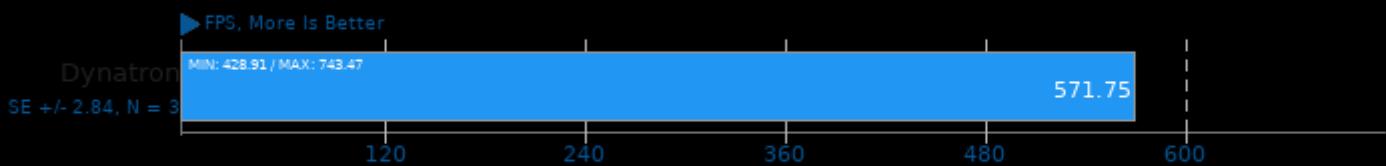
Dynatron 44.3 59.3 65.5

▼ Celsius, Fewer Is Better



dav1d 0.9.2

Video Input: Chimera 1080p

**dav1d 0.9.2**

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	91.6	113.3

**dav1d 0.9.2**

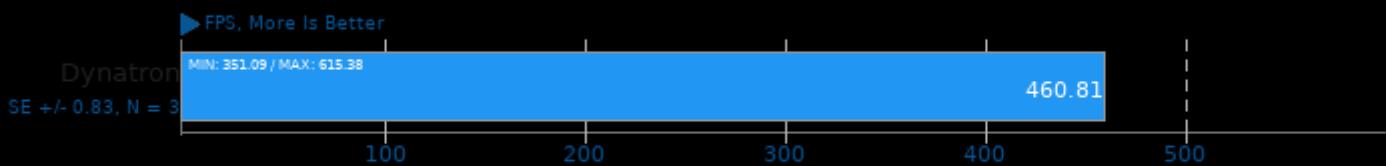
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.0	59.2	62.5



dav1d 0.9.2

Video Input: Chimera 1080p 10-bit



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

dav1d 0.9.2

CPU Power Consumption Monitor

Min Avg Max

Dynatron 42.1 92.2 112.2

▼ Watts, Fewer Is Better



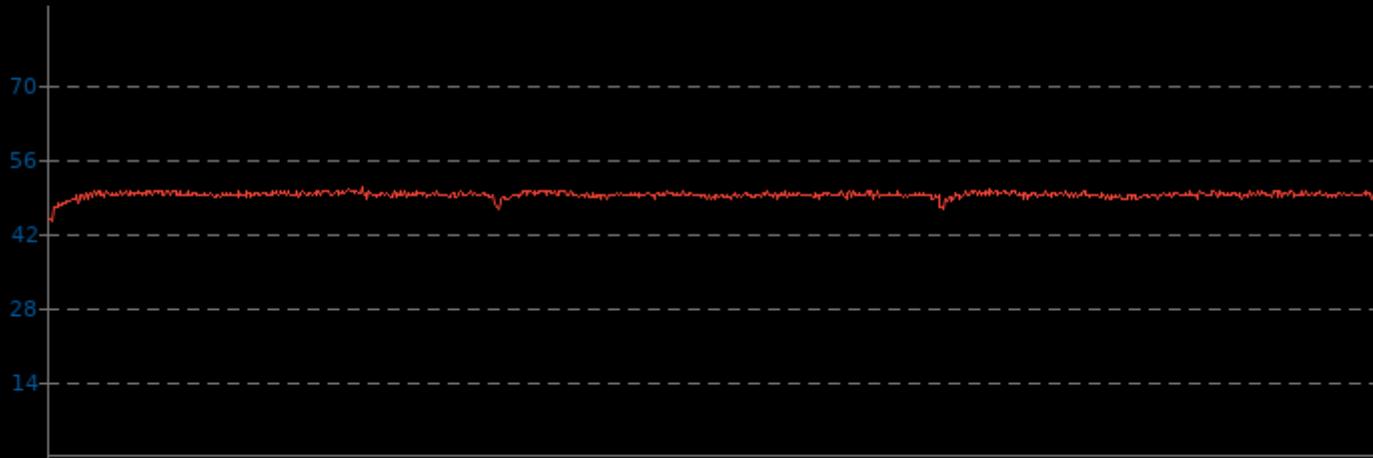
dav1d 0.9.2

CPU Temperature Monitor

Min Avg Max

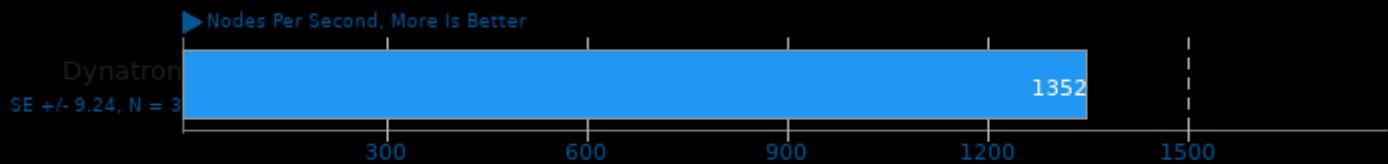
Dynatron 44.3 49.2 50.5

▼ Celsius, Fewer Is Better



LeelaChessZero 0.28

Backend: BLAS



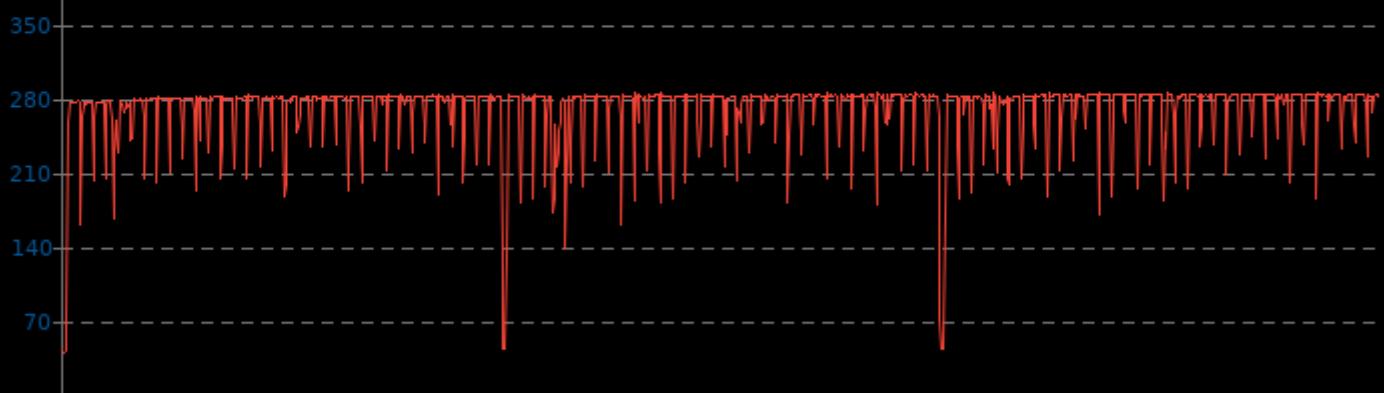
1. (CXX) g++ options: -fno -pthread

LeelaChessZero 0.28

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.0	269.0	285.7

▼ Watts, Fewer Is Better

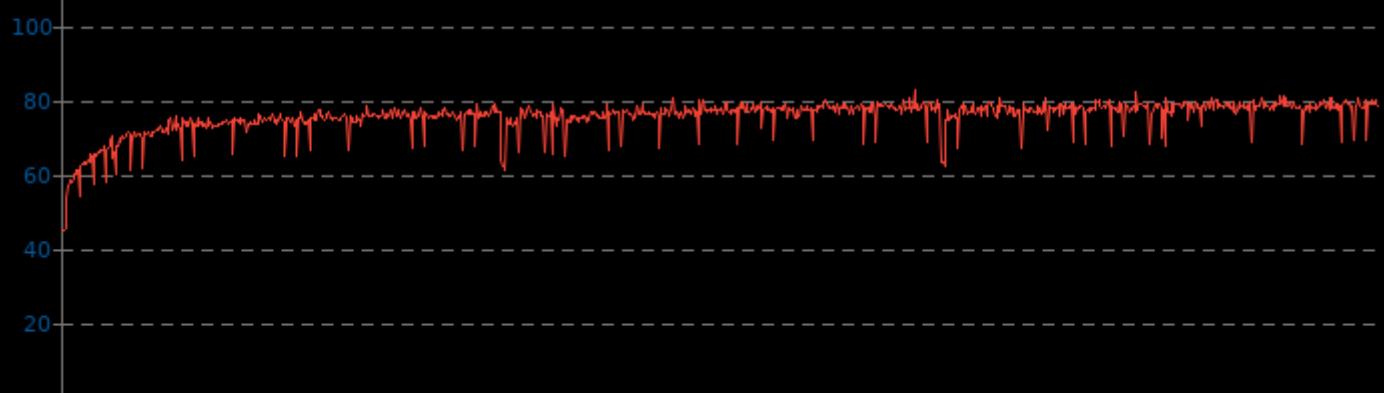


LeelaChessZero 0.28

CPU Temperature Monitor

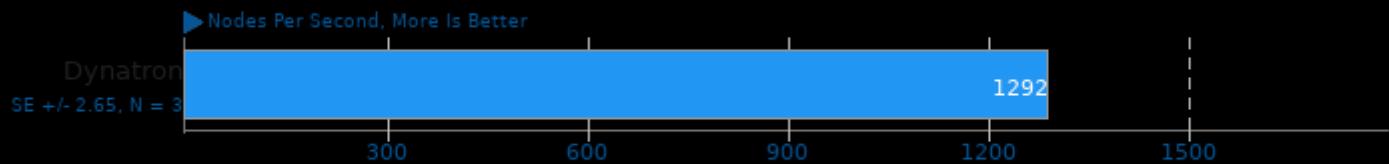
	Min	Avg	Max
Dynatron	44.8	75.4	82.5

▼ Celsius, Fewer Is Better



LeelaChessZero 0.28

Backend: Eigen



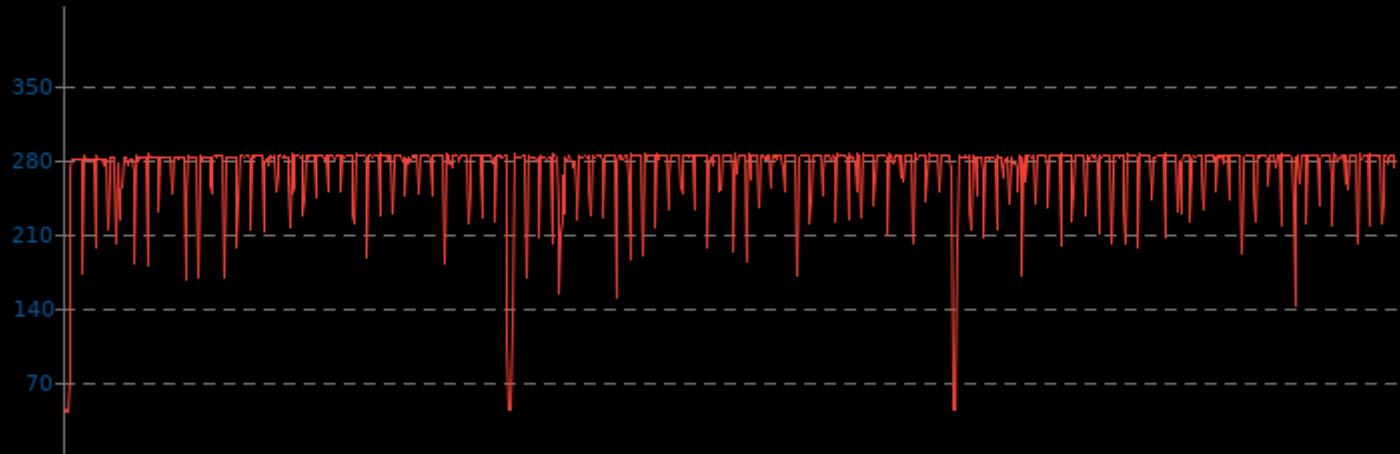
1. (CXX) g++ options: -fno -pthread

LeelaChessZero 0.28

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.7	270.7	285.7

▼ Watts, Fewer Is Better

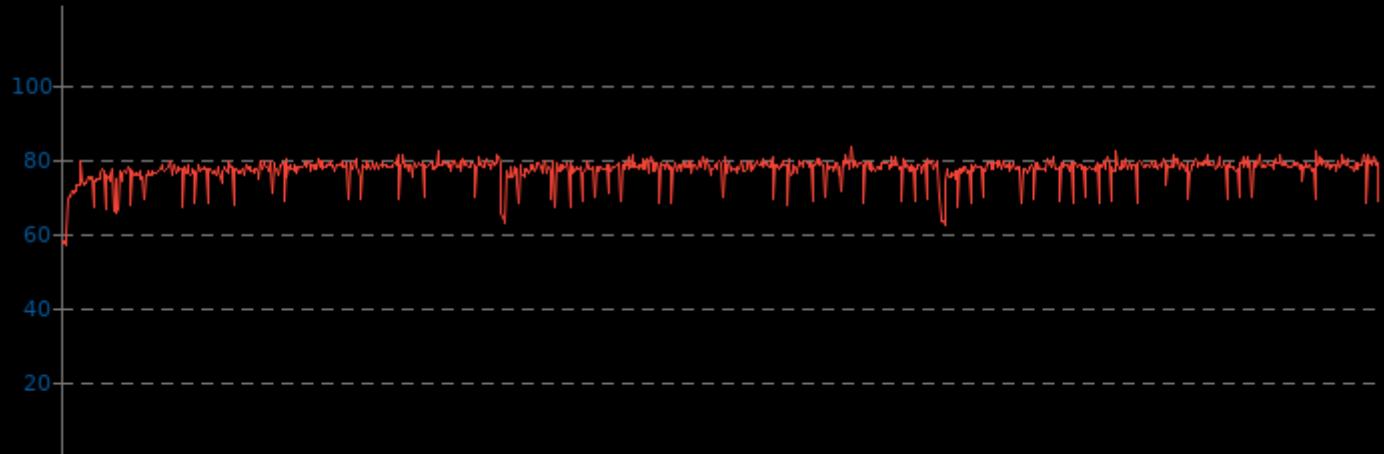


LeelaChessZero 0.28

CPU Temperature Monitor

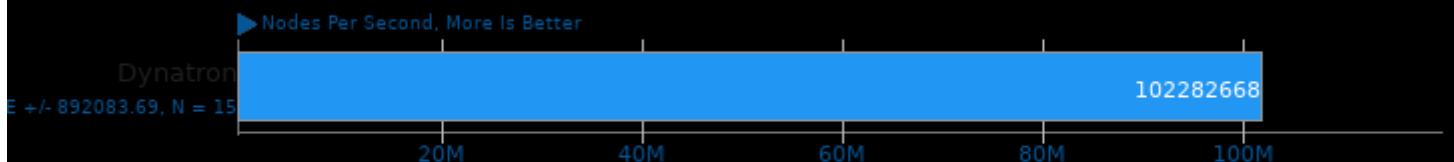
	Min	Avg	Max
Dynatron	57.0	77.0	83.0

▼ Celsius, Fewer Is Better



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 -

Stockfish 13

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.5	240.7	286.9

▼ Watts, Fewer Is Better



Stockfish 13

CPU Temperature Monitor

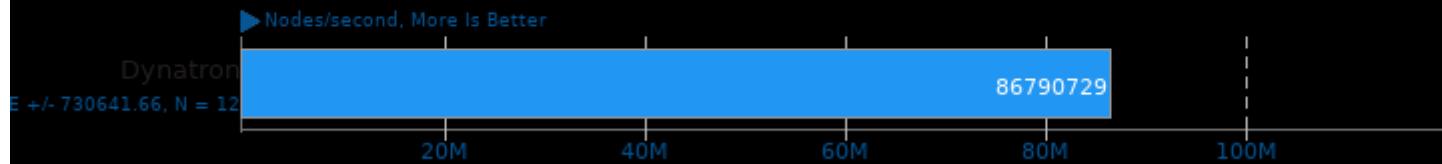
Dynatron Min 57.3 Avg 77.8 Max 83.5

▼ Celsius, Fewer Is Better



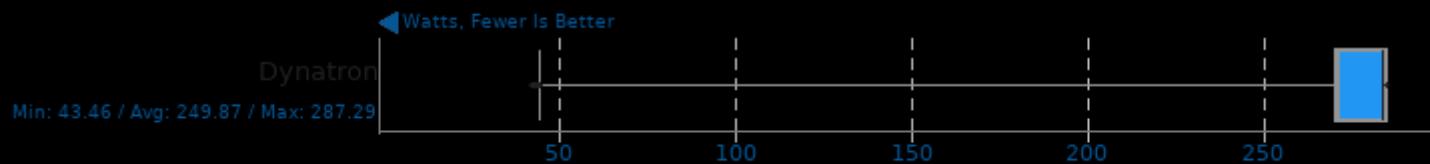
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



asmFish 2018-07-23

CPU Power Consumption Monitor



asmFish 2018-07-23

CPU Temperature Monitor



Tachyon 0.99b6

Total Time



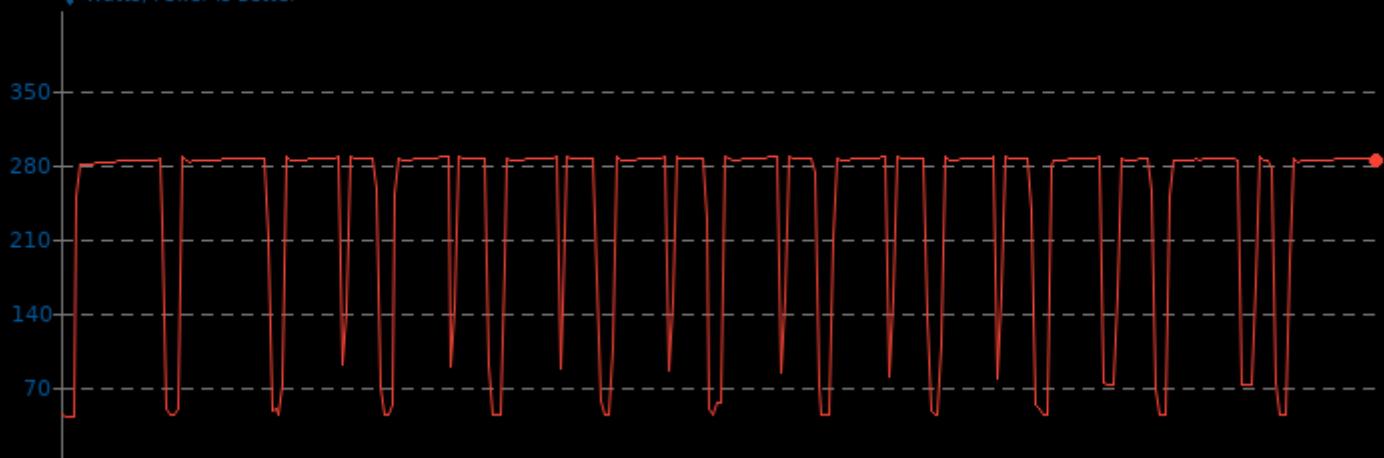
1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

Tachyon 0.99b6

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.6	238.1	287.0

▼ Watts, Fewer Is Better

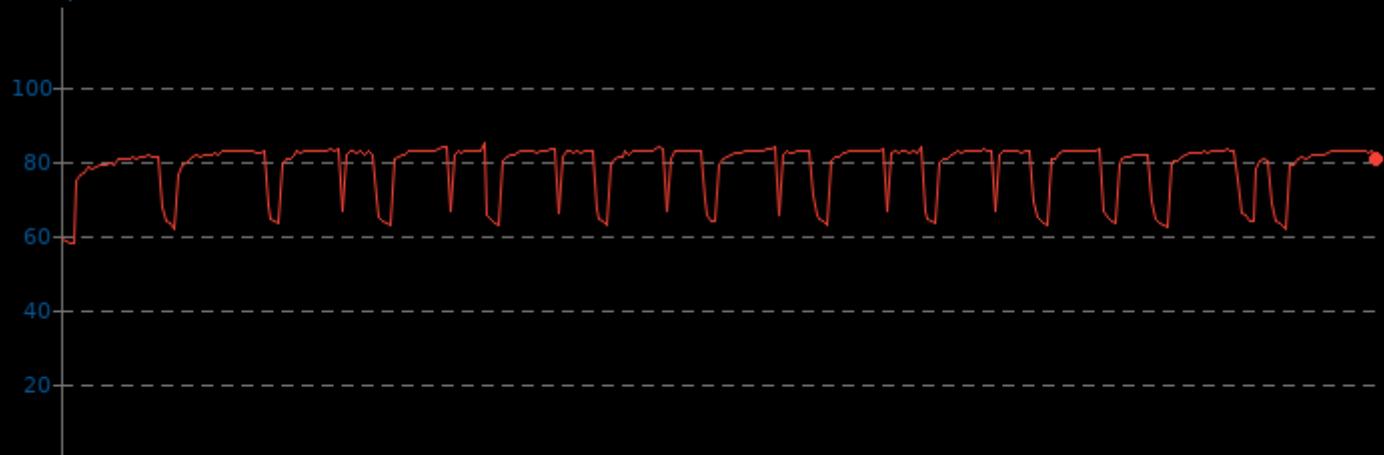


Tachyon 0.99b6

CPU Temperature Monitor

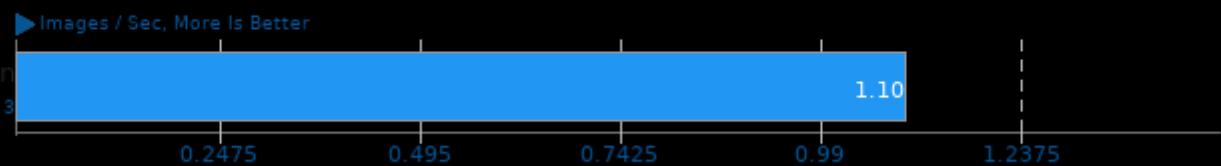
	Min	Avg	Max
Dynatron	57.8	78.3	84.5

▼ Celsius, Fewer Is Better



Intel Open Image Denoise 1.4.0

Run: RT.hdr_alb_nrm.3840x2160

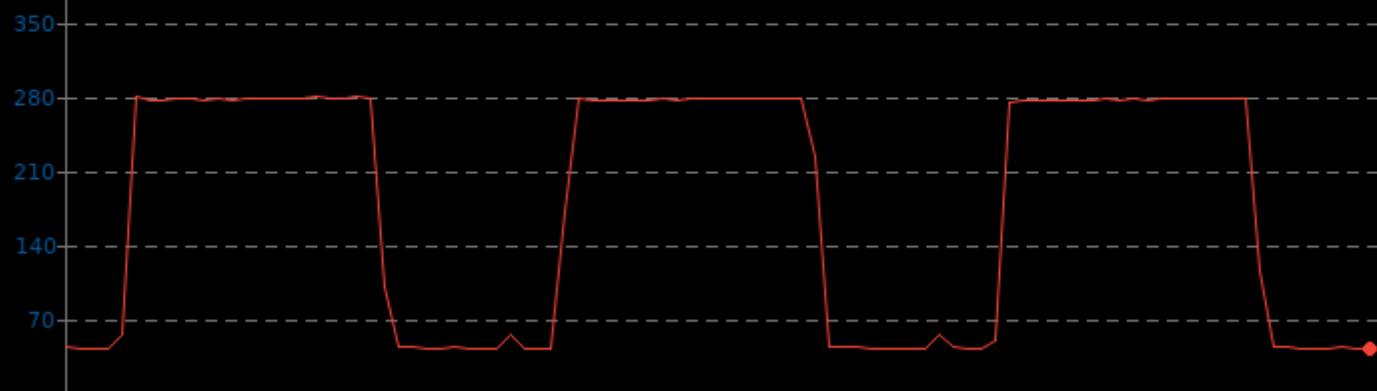


Intel Open Image Denoise 1.4.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	179.0	279.7

▼ Watts, Fewer Is Better

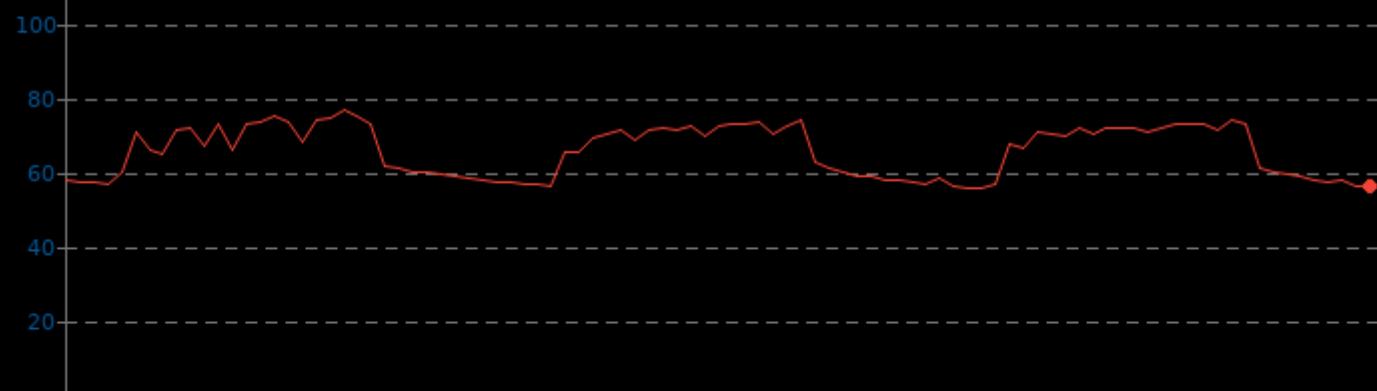


Intel Open Image Denoise 1.4.0

CPU Temperature Monitor

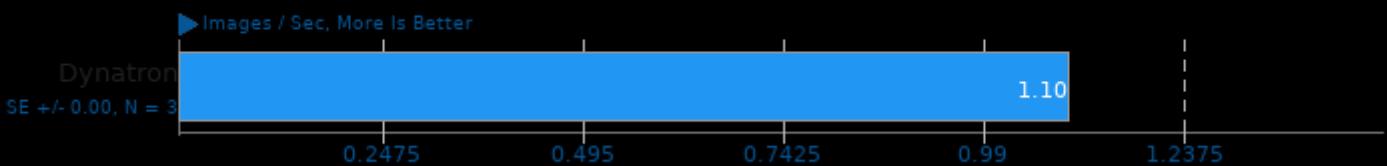
	Min	Avg	Max
Dynatron	55.8	65.6	76.5

▼ Celsius, Fewer Is Better



Intel Open Image Denoise 1.4.0

Run: RT.Idr_alb_nrm.3840x2160

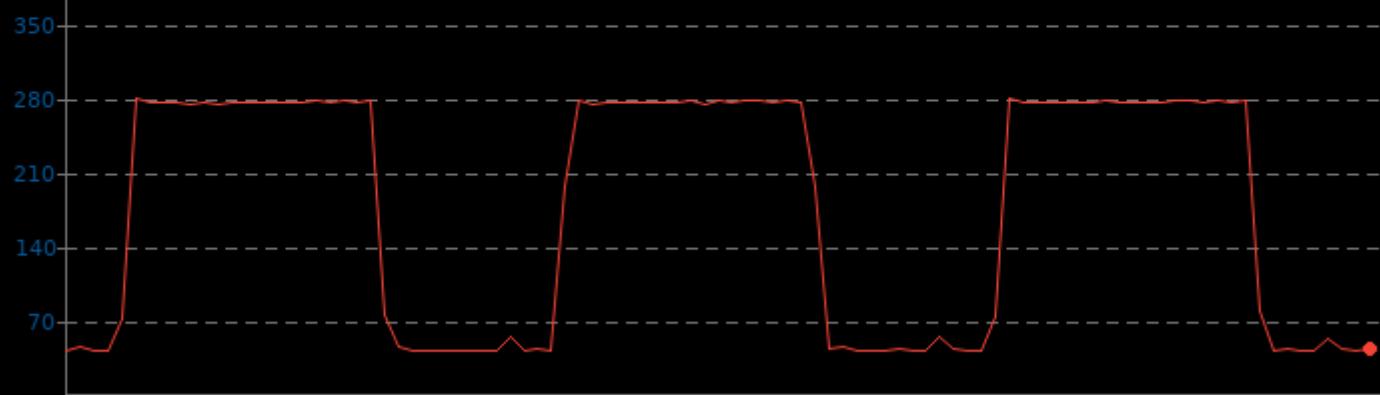


Intel Open Image Denoise 1.4.0

CPU Power Consumption Monitor

System	Min	Avg	Max
Dynatron	43.0	178.4	279.3

▼ Watts, Fewer Is Better

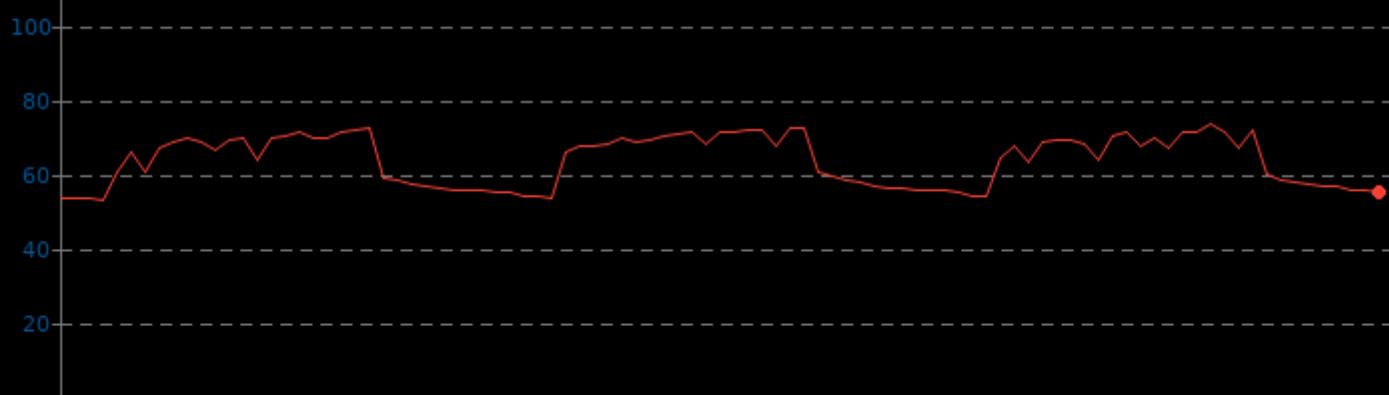


Intel Open Image Denoise 1.4.0

CPU Temperature Monitor

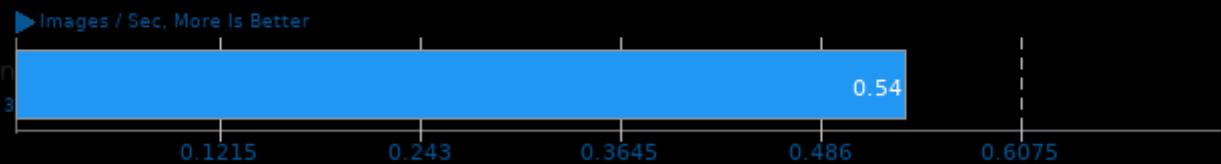
System	Min	Avg	Max
Dynatron	53.0	63.7	73.3

▼ Celsius, Fewer Is Better



Intel Open Image Denoise 1.4.0

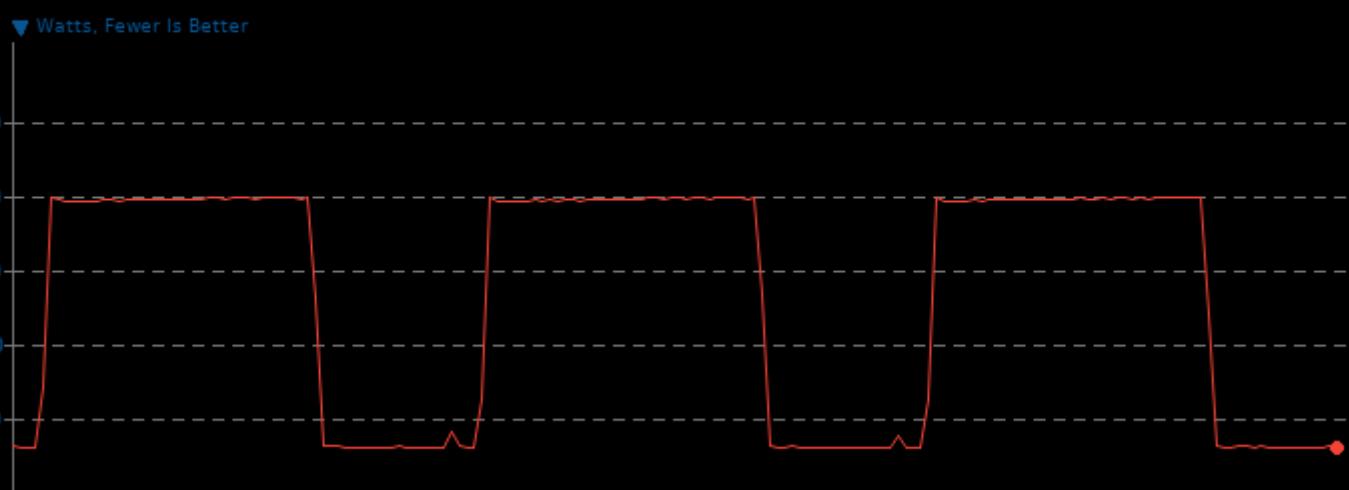
Run: RTLightmap.hdr.4096x4096



Intel Open Image Denoise 1.4.0

CPU Power Consumption Monitor

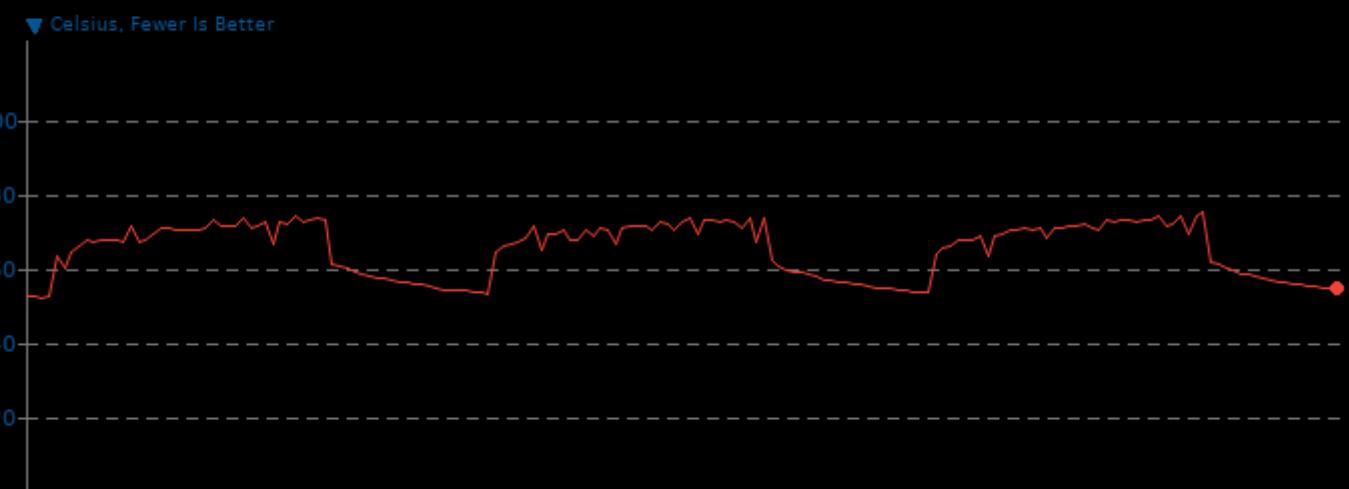
Series	Min	Avg	Max
Dynatron	42.8	188.3	278.3



Intel Open Image Denoise 1.4.0

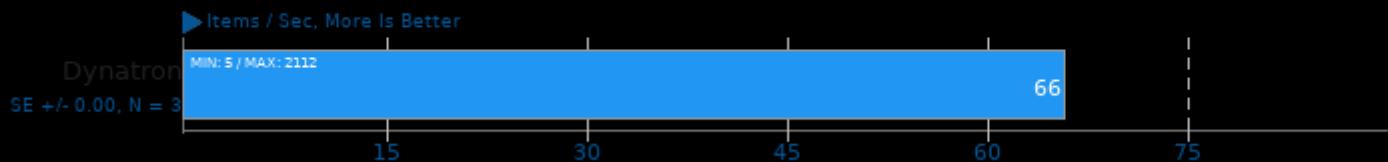
CPU Temperature Monitor

Series	Min	Avg	Max
Dynatron	52.0	64.9	75.0



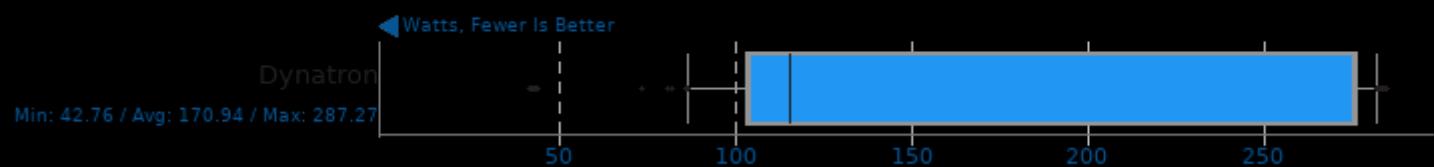
OpenVKL 1.0

Benchmark: vklBenchmark Scalar



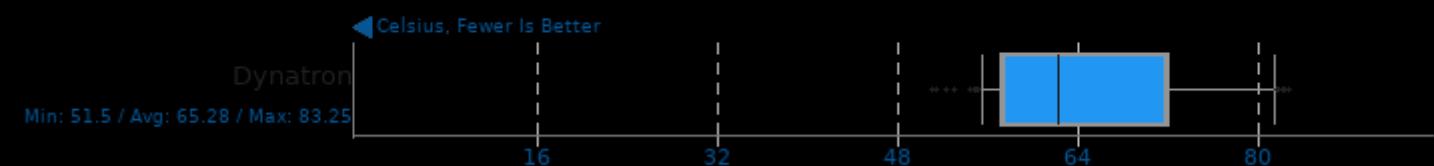
OpenVKL 1.0

CPU Power Consumption Monitor



OpenVKL 1.0

CPU Temperature Monitor



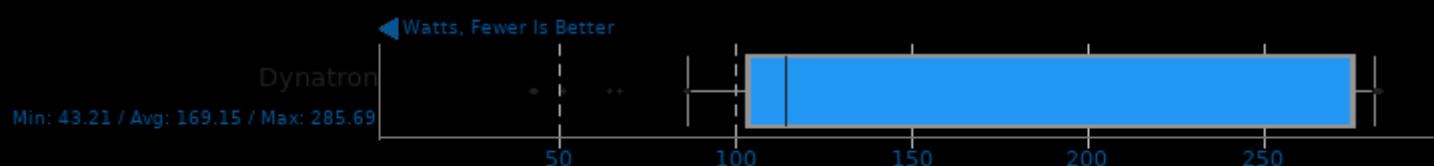
OpenVKL 1.0

Benchmark: vklBenchmark ISPC



OpenVKL 1.0

CPU Power Consumption Monitor



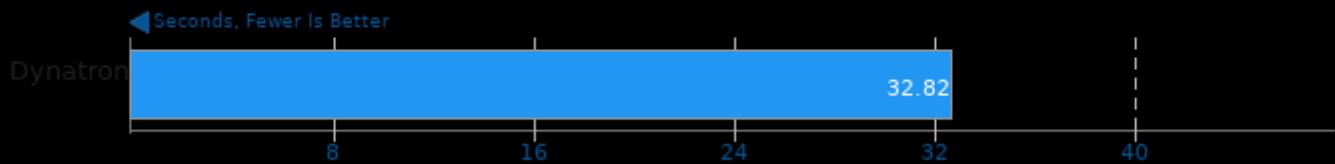
OpenVKL 1.0

CPU Temperature Monitor



ECP-CANDLE 0.4

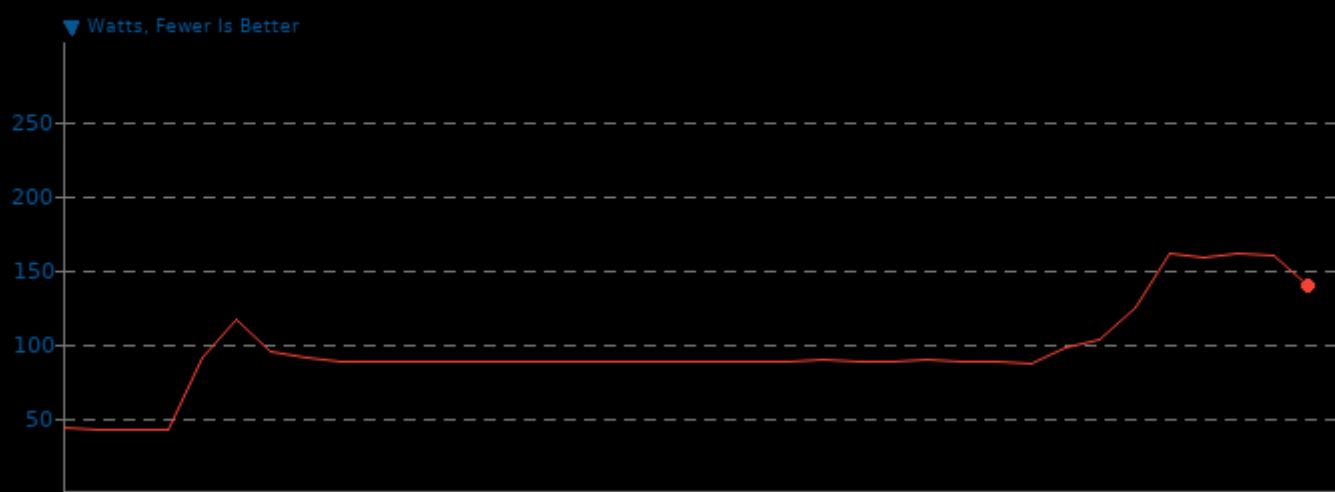
Benchmark: P1B2



ECP-CANDLE 0.4

CPU Power Consumption Monitor

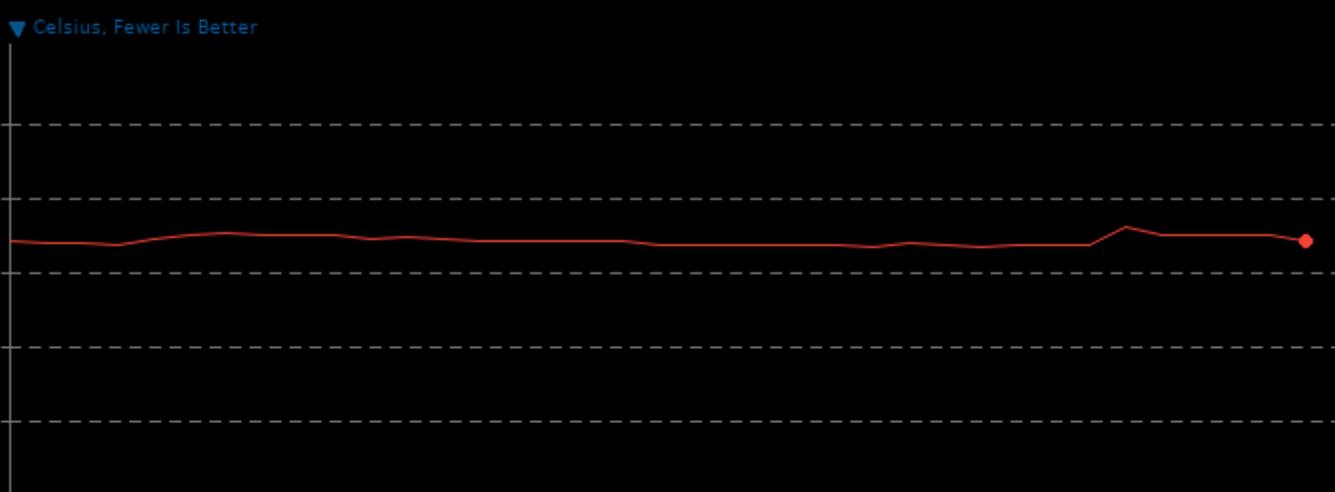
■ Dynatron Min 42.8 Avg 95.2 Max 160.3



ECP-CANDLE 0.4

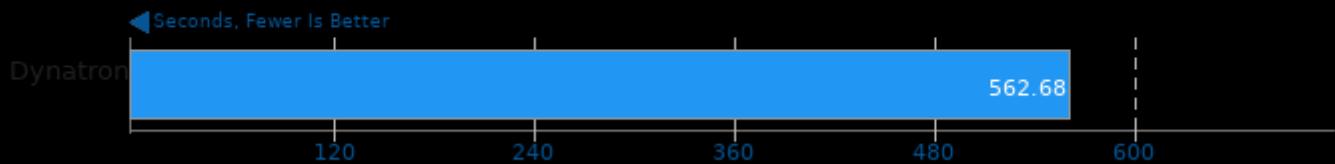
CPU Temperature Monitor

■ Dynatron Min 53.0 Avg 54.5 Max 57.5



ECP-CANDLE 0.4

Benchmark: P3B1

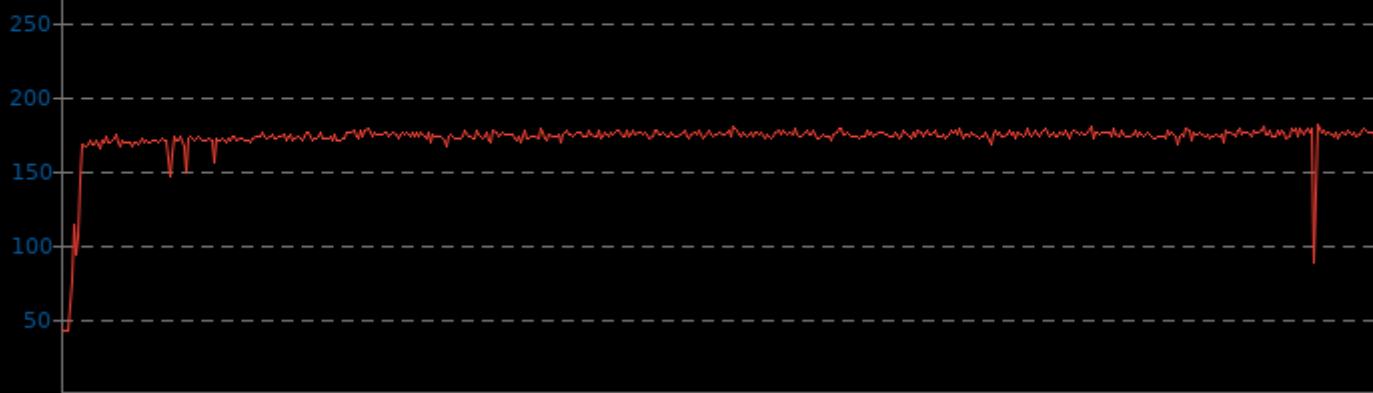


ECP-CANDLE 0.4

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.6	171.6	180.2

▼ Watts, Fewer Is Better

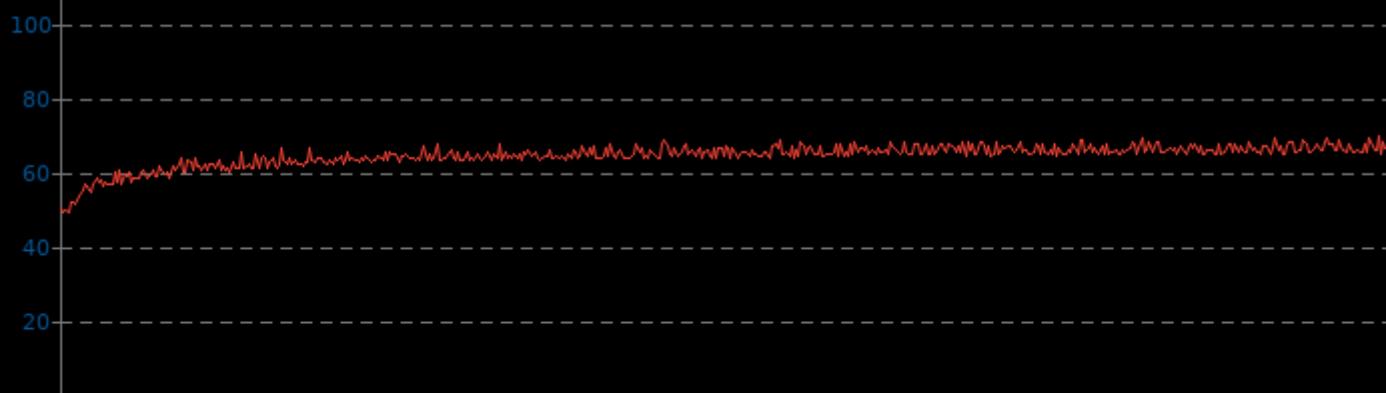


ECP-CANDLE 0.4

CPU Temperature Monitor

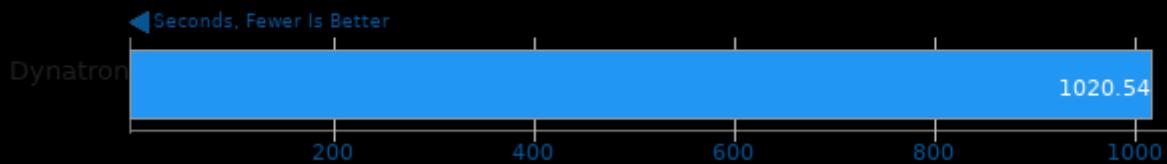
	Min	Avg	Max
Dynatron	49.5	64.4	69.5

▼ Celsius, Fewer Is Better



ECP-CANDLE 0.4

Benchmark: P3B2

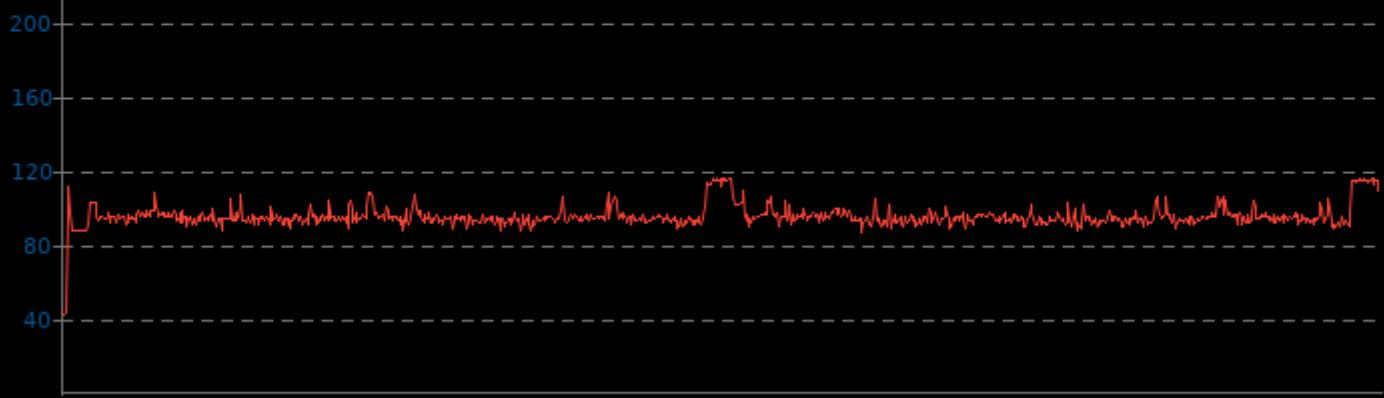


ECP-CANDLE 0.4

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.2	95.4	116.2

▼ Watts, Fewer Is Better

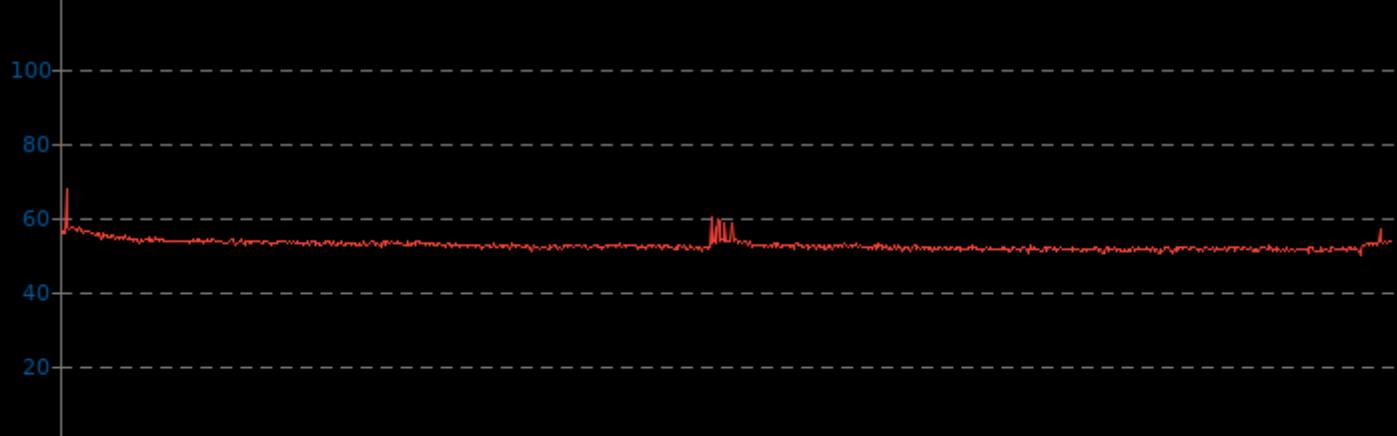


ECP-CANDLE 0.4

CPU Temperature Monitor

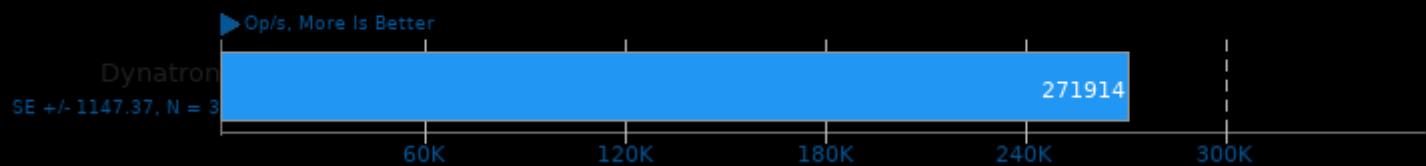
	Min	Avg	Max
Dynatron	50.0	52.5	67.5

▼ Celsius, Fewer Is Better



Apache Cassandra 4.0

Test: Writes



Apache Cassandra 4.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.5	220.6	256.8

▼ Watts, Fewer Is Better

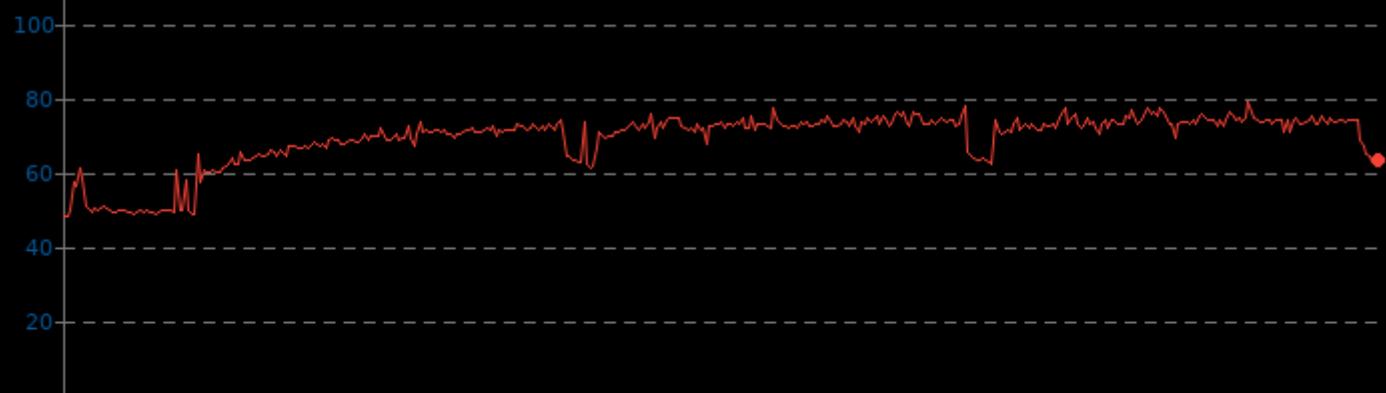


Apache Cassandra 4.0

CPU Temperature Monitor

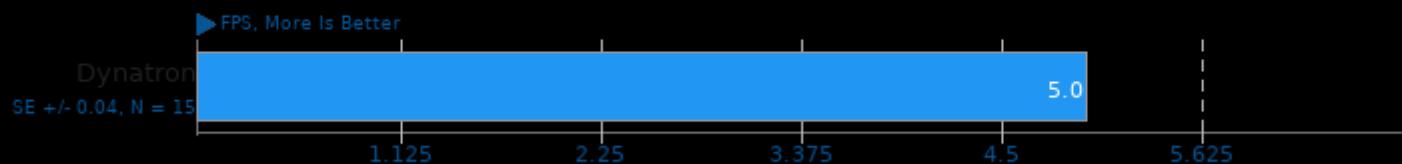
	Min	Avg	Max
Dynatron	48.0	69.0	79.0

▼ Celsius, Fewer Is Better



Natron 2.4

Input: Spaceship



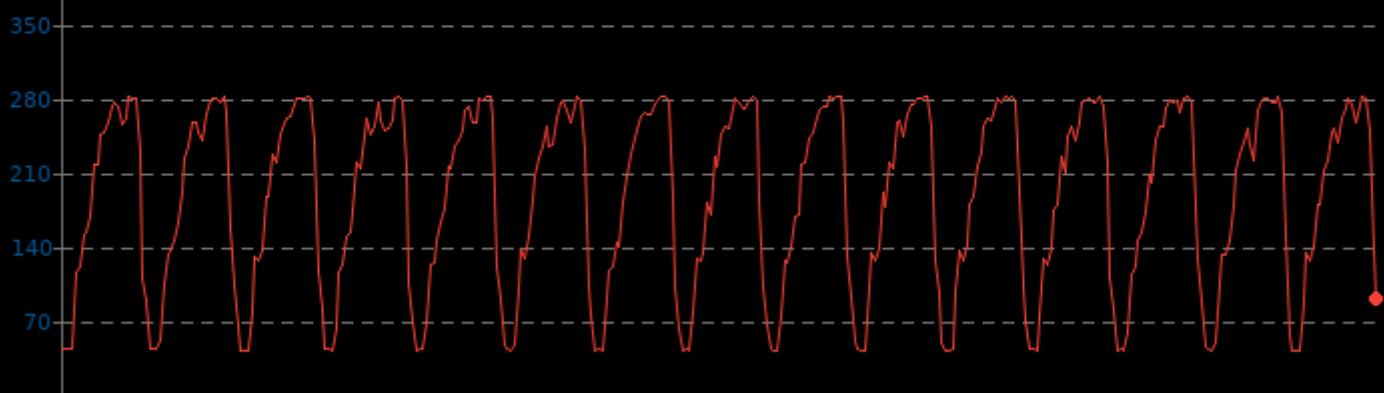
Natron 2.4

CPU Power Consumption Monitor

Min Avg Max

Dynatron	43.6	187.6	281.1
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▼ Watts, Fewer Is Better



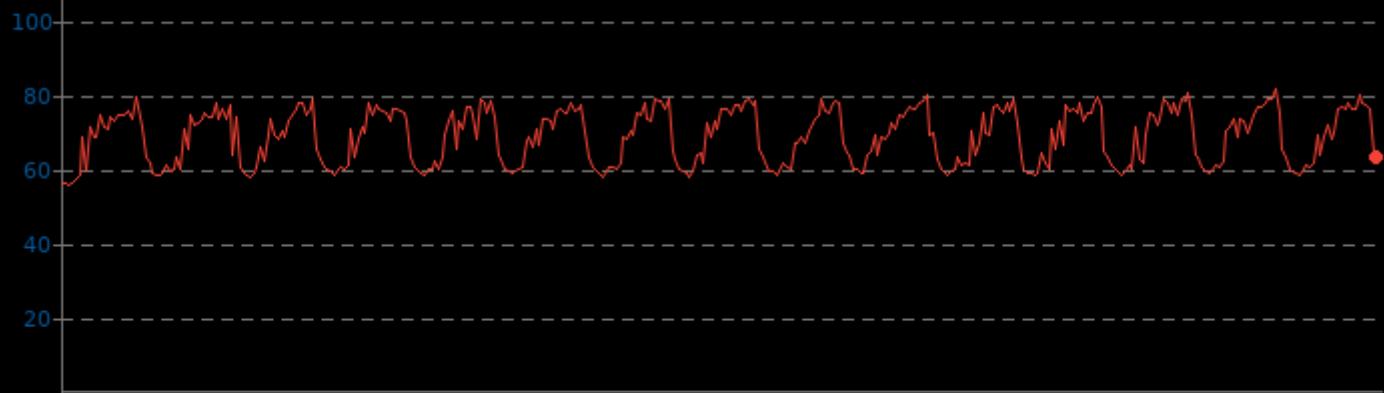
Natron 2.4

CPU Temperature Monitor

Min Avg Max

Dynatron	55.8	68.7	81.3
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▼ Celsius, Fewer Is Better



Facebook RocksDB 6.22.1

Test: Sequential Fill



1. (CXX) g++ options: -O3 -march=native -pthread -fno-built-in-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	238.7	258.7

▼ Watts, Fewer Is Better

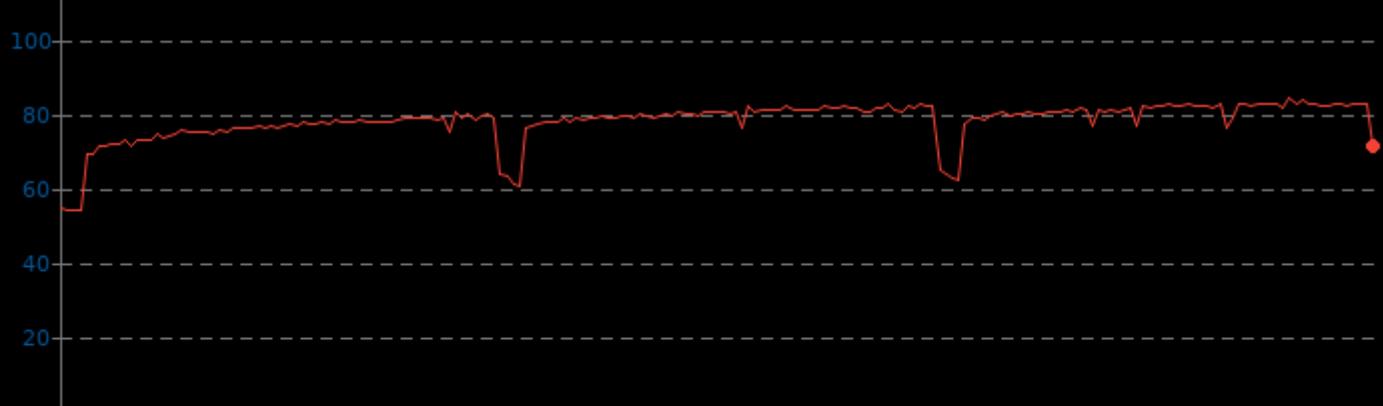


Facebook RocksDB 6.22.1

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	54.0	77.9	84.0

▼ Celsius, Fewer Is Better



Facebook RocksDB 6.22.1

Test: Random Fill



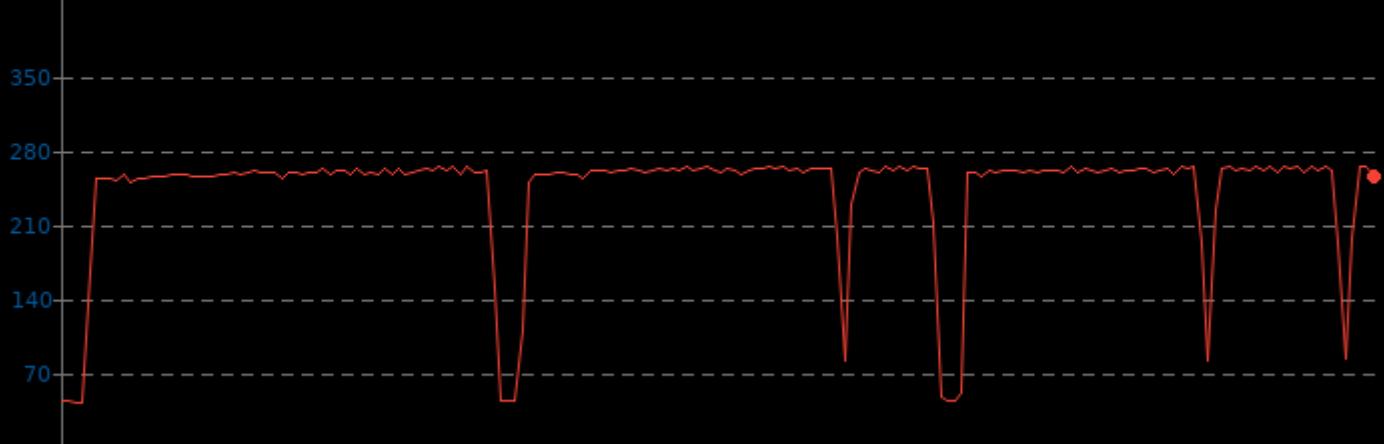
1. (CXX) g++ options: -O3 -march=native -pthread -fno-built-in-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.7	241.0	265.3

▼ Watts, Fewer Is Better

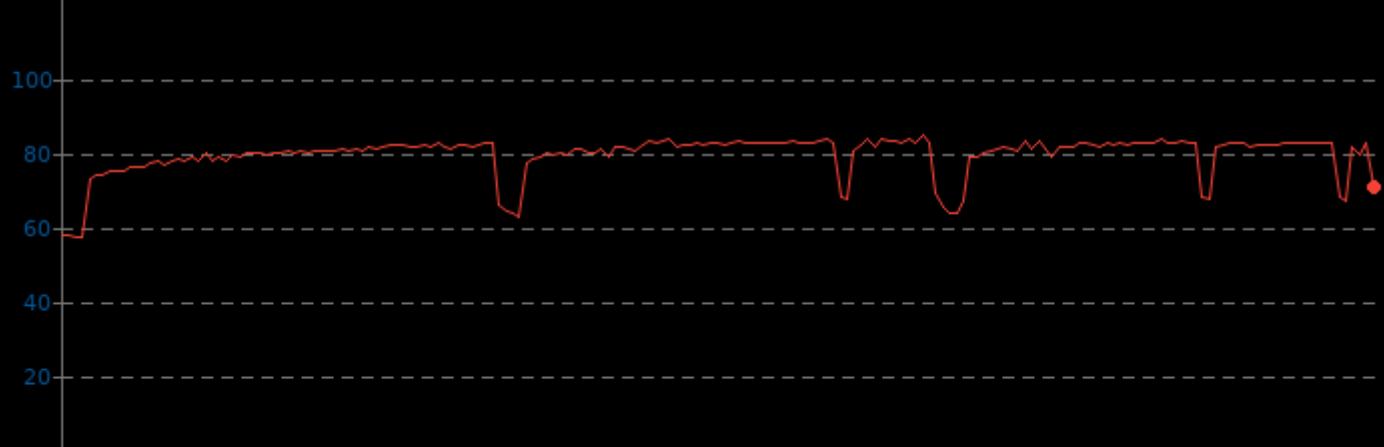


Facebook RocksDB 6.22.1

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	57.3	79.3	84.8

▼ Celsius, Fewer Is Better



Facebook RocksDB 6.22.1

Test: Random Fill Sync



Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

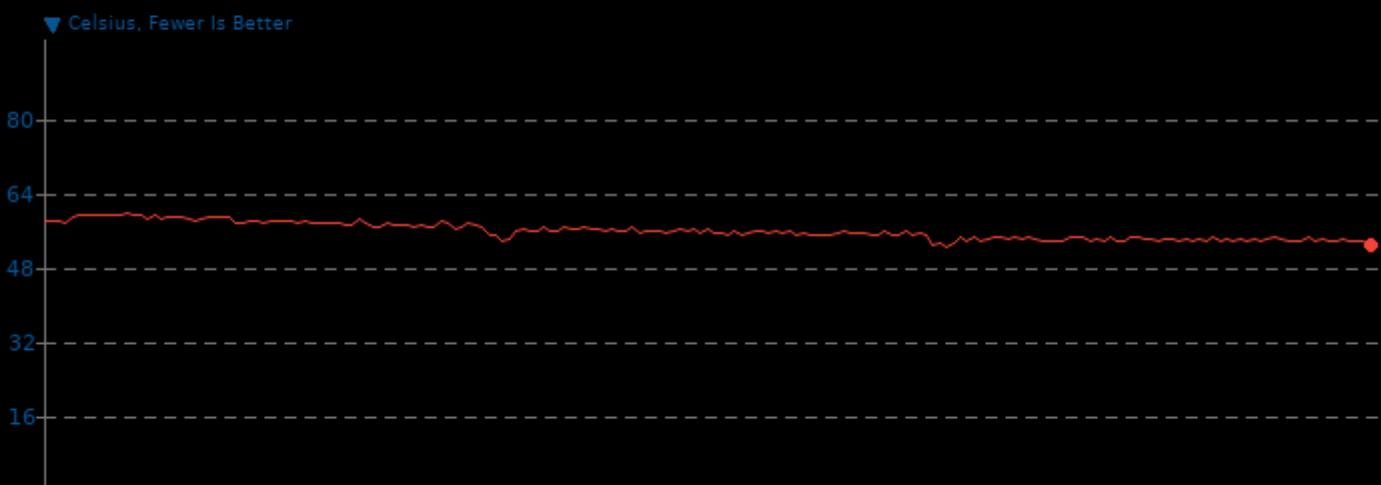
	Min	Avg	Max
Dynatron	42.7	95.8	109.0



Facebook RocksDB 6.22.1

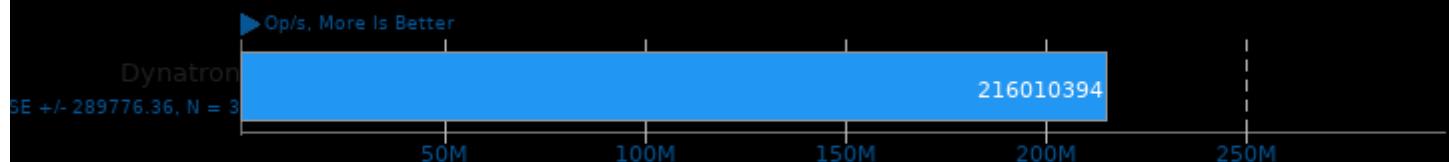
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	52.3	55.7	59.5



Facebook RocksDB 6.22.1

Test: Random Read



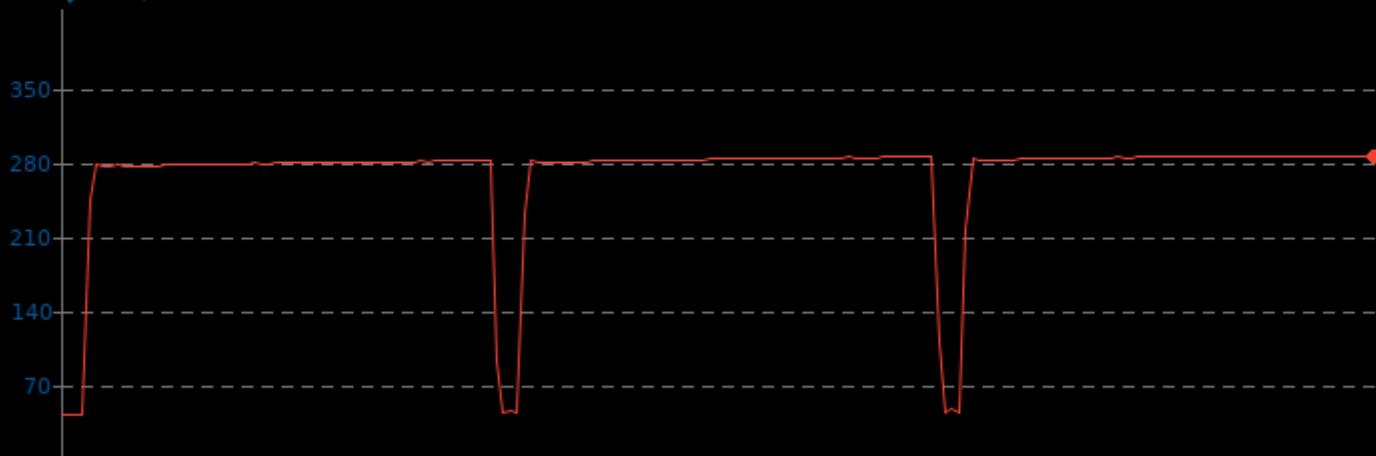
1. (CXX) g++ options: -O3 -march=native -pthread -fno-built-in-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.4	266.6	285.4

▼ Watts, Fewer Is Better

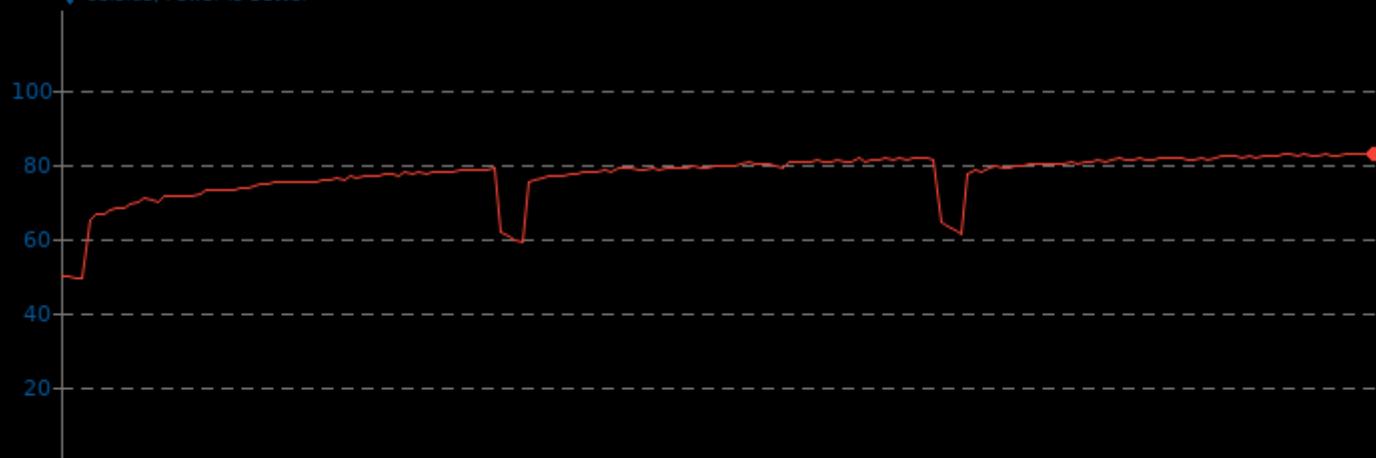


Facebook RocksDB 6.22.1

CPU Temperature Monitor

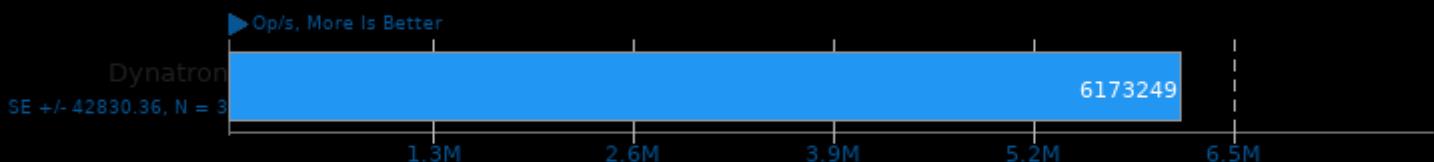
	Min	Avg	Max
Dynatron	49.3	76.8	82.5

▼ Celsius, Fewer Is Better



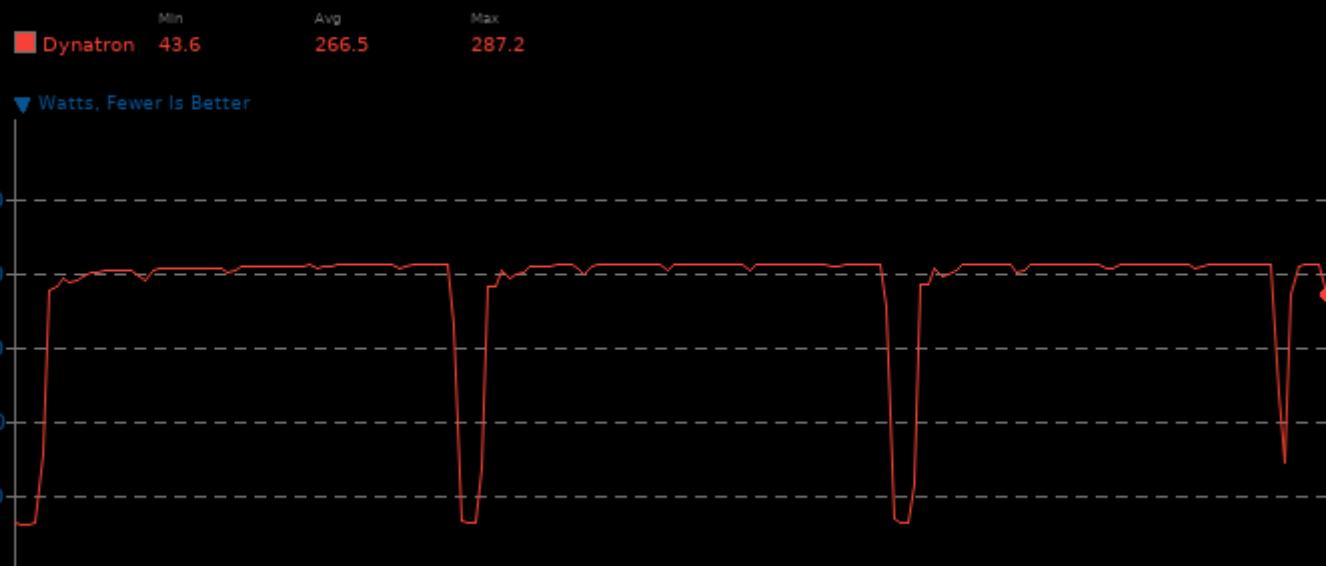
Facebook RocksDB 6.22.1

Test: Read While Writing



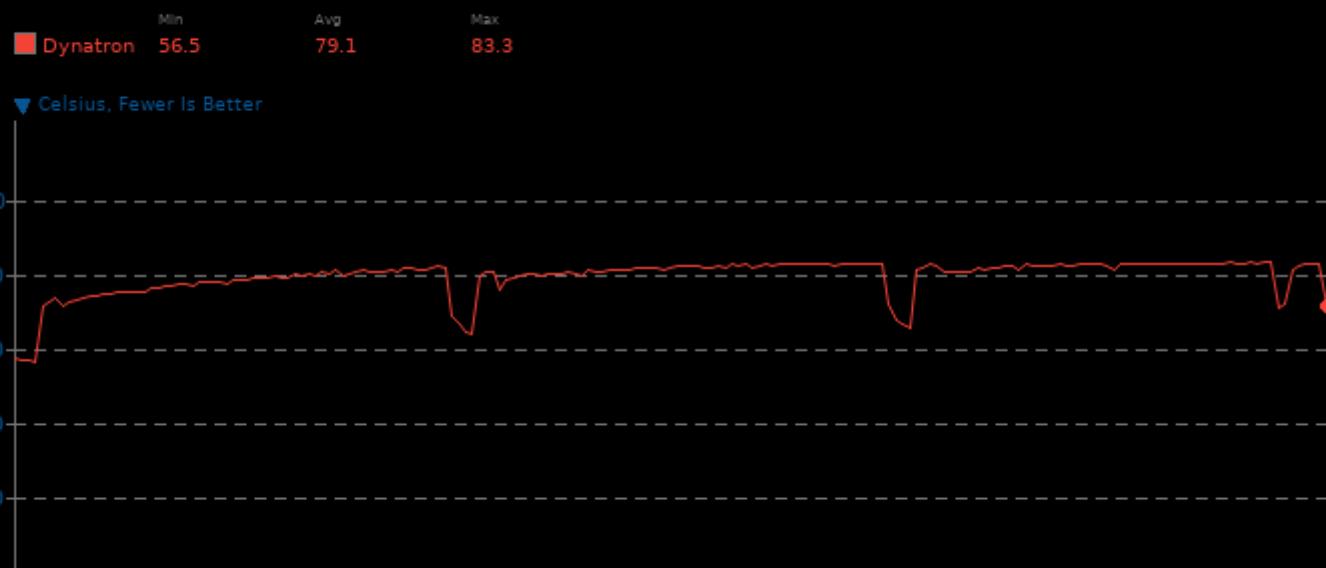
Facebook RocksDB 6.22.1

CPU Power Consumption Monitor



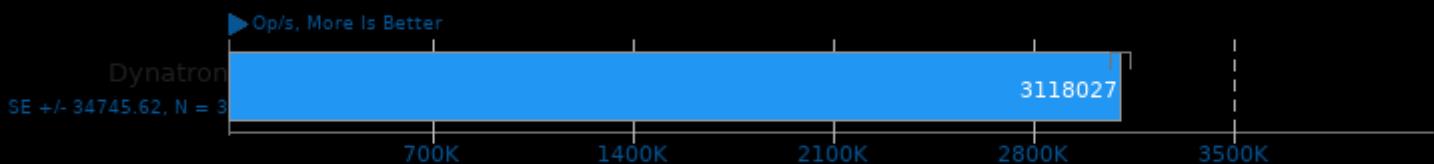
Facebook RocksDB 6.22.1

CPU Temperature Monitor



Facebook RocksDB 6.22.1

Test: Read Random Write Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-built-in-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

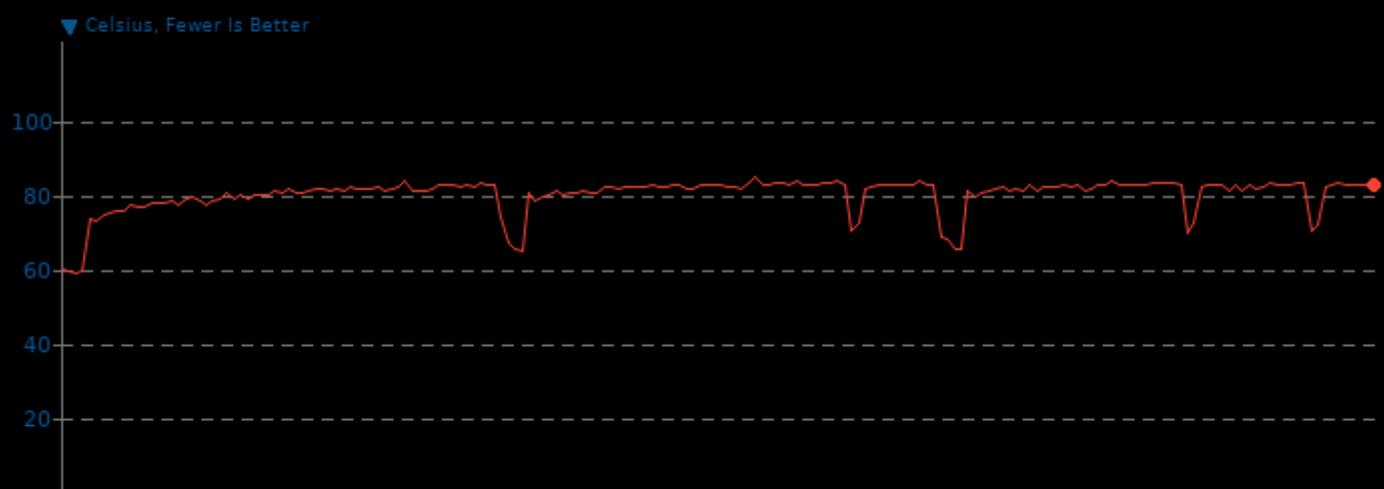
	Min	Avg	Max
Dynatron	43.8	260.5	286.7



Facebook RocksDB 6.22.1

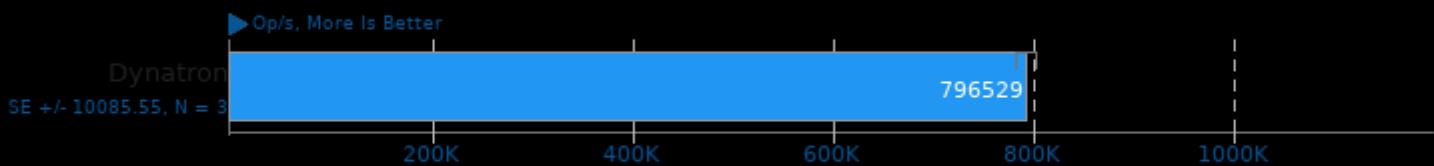
CPU Temperature Monitor

	Min	Avg	Max
Dynatron	59.0	79.9	84.5



Facebook RocksDB 6.22.1

Test: Update Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-built-in-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.8	247.5	284.3

▼ Watts, Fewer Is Better

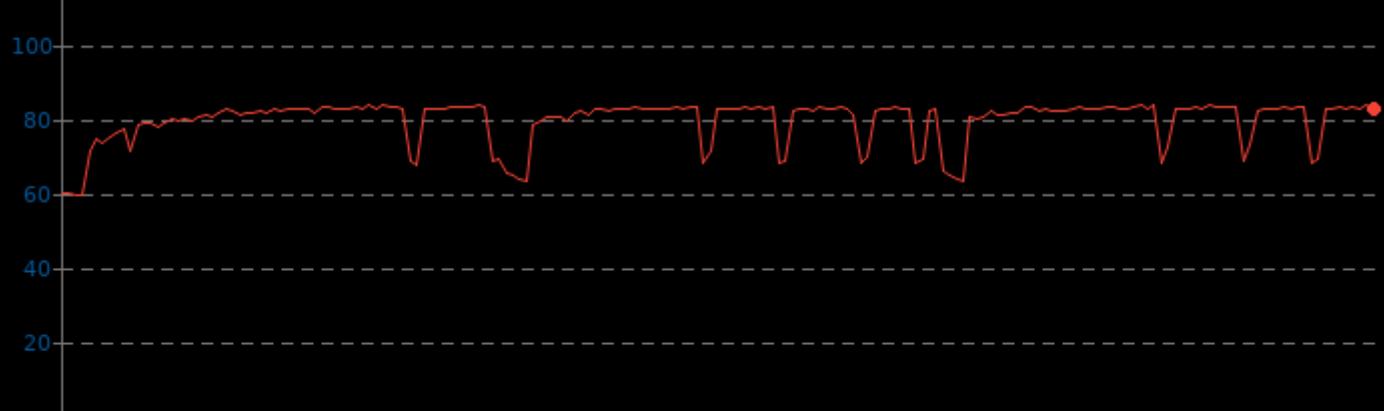


Facebook RocksDB 6.22.1

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	59.3	79.4	83.8

▼ Celsius, Fewer Is Better



NCNN 20210720

Target: CPU - Model: mobilenet



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

NCNN 20210720

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



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

NCNN 20210720

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



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

NCNN 20210720

Target: CPU - Model: shufflenet-v2



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

NCNN 20210720

Target: CPU - Model: mnasnet



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

NCNN 20210720

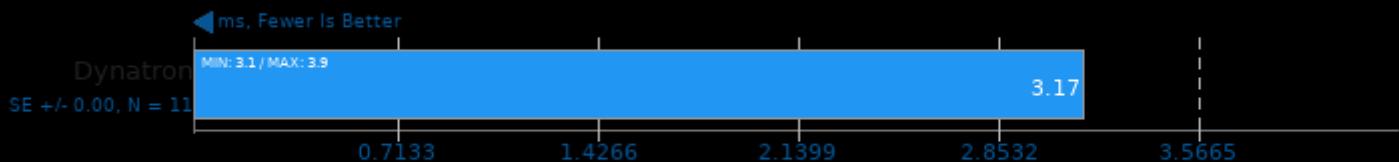
Target: CPU - Model: efficientnet-b0



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

NCNN 20210720

Target: CPU - Model: blazeface



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

NCNN 20210720

Target: CPU - Model: googlenet



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

NCNN 20210720

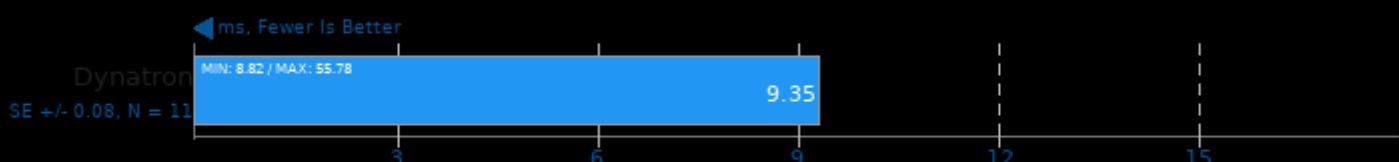
Target: CPU - Model: vgg16



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

NCNN 20210720

Target: CPU - Model: resnet18



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

NCNN 20210720

Target: CPU - Model: alexnet



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

NCNN 20210720

Target: CPU - Model: resnet50



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

NCNN 20210720

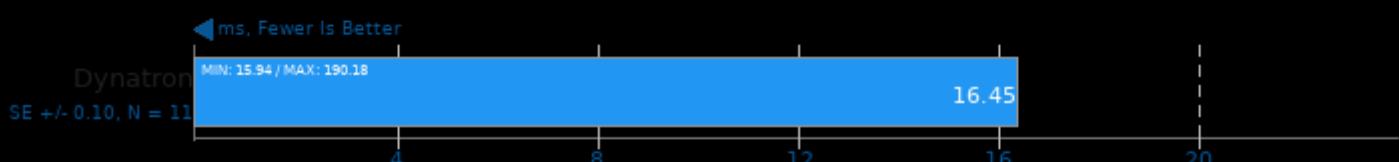
Target: CPU - Model: yolov4-tiny



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

NCNN 20210720

Target: CPU - Model: squeezezenet_ssd



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

NCNN 20210720

Target: CPU - Model: regnety_400m



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

NCNN 20210720

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.6	184.8	237.1

▼ Watts, Fewer Is Better

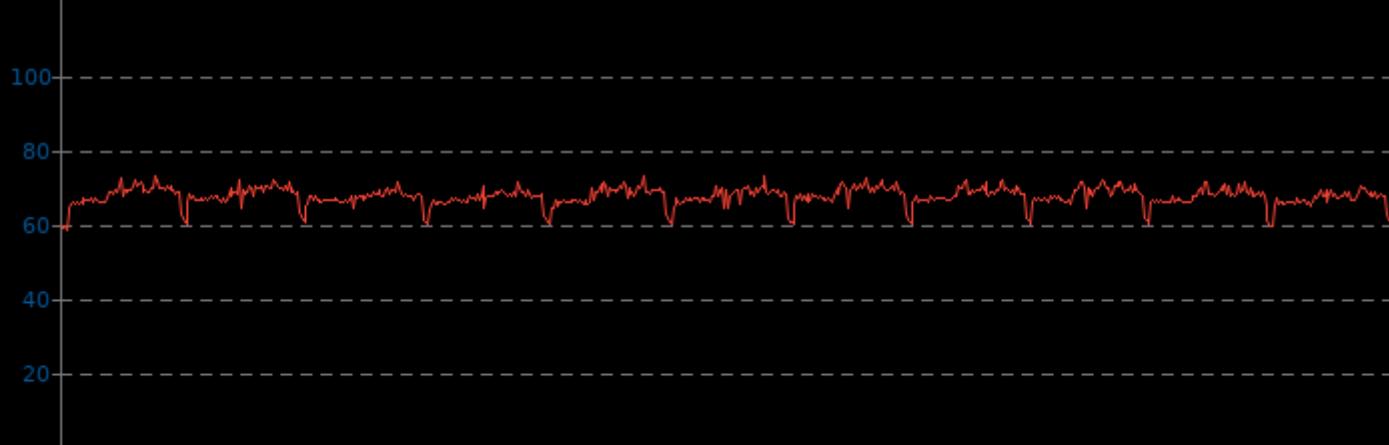


NCNN 20210720

CPU Temperature Monitor

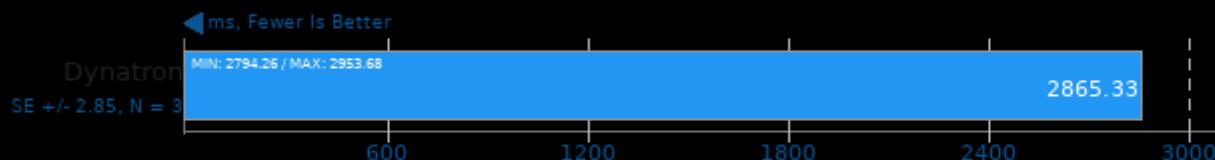
	Min	Avg	Max
Dynatron	58.5	67.5	73.0

▼ Celsius, Fewer Is Better



TNN 0.3

Target: CPU - Model: DenseNet



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

TNN 0.3

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.9	116.5	127.0

▼ Watts, Fewer Is Better

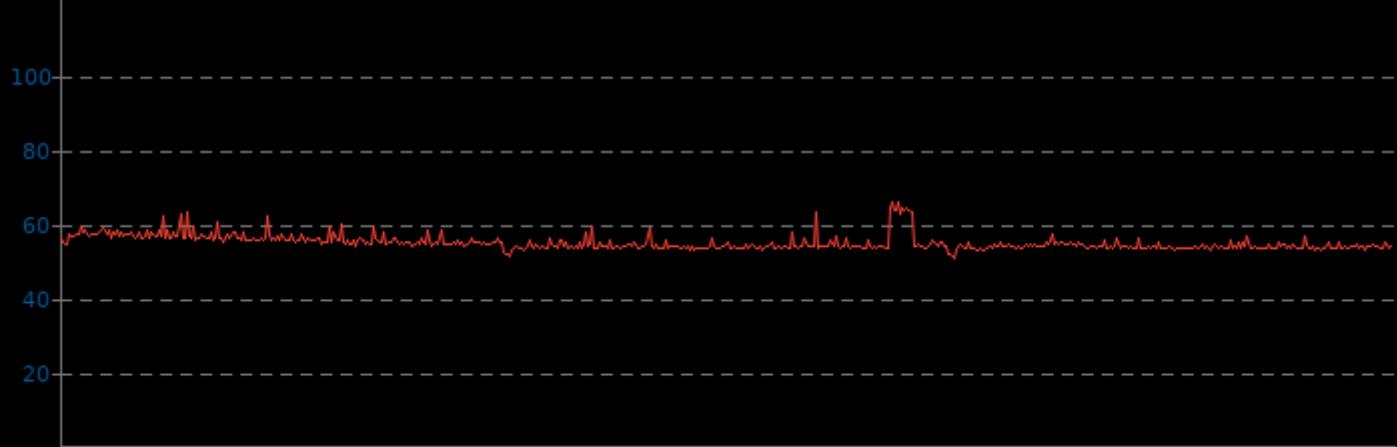


TNN 0.3

CPU Temperature Monitor

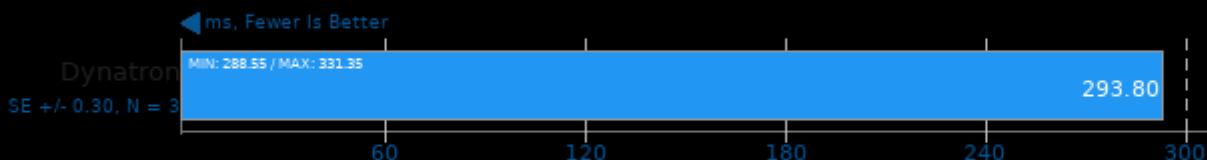
	Min	Avg	Max
Dynatron	50.8	55.0	66.0

▼ Celsius, Fewer Is Better



TNN 0.3

Target: CPU - Model: MobileNet v2



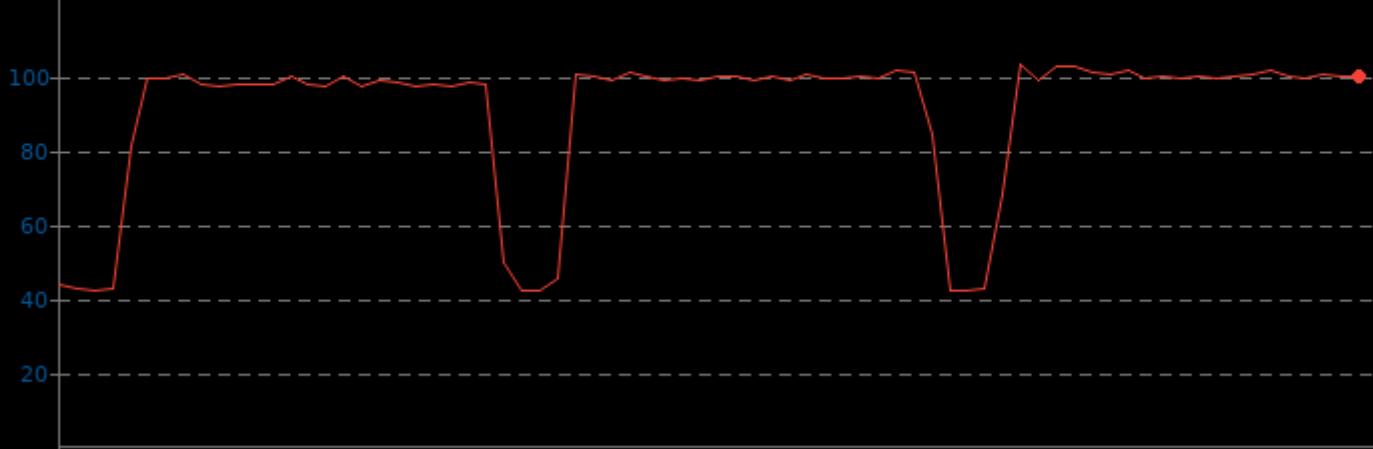
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.4	90.1	102.9

▼ Watts, Fewer Is Better

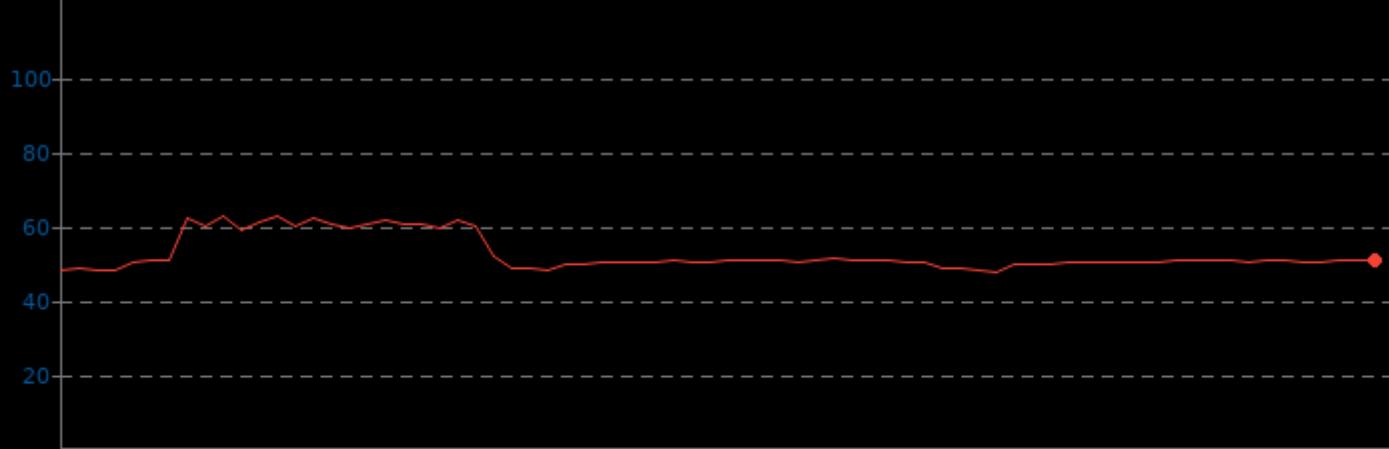


TNN 0.3

CPU Temperature Monitor

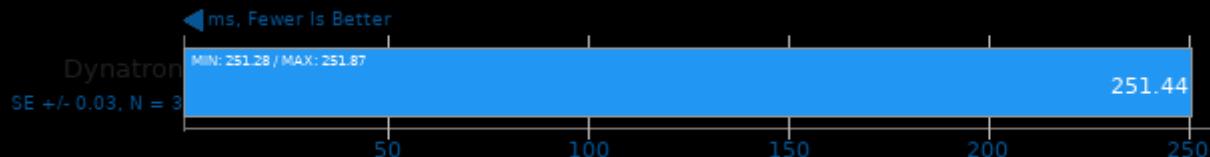
	Min	Avg	Max
Dynatron	47.8	52.6	62.8

▼ Celsius, Fewer Is Better



TNN 0.3

Target: CPU - Model: SqueezeNet v1.1



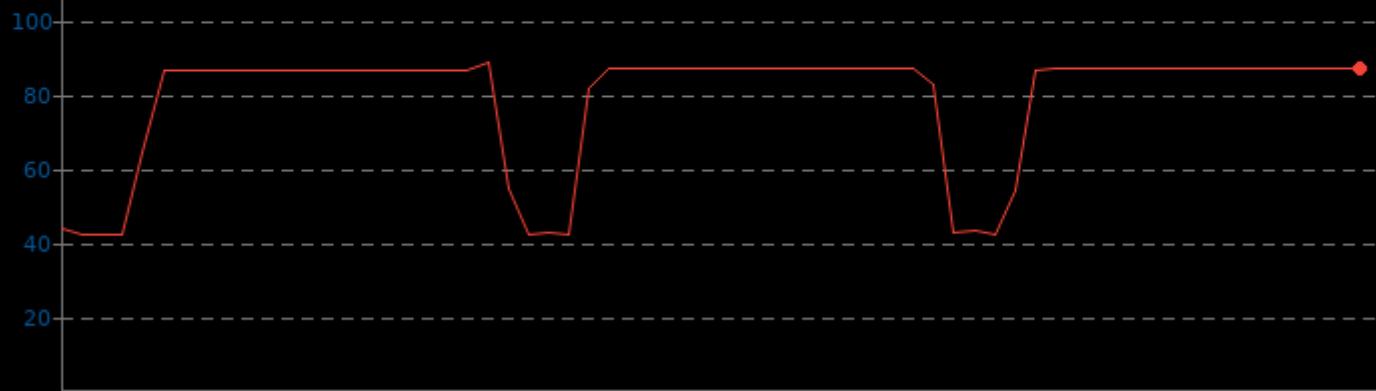
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.1	78.4	88.2

▼ Watts, Fewer Is Better

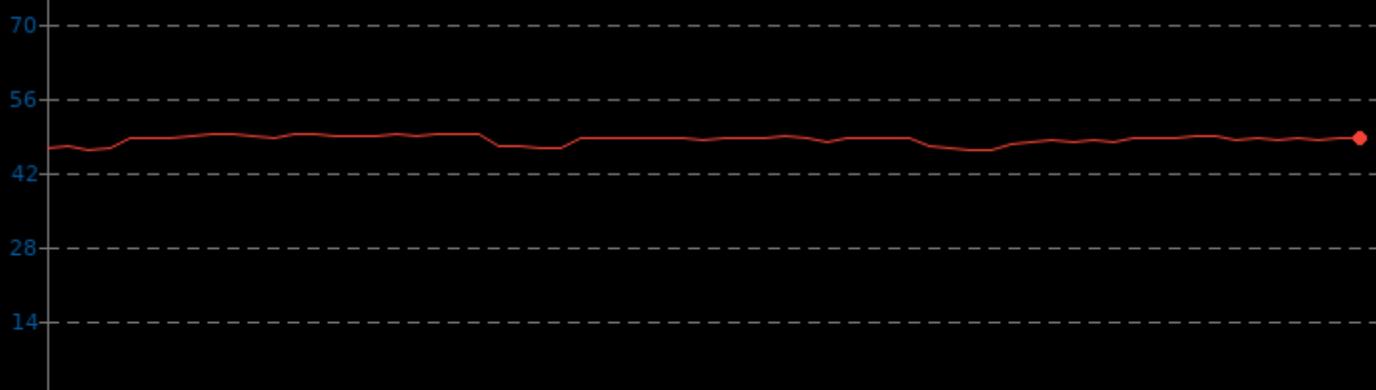


TNN 0.3

CPU Temperature Monitor

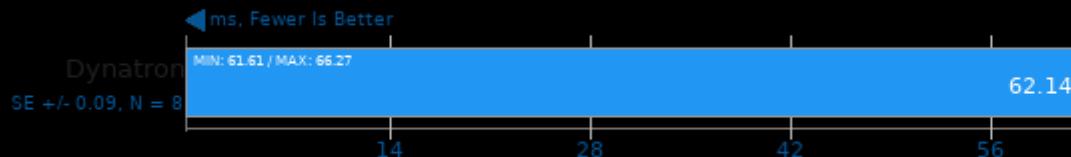
	Min	Avg	Max
Dynatron	46.0	48.1	49.3

▼ Celsius, Fewer Is Better



TNN 0.3

Target: CPU - Model: SqueezeNet v2



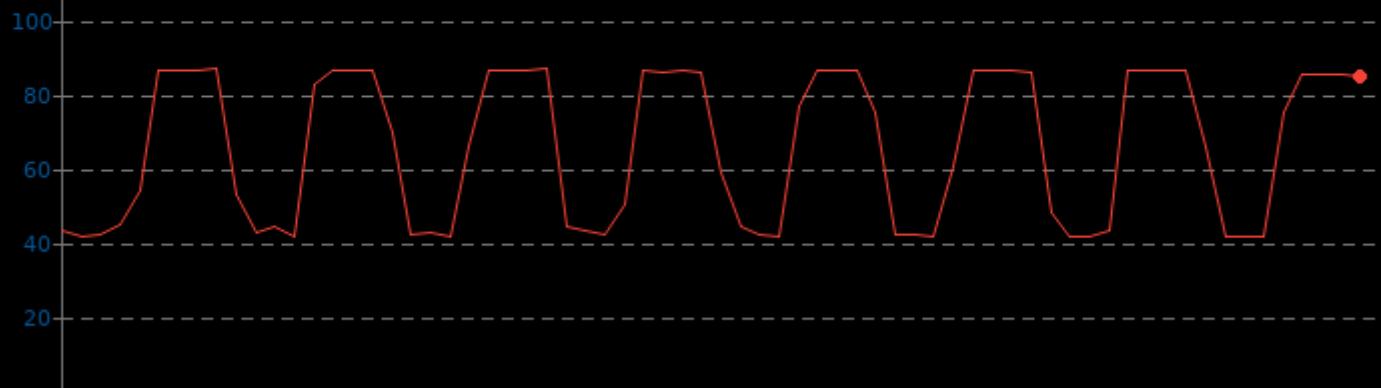
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

TNN 0.3

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	41.9	65.9
		86.7

▼ Watts, Fewer Is Better

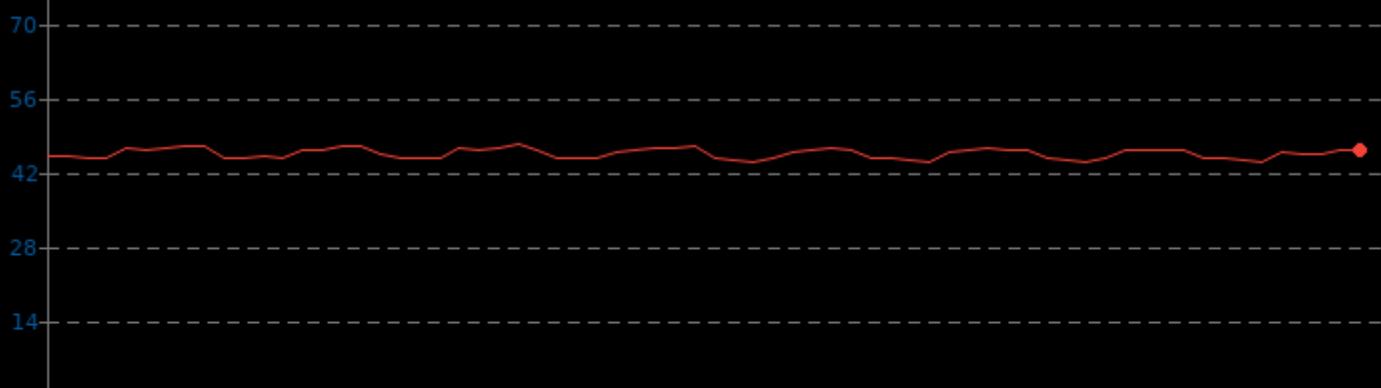


TNN 0.3

CPU Temperature Monitor

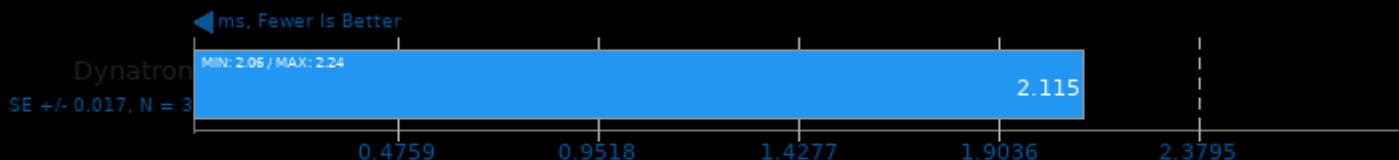
Min	Avg	Max
Dynatron	44.0	45.5
		47.3

▼ Celsius, Fewer Is Better



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 -fr

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 -fr

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 -fr

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 -fr

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 -fr

Mobile Neural Network 1.2

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.0	265.3	286.6

▼ Watts, Fewer Is Better

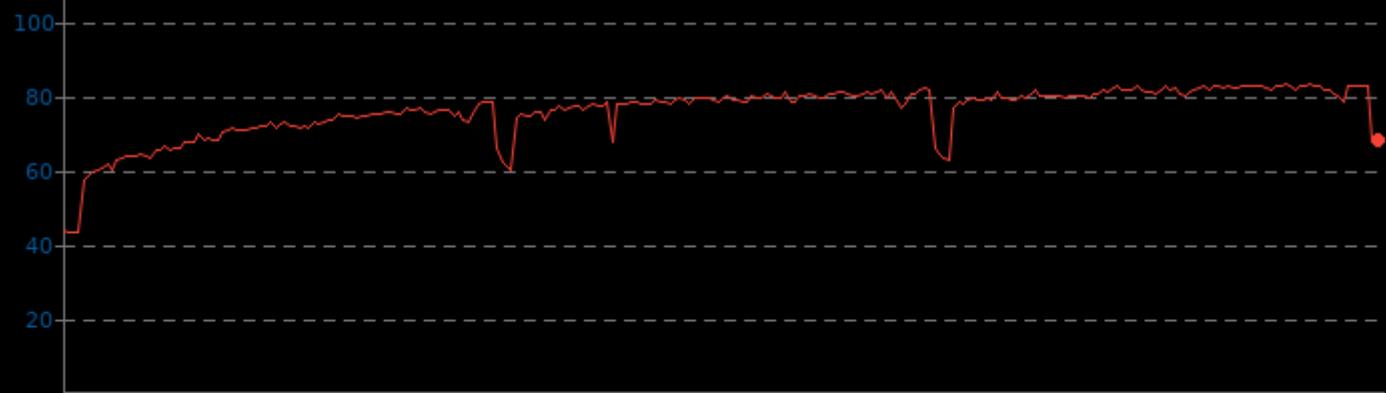


Mobile Neural Network 1.2

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	43.3	75.8	83.0

▼ Celsius, Fewer Is Better



VP9 libvpx Encoding 1.10.0

Speed: Speed 5 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better



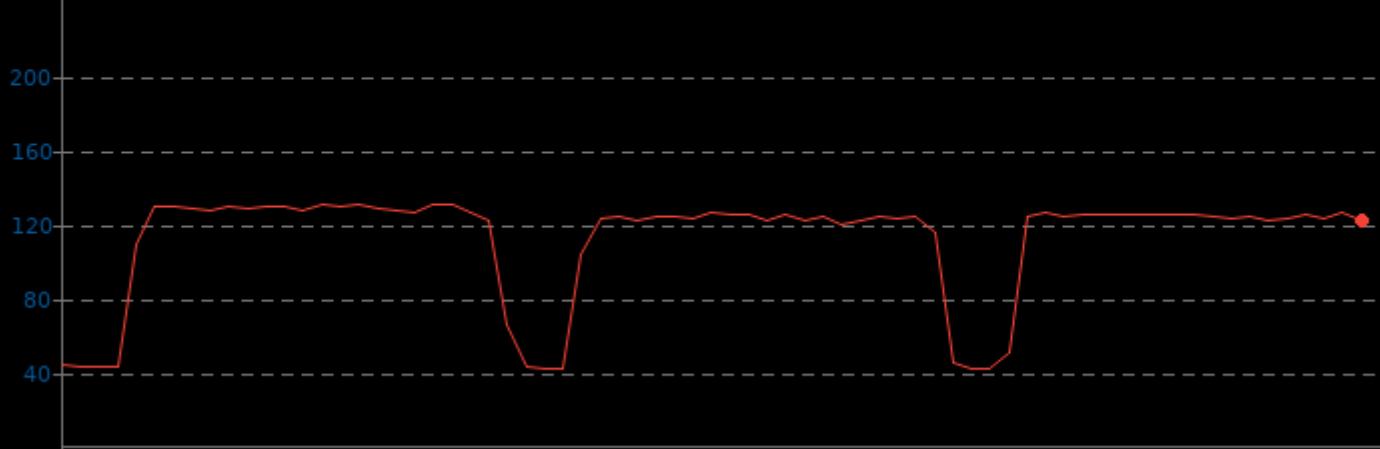
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

VP9 libvpx Encoding 1.10.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.0	111.6	131.1

▼ Watts, Fewer Is Better

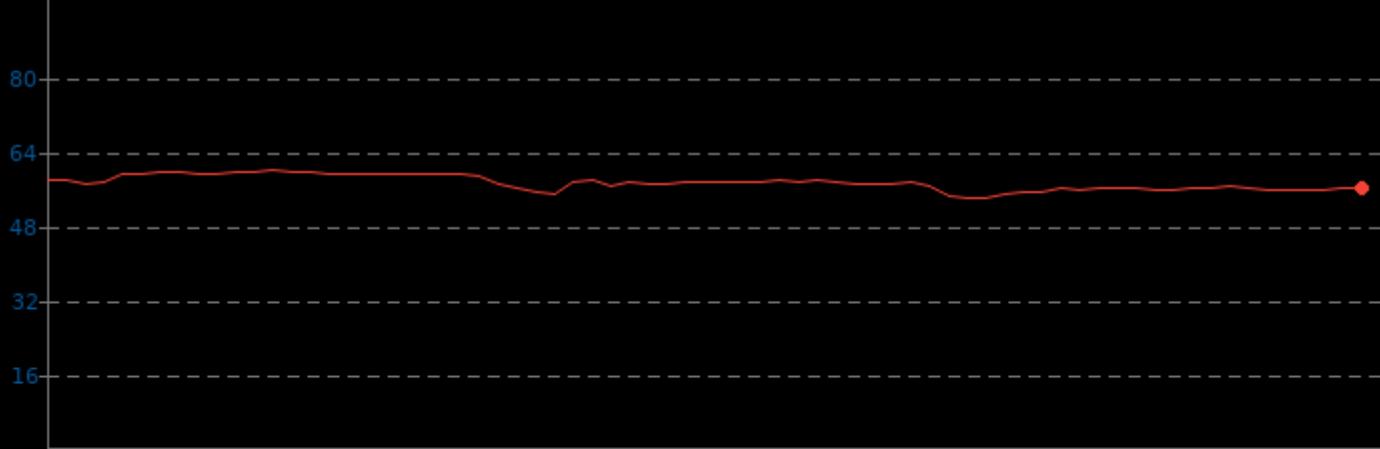


VP9 libvpx Encoding 1.10.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	54.0	57.2	60.0

▼ Celsius, Fewer Is Better



VP9 libvpx Encoding 1.10.0

Speed: Speed 5 - Input: Bosphorus 4K

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.12, N = 3

16.79

4

8

12

16

20

1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

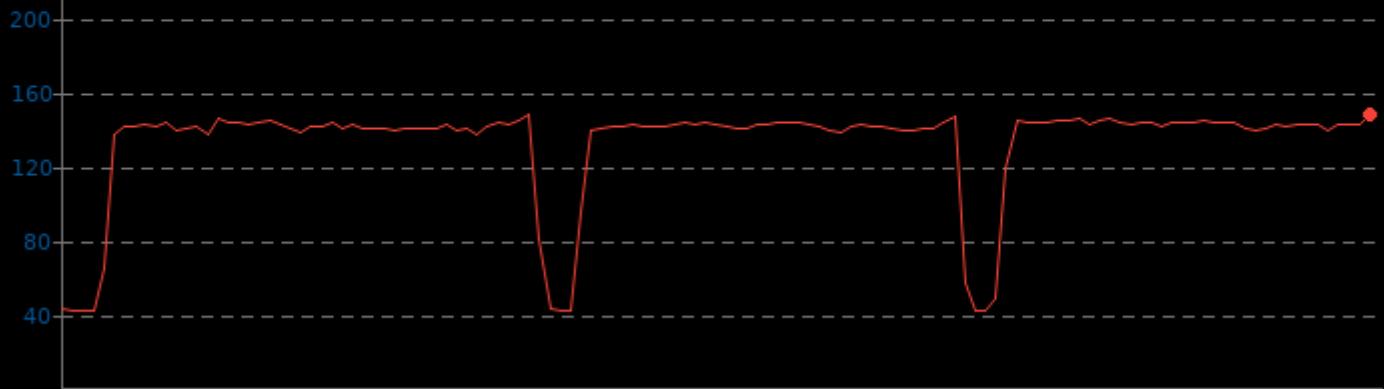
VP9 libvpx Encoding 1.10.0

CPU Power Consumption Monitor

	Min	Avg	Max
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Dynatron	42.6	132.0	147.6
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▼ Watts, Fewer Is Better



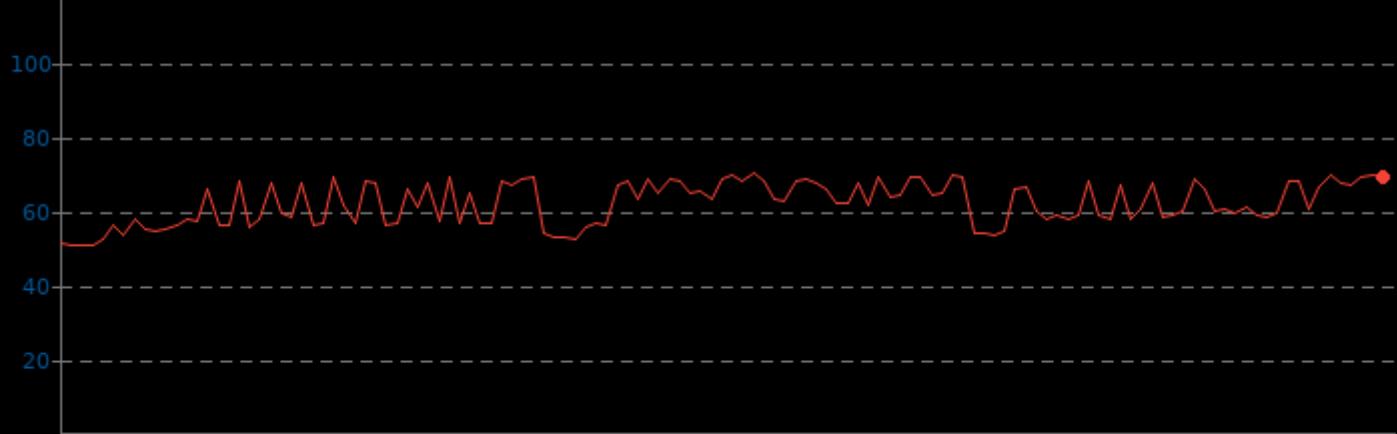
VP9 libvpx Encoding 1.10.0

CPU Temperature Monitor

	Min	Avg	Max
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Dynatron	50.8	62.0	70.0
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▼ Celsius, Fewer Is Better



VP9 libvpx Encoding 1.10.0

Speed: Speed 0 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.03, N = 3

15.11

4 8 12 16 20

1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

VP9 libvpx Encoding 1.10.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.7	141.8	156.9

▼ Watts, Fewer Is Better

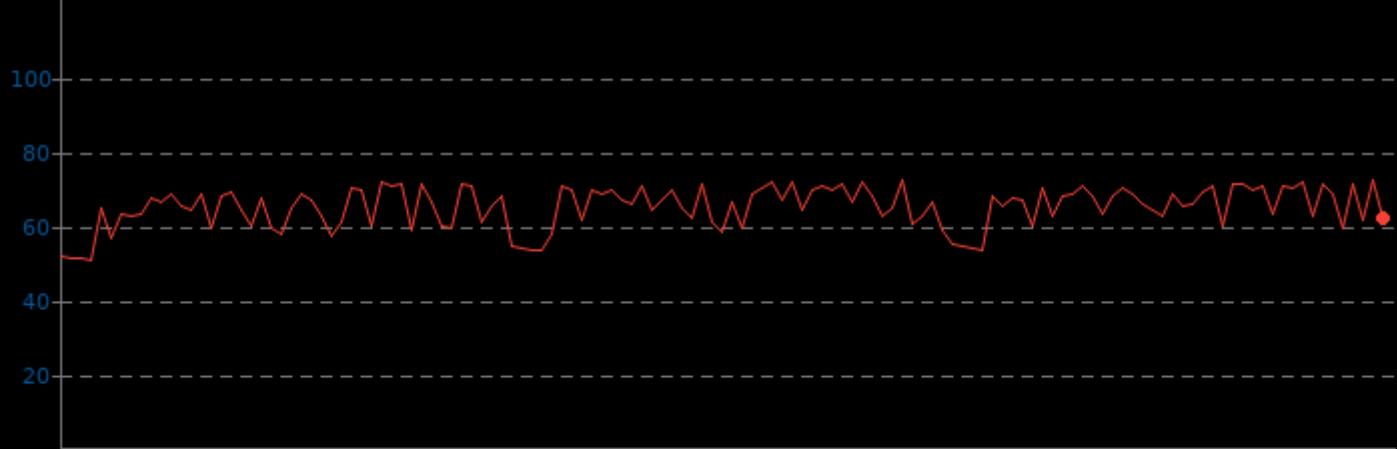


VP9 libvpx Encoding 1.10.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	50.8	65.1	72.5

▼ Celsius, Fewer Is Better



VP9 libvpx Encoding 1.10.0

Speed: Speed 0 - Input: Bosphorus 4K

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.04, N = 3

7.30

2 4 6 8 10

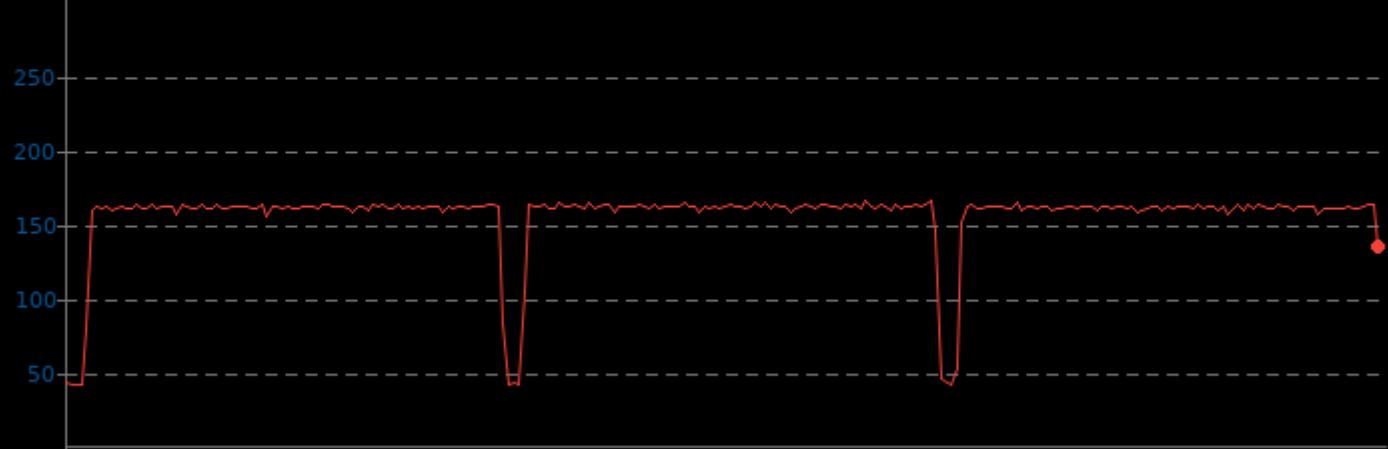
1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

VP9 libvpx Encoding 1.10.0

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.7	155.7	166.5

▼ Watts, Fewer Is Better

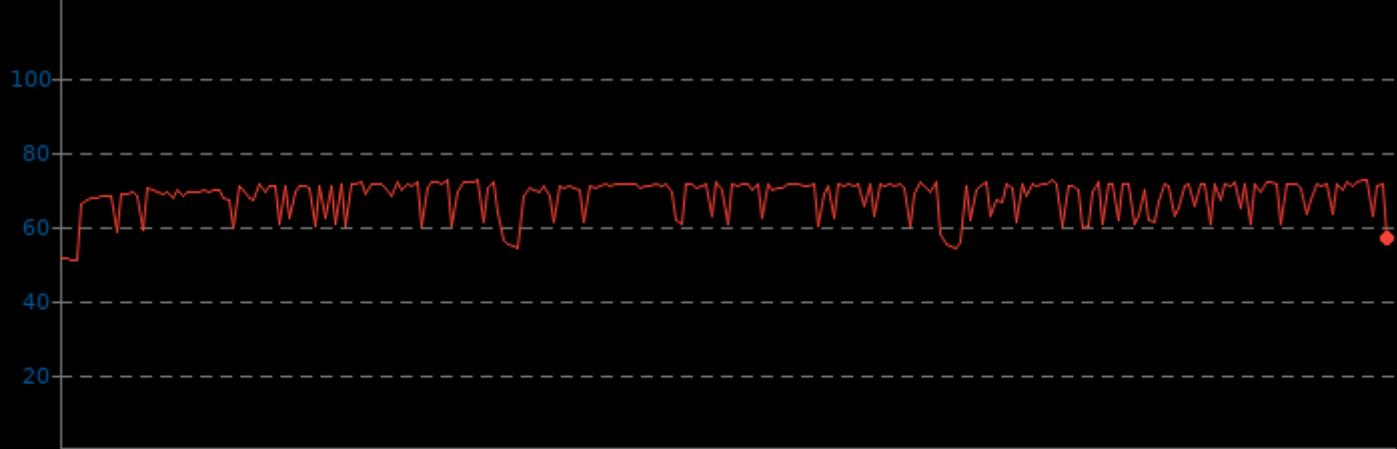


VP9 libvpx Encoding 1.10.0

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	50.8	67.9	72.3

▼ Celsius, Fewer Is Better

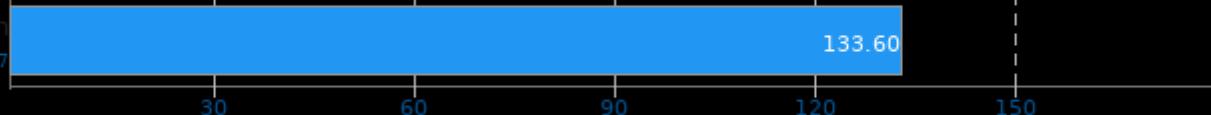


SVT-AV1 0.8.7

Encoder Mode: Preset 8 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.45, N = 7



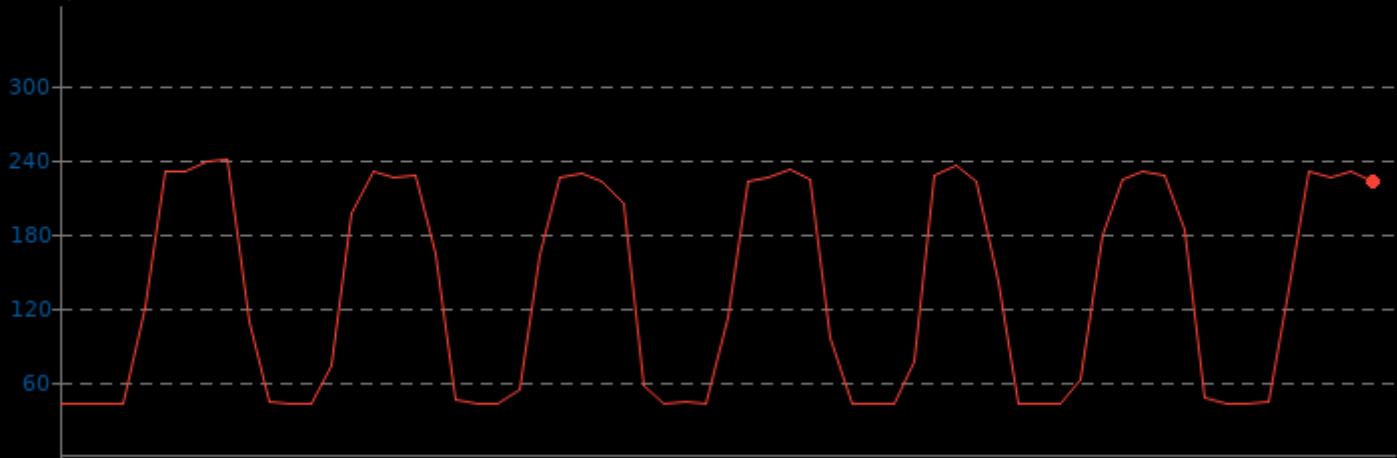
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 0.8.7

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.8	134.3
		238.9

▼ Watts, Fewer Is Better

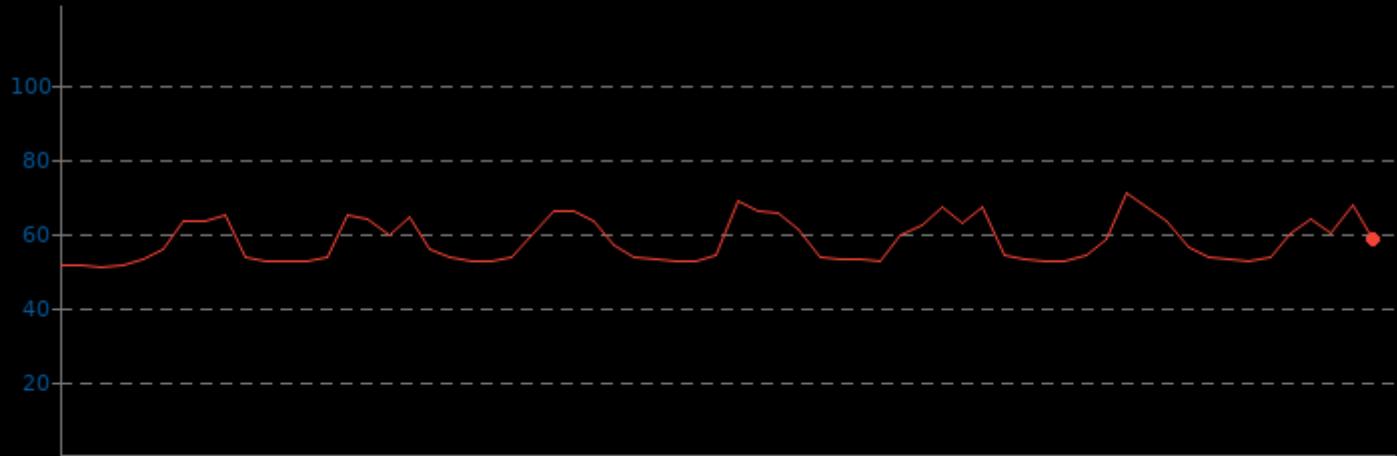


SVT-AV1 0.8.7

CPU Temperature Monitor

Min	Avg	Max
Dynatron	51.0	57.9
		70.5

▼ Celsius, Fewer Is Better



SVT-AV1 0.8.7

Encoder Mode: Preset 8 - Input: Bosphorus 4K

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.23, N = 6

23.37

6 12 18 24 30

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

SVT-AV1 0.8.7

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.6	155.9

▼ Watts, Fewer Is Better



SVT-AV1 0.8.7

CPU Temperature Monitor

Min	Avg	Max
Dynatron	49.8	59.7

▼ Celsius, Fewer Is Better



SVT-AV1 0.8.7

Encoder Mode: Preset 4 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.048, N = 3

7.258

2 4 6 8 10

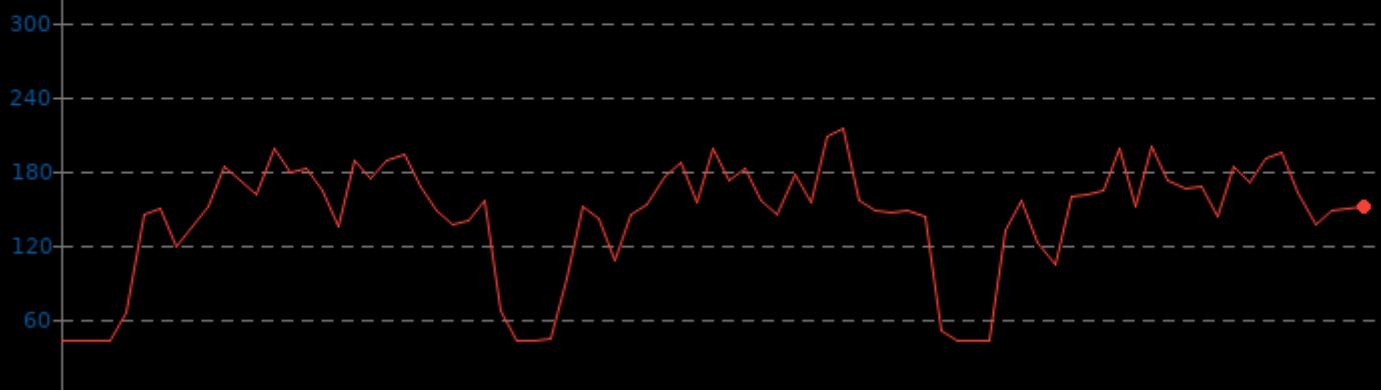
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

SVT-AV1 0.8.7

CPU Power Consumption Monitor

Min	42.7
Avg	142.1
Max	214.3

▼ Watts, Fewer Is Better

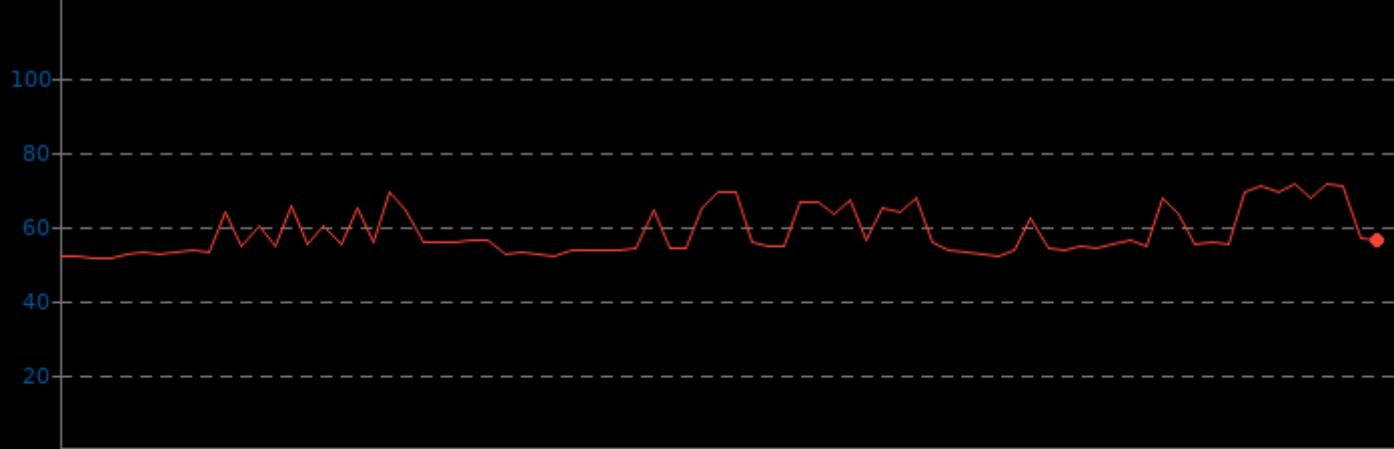


SVT-AV1 0.8.7

CPU Temperature Monitor

Min	51.3
Avg	58.3
Max	71.0

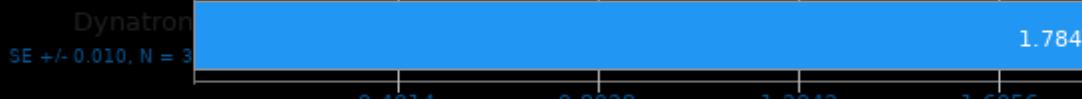
▼ Celsius, Fewer Is Better



SVT-AV1 0.8.7

Encoder Mode: Preset 4 - Input: Bosphorus 4K

► Frames Per Second, More Is Better



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

SVT-AV1 0.8.7

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.5	142.2

▼ Watts, Fewer Is Better

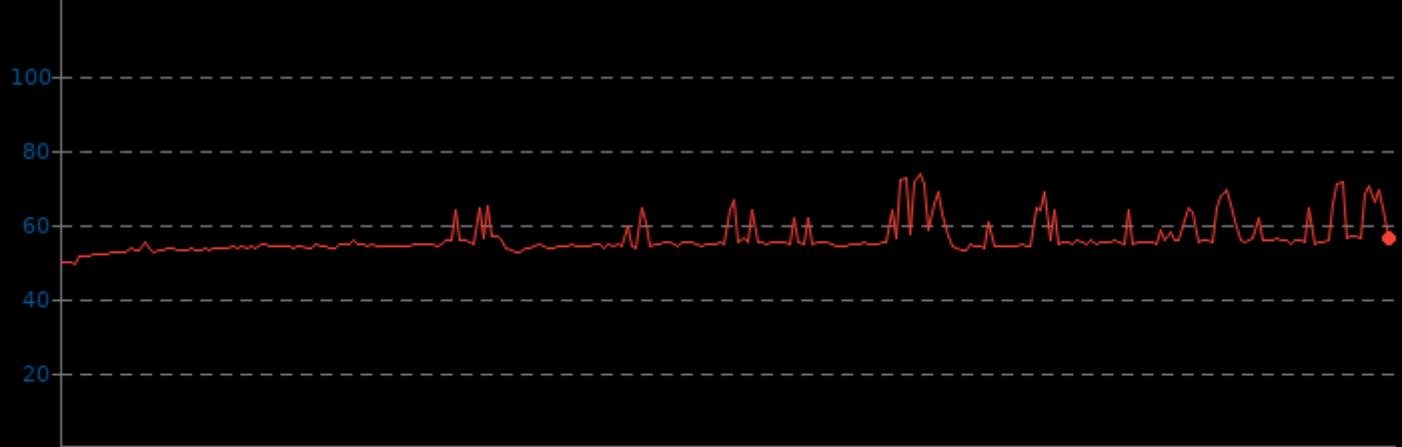


SVT-AV1 0.8.7

CPU Temperature Monitor

Min	Avg	Max
Dynatron	49.3	56.2

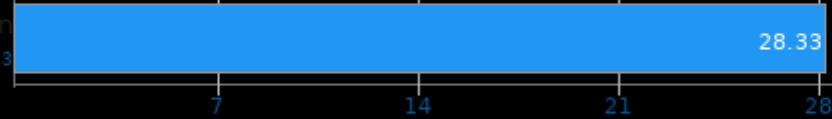
▼ Celsius, Fewer Is Better



SVT-HEVC 1.5.0

Tuning: 1 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.15, N = 3

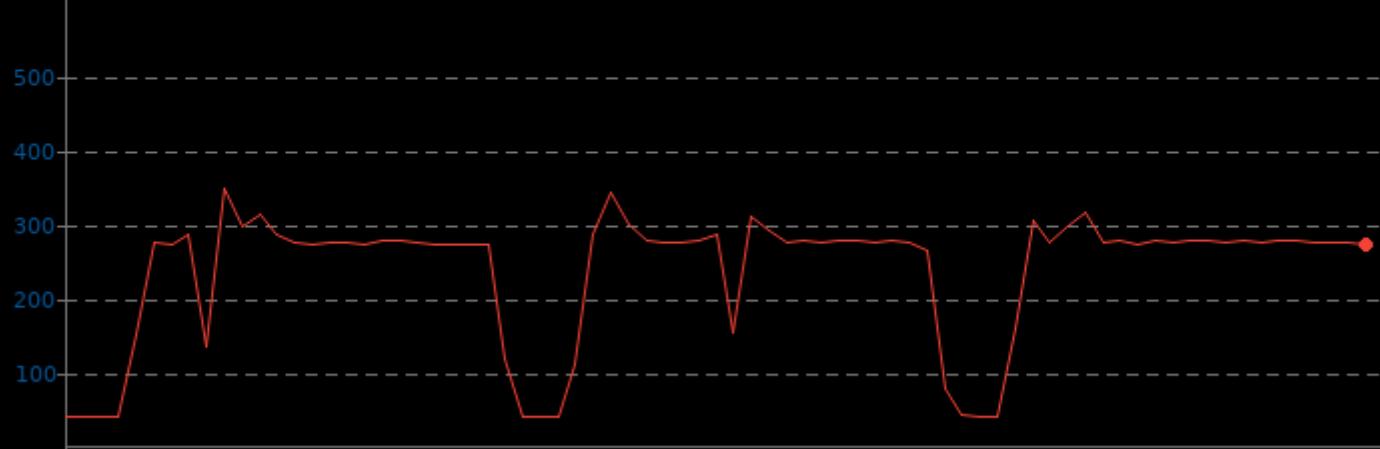
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

CPU Power Consumption Monitor

Min 42.5 Avg 236.9 Max 347.7

▼ Watts, Fewer Is Better

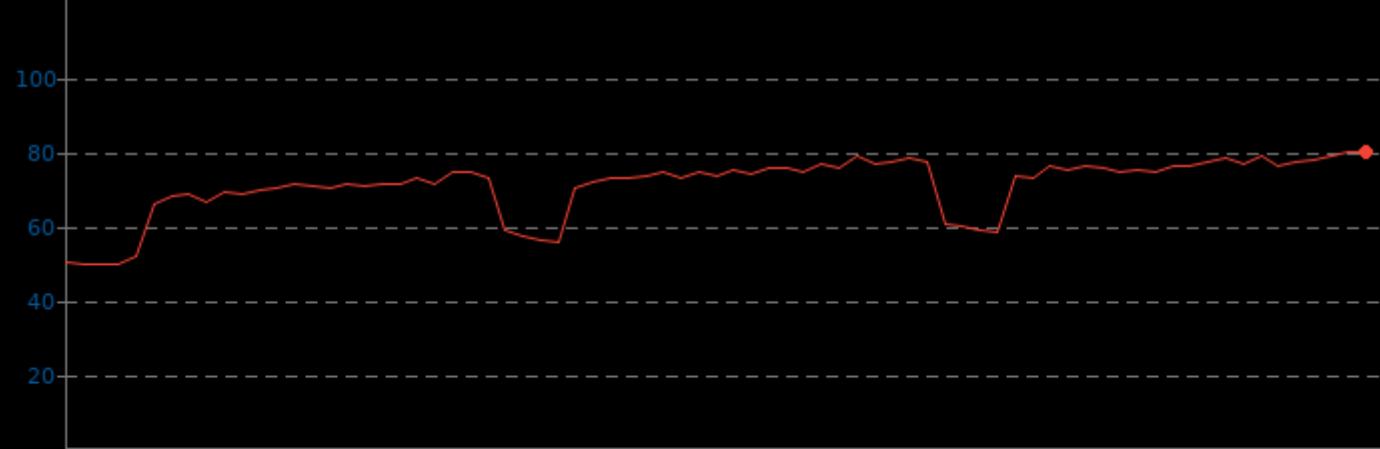


SVT-HEVC 1.5.0

CPU Temperature Monitor

Min 49.8 Avg 70.7 Max 80.0

▼ Celsius, Fewer Is Better



SVT-HEVC 1.5.0

Tuning: 7 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.46, N = 11

345.45

80 160 240 320 400

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

SVT-HEVC 1.5.0

CPU Power Consumption Monitor

Min	42.8
Avg	112.3
Max	281.7

▼ Watts, Fewer Is Better

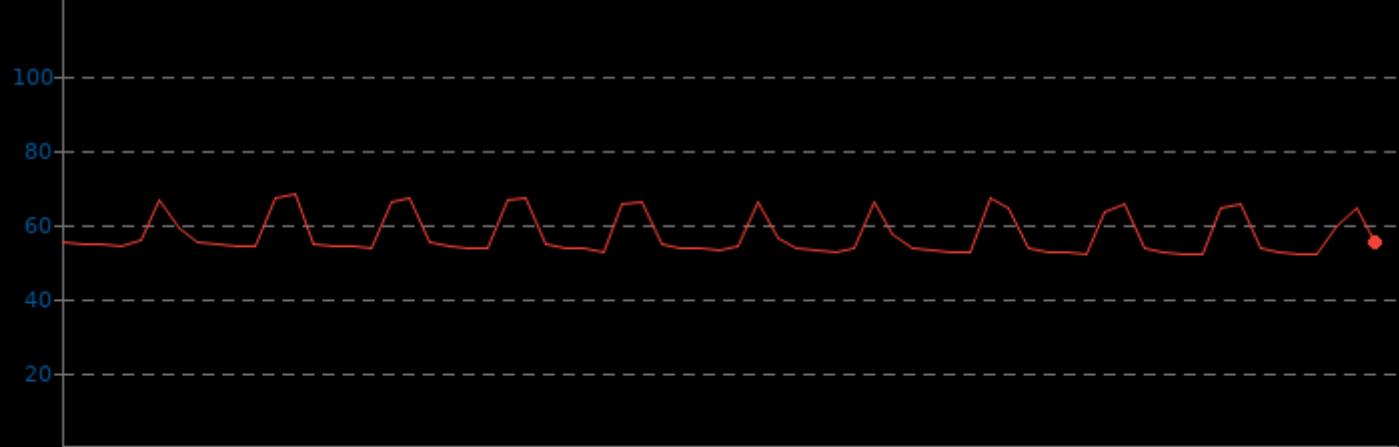


SVT-HEVC 1.5.0

CPU Temperature Monitor

Min	52.0
Avg	57.0
Max	68.0

▼ Celsius, Fewer Is Better



SVT-HEVC 1.5.0

Tuning: 10 - Input: Bosphorus 1080p

► Frames Per Second, More Is Better



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

SVT-HEVC 1.5.0

CPU Power Consumption Monitor

Min	42.4
Avg	85.7
Max	250.1

▼ Watts, Fewer Is Better

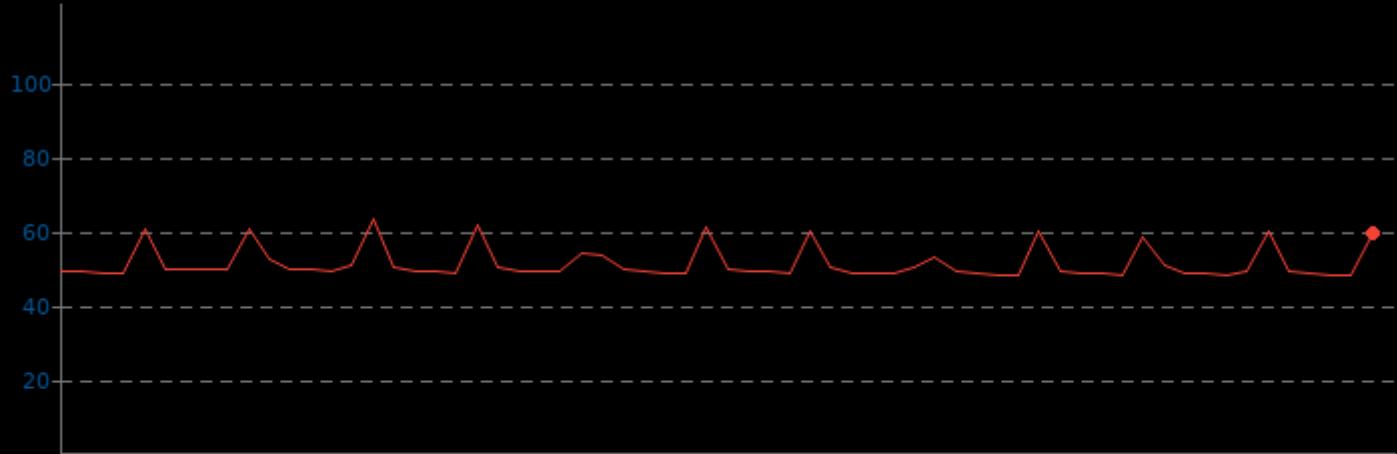


SVT-HEVC 1.5.0

CPU Temperature Monitor

Min	48.0
Avg	51.3
Max	63.0

▼ Celsius, Fewer Is Better



SVT-VP9 0.3

Tuning: Visual Quality Optimized - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 5.54, N = 15

394.73

90 180 270 360 450

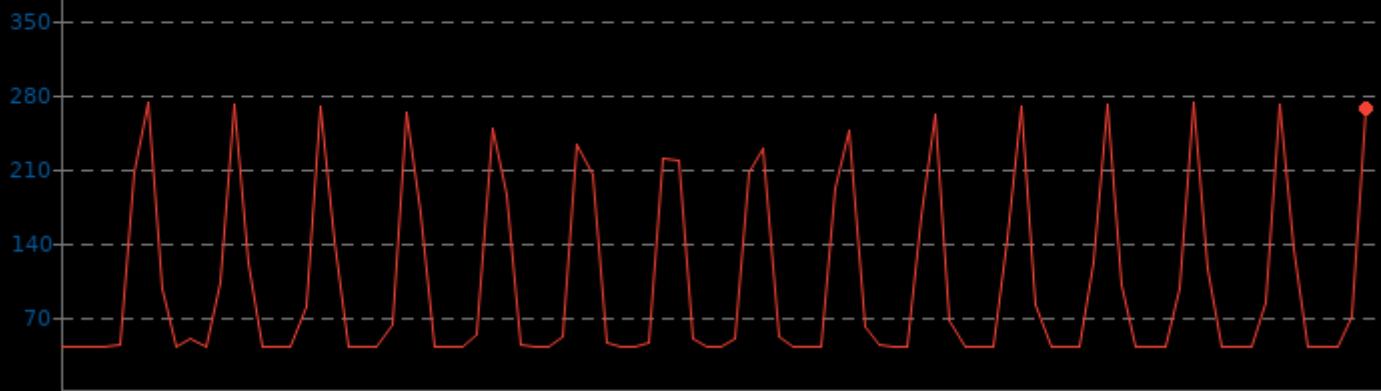
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.2	102.1

▼ Watts, Fewer Is Better

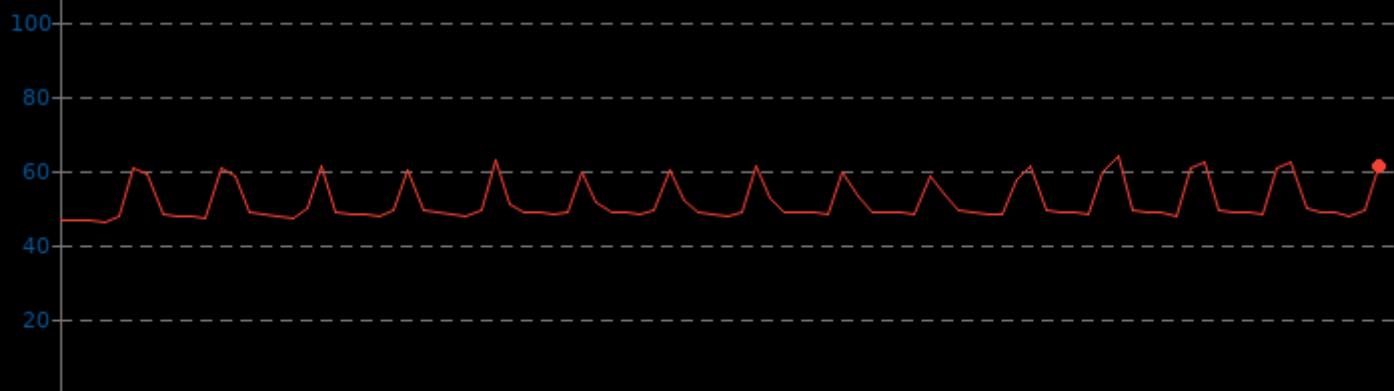


SVT-VP9 0.3

CPU Temperature Monitor

Min	Avg	Max
Dynatron	46.3	51.4

▼ Celsius, Fewer Is Better



SVT-VP9 0.3

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

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.91, N = 11

507.37

110

220

330

440

550

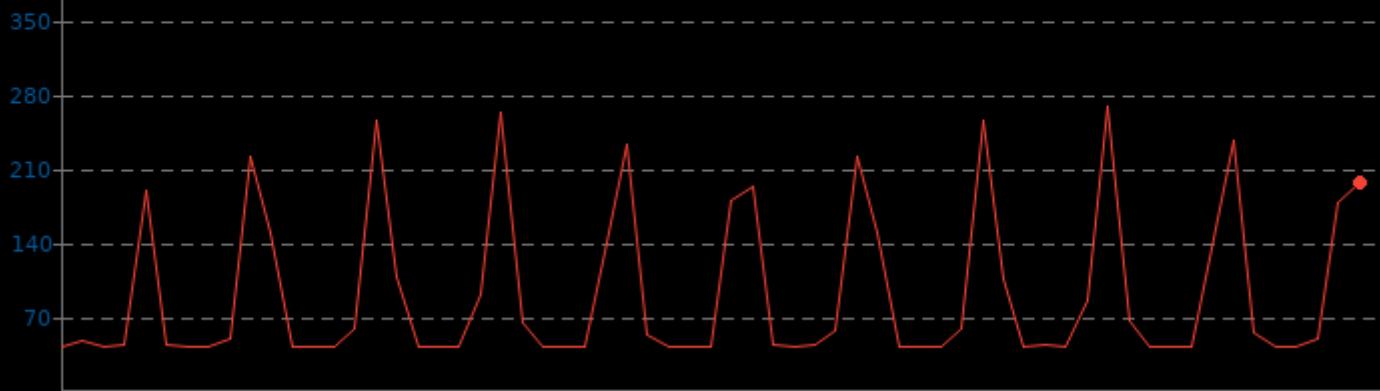
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	42.3	92.2	267.5

▼ Watts, Fewer Is Better

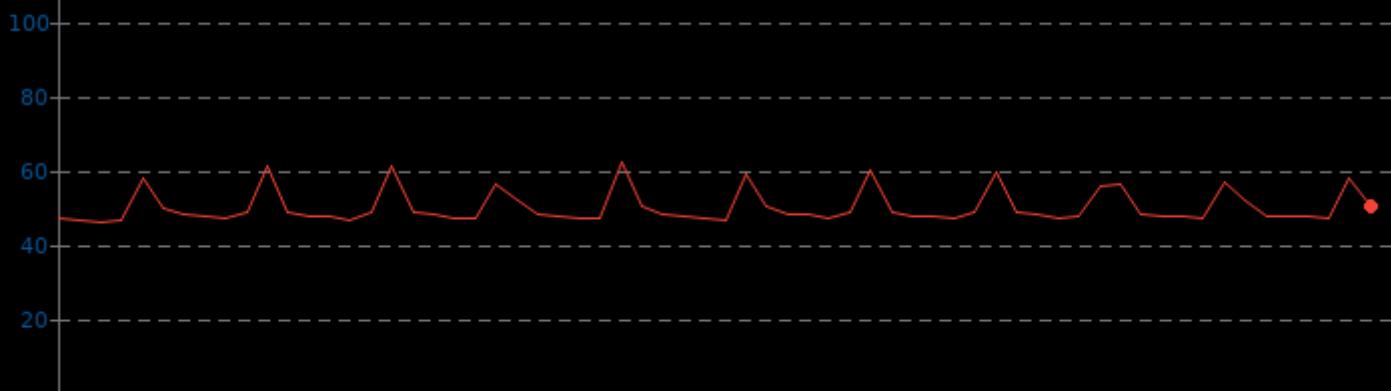


SVT-VP9 0.3

CPU Temperature Monitor

	Min	Avg	Max
Dynatron	46.3	50.0	62.0

▼ Celsius, Fewer Is Better



SVT-VP9 0.3

Tuning: VMAF Optimized - Input: Bosphorus 1080p

► Frames Per Second, More Is Better

Dynatron
SE +/- 1.34, N = 11

512.36

110 220 330 440 550

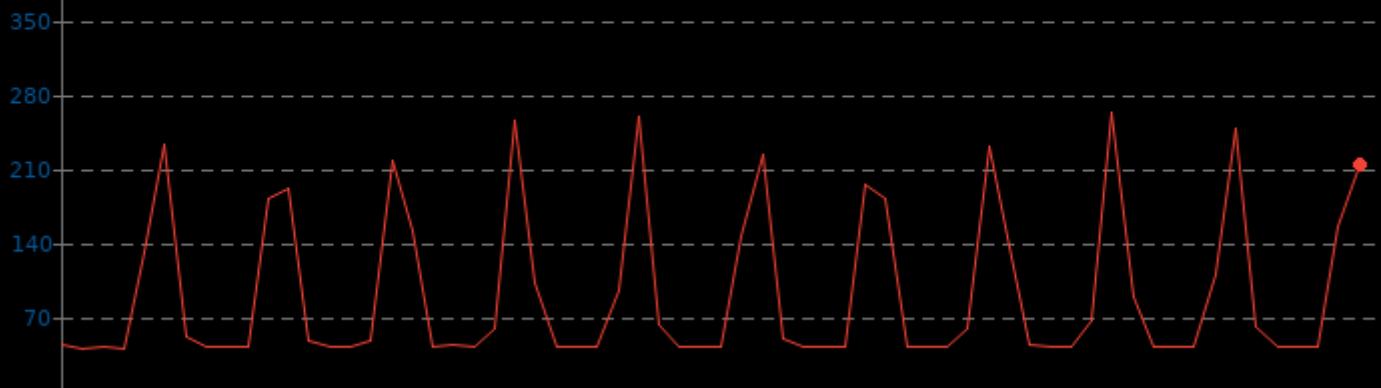
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.1	92.9

▼ Watts, Fewer Is Better

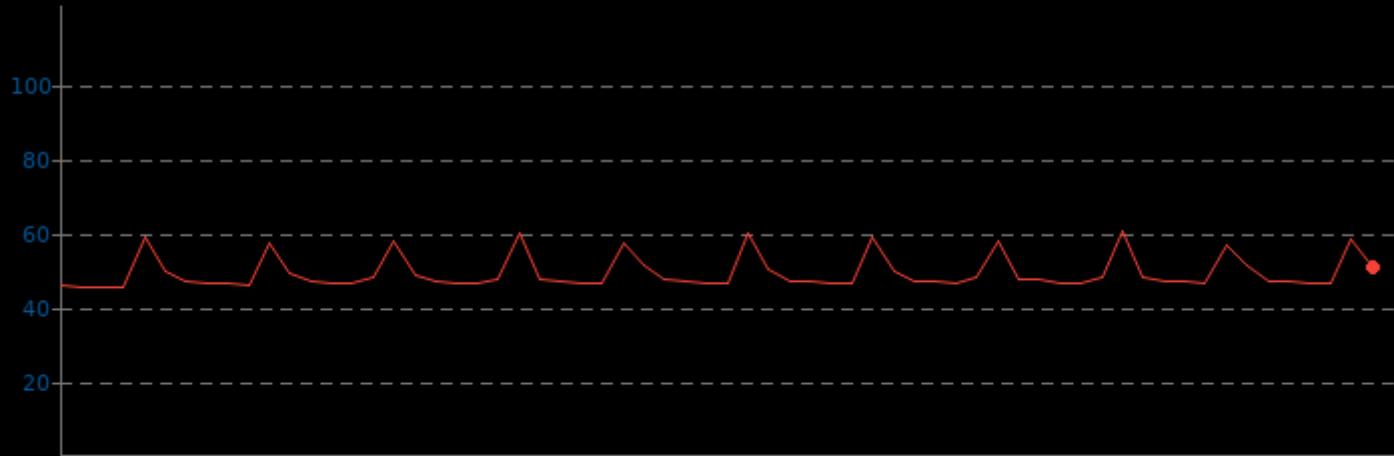


SVT-VP9 0.3

CPU Temperature Monitor

Min	Avg	Max
Dynatron	45.5	49.3

▼ Celsius, Fewer Is Better



x265 3.4

Video Input: Bosphorus 1080p

► Frames Per Second, More Is Better



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

x265 3.4

CPU Power Consumption Monitor

Dynatron Min 21.3 Avg 114.3 Max 159.4

▼ Watts, Fewer Is Better

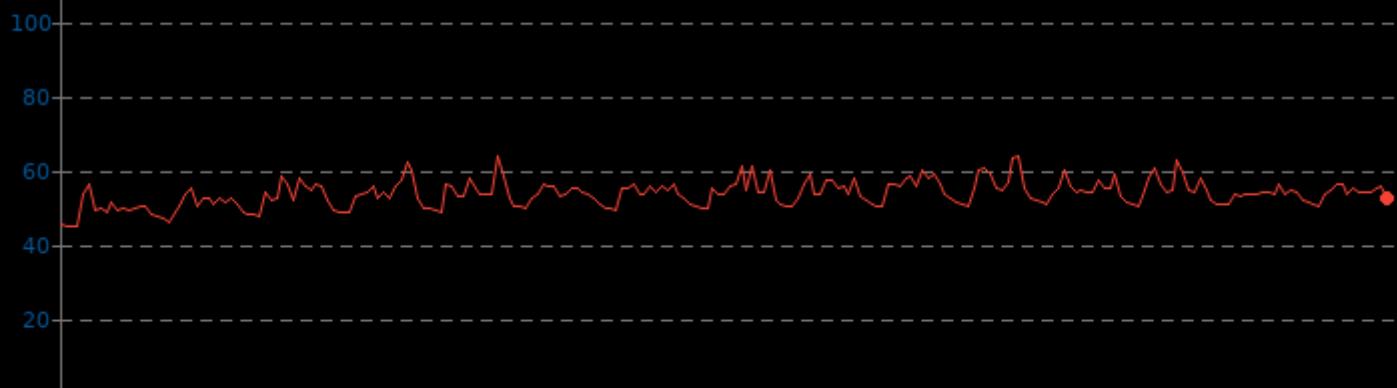


x265 3.4

CPU Temperature Monitor

Dynatron Min 45.0 Avg 53.7 Max 64.0

▼ Celsius, Fewer Is Better



x265 3.4

Video Input: Bosphorus 4K

► Frames Per Second, More Is Better

Dynatron
SE +/- 0.03, N = 3

27.72

7

14

21

28

35

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

x265 3.4

CPU Power Consumption Monitor

Min	Avg	Max	
Dynatron	42.3	182.0	233.1

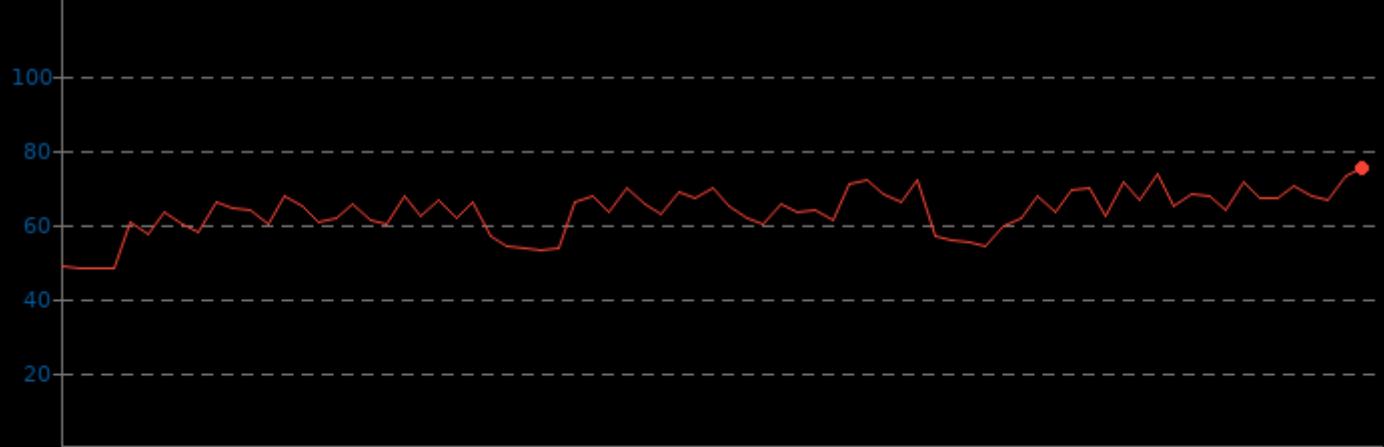
▼ Watts, Fewer Is Better

**x265 3.4**

CPU Temperature Monitor

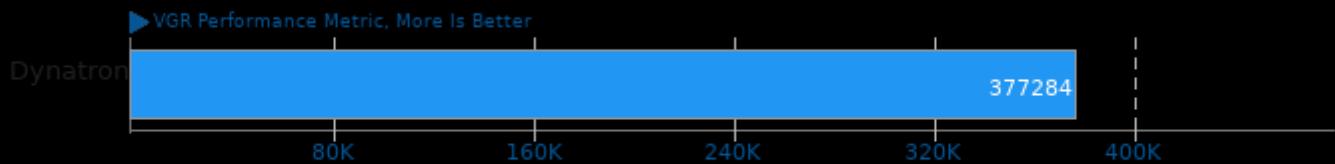
Min	Avg	Max	
Dynatron	48.3	63.3	74.8

▼ Celsius, Fewer Is Better



BRL-CAD 7.32.2

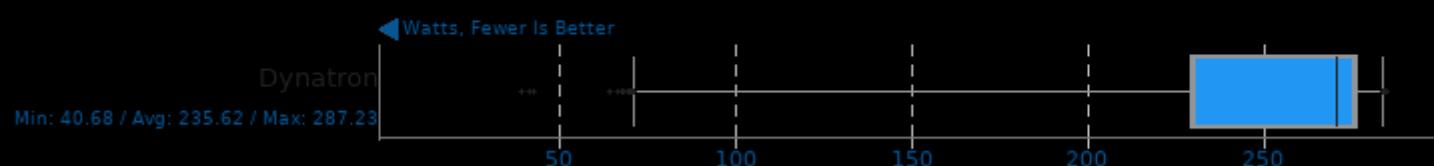
VGR Performance Metric



1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth=128 -m64 -ggdb3 -O3 -fipa-pt

BRL-CAD 7.32.2

CPU Power Consumption Monitor



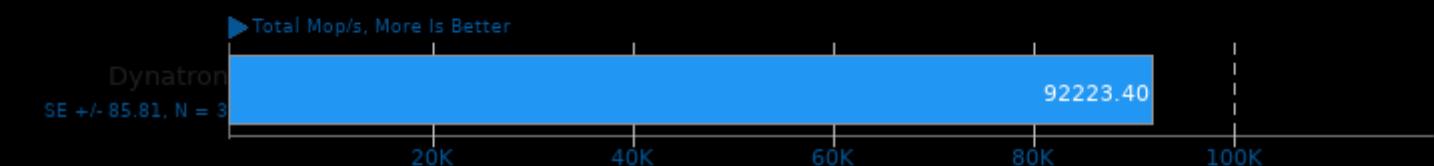
BRL-CAD 7.32.2

CPU Temperature Monitor



NAS Parallel Benchmarks 3.4

Test / Class: BT.C



1. (F9X) gfortran options: -O3 -march=native -lmpi_usempif08 -lmpi_mpih -lmpi -lopen rte -lopen pal -lhwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

CPU Power Consumption Monitor

	Min	Avg	Max
Dynatron	43.7	228.5	258.2

▼ Watts, Fewer Is Better



NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

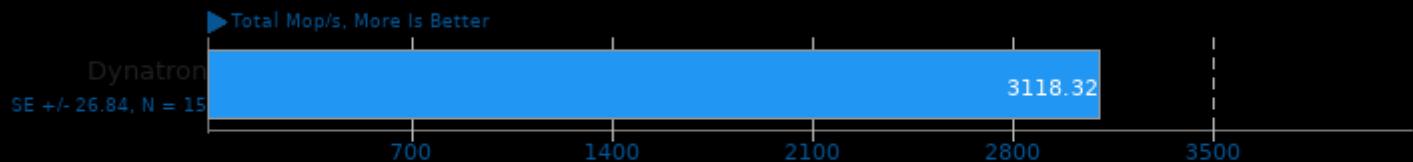
	Min	Avg	Max
Dynatron	56.5	72.6	79.0

▼ Celsius, Fewer Is Better



NAS Parallel Benchmarks 3.4

Test / Class: EP.C



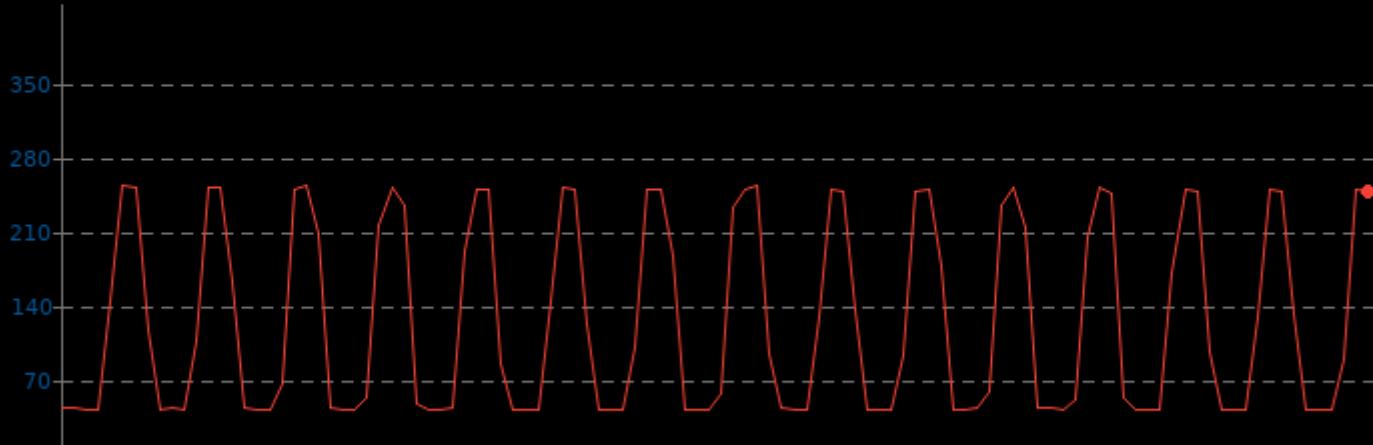
1. (F9X) gfortran options: -O3 -march=native -fmpc_usempif08 -fmpc_mpifh -fmpc -fopen-rte -fopen-pal -fhwloc -fevent_core -fevent_pthreads -fim -fz
2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

CPU Power Consumption Monitor

■ Dynatron Min 43.0 Avg 125.6 Max 254.0

▼ Watts, Fewer Is Better

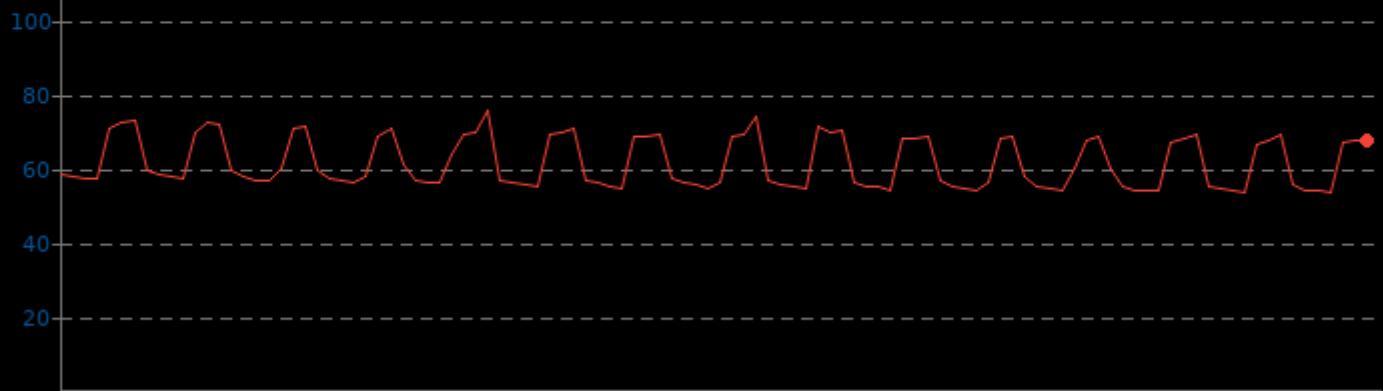


NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

Min	Avg	Max	
Dynatron	53.5	61.4	75.8

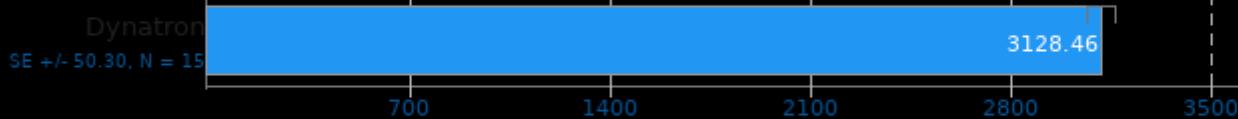
▼ Celsius, Fewer Is Better



NAS Parallel Benchmarks 3.4

Test / Class: EP.D

► Total Mop/s, More Is Better



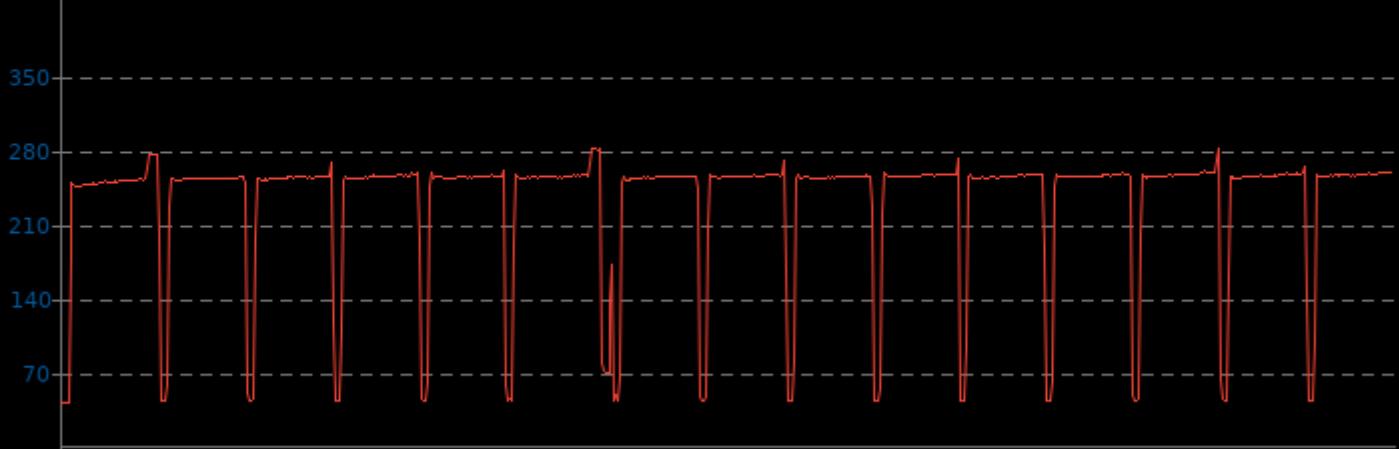
1. (F9X) gfortran options: -O3 -march=native -Impi_usempif08 -Impi_mpifh -Impi -lopen-rte -lopen-pal -Ihwloc -levent_core -levent_pthreads -lm -lz
2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

CPU Power Consumption Monitor

Min	Avg	Max
Dynatron	42.7	235.2
		281.4

▼ Watts, Fewer Is Better

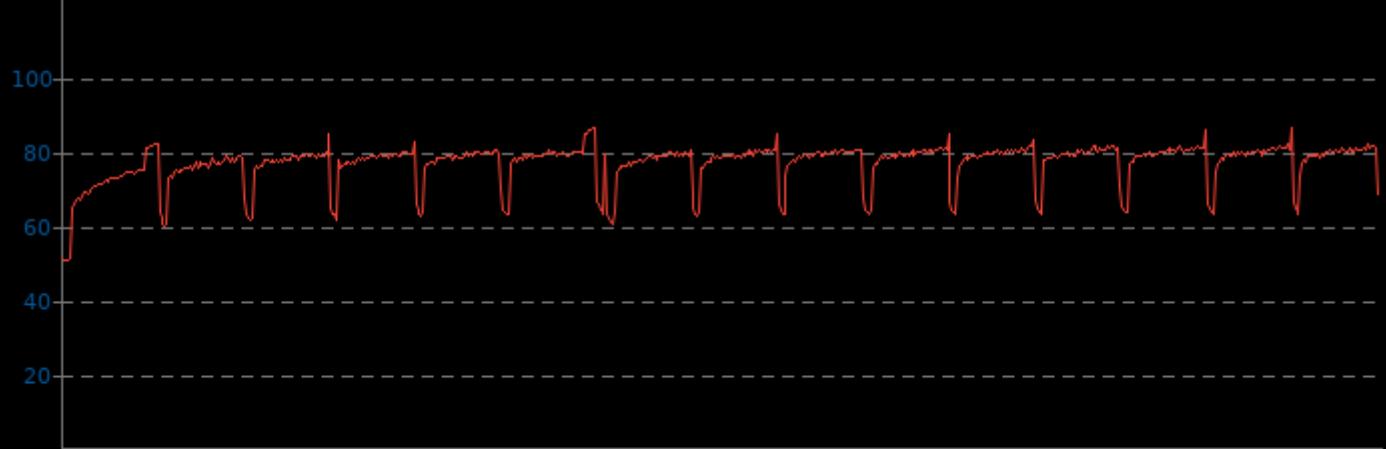


NAS Parallel Benchmarks 3.4

CPU Temperature Monitor

Min	Avg	Max
Dynatron	50.8	76.9
		86.3

▼ Celsius, Fewer Is Better



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