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AMD EPYC 7763 Cooling Performance

AMD EPYC 7763 64-Core CPU benchmarks by Michael Larabel evaluating some heatsink fans in a 4U server.

Automated Executive Summary

Noctua NH-U9 TR4-SP3 had the most wins, coming in first place for 43% of the tests.

Based on the geometric mean of all complete results, the fastest (Noctua NH-U9 TR4-SP3) was 1.001x the speed of the slowest (Dynatron A38). Dynatron A26 was 1x the speed of Noctua NH-U9 TR4-SP3 and Dynatron A38 was 0.999x the speed of Dynatron A26.

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

Xcompact3d Incompact3d (Input: X3D-benchmarking input.i3d) at 1.066x
oneDNN (Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU) at 1.035x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p) at 1.033x
AOM AV1 (Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K) at 1.023x
Stockfish (Total Time) at 1.022x
AOM AV1 (Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K) at 1.022x
ViennaCL (Test: CPU BLAS - sAXPY) at 1.021x
srsLTE (Test: OFDM_Test) at 1.019x
oneDNN (Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU) at 1.019x

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AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K) at 1.018x.

Test Systems:

Noctua NH-U9 TR4-SP3

Dynatron A26

Dynatron A38

Processor: AMD EPYC 7763 64-Core @ 2.45GHz (64 Cores / 128 Threads), Motherboard: Supermicro H12SSL-i v1.01 (2.0 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP, Graphics: llvmpipe, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 20.04, Kernel: 5.12.0-051200rc6daily20210408-generic (x86_64) 20210407, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, OpenGL: 3.3 Mesa 20.0.8 (LLVM 10.0.0 128 bits), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119
Python Notes: Python 3.8.2
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/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Noctua NH-U9 TR4-SP3	Dynatron A26	Dynatron A38
IndigoBench - CPU - Supercar (M samples/s)	**24.190**	24.256	**24.360**
Normalized	99.3%	99.57%	100%
Standard Deviation	0.2%	0.2%	0.5%
IndigoBench - CPU - Bedroom (M samples/s)	**11.394**	11.399	**11.404**
Normalized	99.91%	99.96%	100%
Standard Deviation	0.5%	0.5%	0.2%
Chaos Group V-RAY - CPU (vsamples)	**57912**	58270	**58504**
Normalized	98.99%	99.6%	100%
Standard Deviation	0.8%	2.4%	1.4%
Blender - BMW27 - CPU-Only (sec)	**31.92**	**31.85**	**31.92**
Normalized	99.78%	100%	99.78%
Standard Deviation	0.6%	0.2%	0.4%
Blender - Classroom - CPU-Only (sec)	**80.96**	**80.86**	80.92
Normalized	99.88%	100%	99.93%
Standard Deviation	0.2%	0.2%	0.2%

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Blender - Fishy Cat - CPU-Only (sec)	45.98	**45.80**	**46.01**
Normalized	99.61%	100%	99.54%
Standard Deviation	0.3%	0.3%	0.2%
Blender - Pabellon Barcelona - CPU-Only	**93.59**	**93.72**	**93.72**
Normalized	100%	99.86%	99.86%
Standard Deviation	0.1%	0.2%	0%
Blender - Barbershop - CPU-Only (sec)	**111.61**	**111.48**	111.53
Normalized	99.88%	100%	99.96%
Standard Deviation	0.1%	0.1%	0.2%
Timed Linux Kernel Compilation - Time To Compile (sec)	**26.930**	26.877	**26.844**
Normalized	99.68%	99.88%	100%
Standard Deviation	3%	2.9%	2.9%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	**98.814**	**99.326**	99.086
Normalized	100%	99.48%	99.73%
Standard Deviation	0.2%	0.2%	0.1%
Timed Apache Compilation - Time To Compile (sec)	23.590	**23.673**	**23.586**
Normalized	99.98%	99.63%	100%
Standard Deviation	0.1%	0.2%	0.1%
Timed Mesa Compilation - Time To Compile (sec)	**19.835**	**19.796**	19.800
Normalized	99.8%	100%	99.98%
Standard Deviation	0.8%	0.5%	0.4%
Timed Node.js Compilation - Time To Compile (sec)	**110.706**	**111.318**	110.941
Normalized	100%	99.45%	99.79%
Standard Deviation	0.4%	0.2%	0.5%
Timed Erlang/OTP Compilation - Time To Compile (sec)	**134.328**	**132.497**	133.119
Normalized	98.64%	100%	99.53%
Standard Deviation	0.3%	0.5%	0.4%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**104.57**	101.70	**101.27**
Normalized	100%	97.26%	96.84%
Standard Deviation	2.7%	2.6%	1.6%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**37.45**	**38.06**	37.46
Normalized	98.4%	100%	98.42%
Standard Deviation	2%	3%	2.9%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**86.13**	86.56	**87.63**
Normalized	98.29%	98.78%	100%
Standard Deviation	1%	1.7%	1.6%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**34.1**	34.29	**34.73**
Normalized	98.19%	98.73%	100%
Standard Deviation	0.3%	1.1%	1.4%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**24.61**	24.71	**24.82**
Normalized	99.15%	99.56%	100%
Standard Deviation	0.4%	1.2%	0.7%

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AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**16.09**	**16.25**	16.14
Normalized	99.02%	100%	99.32%
Standard Deviation	0.3%	0.7%	0.5%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**21.31**	**21.47**	21.46
Normalized	99.25%	100%	99.95%
Standard Deviation	0.4%	0.5%	0.2%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**9.15**	9.16	**9.35**
Normalized	97.86%	97.97%	100%
Standard Deviation	1.4%	1.9%	2.8%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**6.74**	6.71	**6.68**
Normalized	100%	99.55%	99.11%
Standard Deviation	0.5%	0.2%	0.1%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**4.72**	**4.83**	4.77
Normalized	97.72%	100%	98.76%
Standard Deviation	1.3%	0.7%	1.3%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.5	0.50	0.50
Standard Deviation	0%	1.1%	1.1%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.2	0.2	0.2
Standard Deviation	0%	0%	0%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	**345.24**	**347.78**	346.82
Normalized	99.27%	100%	99.72%
Standard Deviation	6.6%	7.1%	6.9%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	**471.60**	471.09	**470.69**
Normalized	100%	99.89%	99.81%
Standard Deviation	0.8%	0.8%	0.9%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	**468.76**	468.59	**467.96**
Normalized	100%	99.96%	99.83%
Standard Deviation	0.7%	0.7%	0.6%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	**37.76**	37.89	**37.92**
Normalized	99.58%	99.92%	100%
Standard Deviation	0.3%	0.6%	0.6%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	**324.42**	323.60	**322.43**
Normalized	100%	99.75%	99.39%
Standard Deviation	1.4%	0.6%	0.8%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	**607.02**	**602.55**	605.97
Normalized	100%	99.26%	99.83%
Standard Deviation	0.9%	0.8%	0.5%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	92.861	**92.347**	**93.048**
Normalized	99.8%	99.25%	100%
Standard Deviation	1%	1%	1.6%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	**9.473**	9.452	**9.355**
Normalized	100%	99.78%	98.75%
Standard Deviation	2.3%	1.7%	3%
SVT-AV1 - Enc Mode 0 - 1080p (FPS)	0.130	0.130	0.130
Standard Deviation	0.9%	0.4%	1.2%

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ViennaCL - CPU BLAS - sCOPY (GB/s)	**1035**	**1052**	1044
Normalized	98.38%	100%	99.24%
Standard Deviation	11.2%	10.1%	10.2%
ViennaCL - CPU BLAS - sAXPY (GB/s)	**627**	**640**	**640**
Normalized	97.97%	100%	100%
Standard Deviation	1.4%	1.6%	1.1%
ViennaCL - CPU BLAS - dCOPY (GB/s)	1401	**1409**	**1399**
Normalized	99.43%	100%	99.29%
Standard Deviation	1.5%	0.9%	0.9%
ViennaCL - CPU BLAS - dAXPY (GB/s)	**1222**	1205	**1204**
Normalized	100%	98.61%	98.53%
Standard Deviation	0.7%	0.7%	0.4%
ViennaCL - CPU BLAS - dDOT (GB/s)	1115	**1116**	**1112**
Normalized	99.91%	100%	99.64%
Standard Deviation	0.7%	0.6%	0.7%
ViennaCL - CPU BLAS - dGEMV-N (GB/s)	**88.6**	82.6	**78.9**
Normalized	100%	93.23%	89.05%
Standard Deviation	33.3%	44.2%	24%
ViennaCL - CPU BLAS - dGEMV-T (GB/s)	**793**	781	**779**
Normalized	100%	98.49%	98.23%
Standard Deviation	0.8%	0.9%	1.7%
ViennaCL - CPU BLAS - dGEMM-NN (GFLOPs/s)	**88.1**	**88.6**	88.2
Normalized	99.44%	100%	99.55%
Standard Deviation	2.3%	0.3%	1.5%
ViennaCL - CPU BLAS - dGEMM-NT (GFLOPs/s)	**86.1**	**86.6**	86.3
Normalized	99.42%	100%	99.65%
Standard Deviation	1.3%	0.3%	1.3%
ViennaCL - CPU BLAS - dGEMM-TN (GFLOPs/s)	**92.1**	**92.1**	**91.9**
Normalized	100%	100%	99.78%
Standard Deviation	0.2%	0.1%	0.5%
ViennaCL - CPU BLAS - dGEMM-TT (GFLOPs/s)	**89.7**	**89.9**	**89.9**
Normalized	99.78%	100%	100%
Standard Deviation	0.6%	0.1%	0.2%
ViennaCL - CPU BLAS - sDOT (GB/s)	637	**640**	**636**
Normalized	99.53%	100%	99.38%
Standard Deviation	0.5%	0.7%	0.7%
GNU GMP GMPbench - Total Time (GMPbench Score)	5099	**5099**	**5089**
Normalized	99.99%	100%	99.8%
OpenSCAD - P.M.S (sec)	100.902	**100.723**	**101.045**
Normalized	99.82%	100%	99.68%
Standard Deviation	0.5%	0.7%	0.2%
OpenSCAD - L.P.C.S (sec)	18.699	**18.525**	**18.734**
Normalized	99.07%	100%	98.88%
Standard Deviation	0.9%	0.4%	1%
OpenSCAD - Pistol (sec)	**109.833**	**108.617**	108.794
Normalized	98.89%	100%	99.84%
Standard Deviation	0.3%	0.2%	0.5%
OpenSCAD - Retro Car (sec)	**19.063**	**18.886**	18.927
Normalized	99.07%	100%	99.78%

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Standard Deviation	0.2%	0.5%	0.3%
OpenSCAD - Mini-ITX Case (sec)	**45.841**	**45.232**	45.482
Normalized	98.67%	100%	99.45%
Standard Deviation	0.2%	0.6%	0.6%
Stockfish - Total Time (Nodes/s)	**156656685**	**160107651**	158512004
Normalized	97.84%	100%	99%
Standard Deviation	2.8%	5%	1.4%
Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	**5.15653072**	5.15065159	**5.15051767**
Normalized	99.88%	100%	100%
Standard Deviation	0.9%	1.1%	1.2%
Xcompact3d Incompact3d - i.i.1.C.P.D (sec)	22.5096487	**22.3308512**	**22.7087644**
Normalized	99.21%	100%	98.34%
Standard Deviation	0.3%	2.4%	0.6%
Xcompact3d Incompact3d - X.b.i.i (sec)	**625.812337**	**667.268494**	627.667114
Normalized	100%	93.79%	99.7%
Standard Deviation	0.1%	5.2%	0.1%
oneDNN - C.B.S.A - f32 - CPU (ms)	**0.880047**	0.879752	**0.879480**
Normalized	99.94%	99.97%	100%
Standard Deviation	0.2%	0.2%	0.2%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	**1.65220**	1.65671	**1.67256**
Normalized	100%	99.73%	98.78%
Standard Deviation	0.5%	0.5%	2.3%
oneDNN - D.B.s - f32 - CPU (ms)	**7.13608**	7.17839	**7.18002**
Normalized	100%	99.41%	99.39%
Standard Deviation	0.9%	0.7%	0.5%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.605058	**0.607655**	**0.603621**
Normalized	99.76%	99.34%	100%
Standard Deviation	0.5%	0.5%	0.2%
oneDNN - D.B.s - f32 - CPU (ms)	3.03820	**3.02459**	**3.04352**
Normalized	99.55%	100%	99.38%
Standard Deviation	0.9%	0.9%	0.7%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.781851	**0.783464**	**0.781060**
Normalized	99.9%	99.69%	100%
Standard Deviation	1%	1%	0.9%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	**1.17796**	1.17863	**1.18087**
Normalized	100%	99.94%	99.75%
Standard Deviation	0.3%	0.3%	0.5%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	**1.17758**	**1.18685**	1.17906
Normalized	100%	99.22%	99.87%
Standard Deviation	1.3%	1.3%	2%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	**3.66307**	3.64941	**3.61762**
Normalized	98.76%	99.13%	100%
Standard Deviation	2.5%	1.4%	2.1%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	**0.663059**	0.650624	**0.640331**
Normalized	96.57%	98.42%	100%
Standard Deviation	2.2%	1.4%	1.9%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	0.384929	**0.381495**	**0.385207**
Normalized	99.11%	100%	99.04%
Standard Deviation	2.6%	0.8%	2.2%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	**0.720928**	**0.726789**	0.721586
Normalized	100%	99.19%	99.91%
Standard Deviation	0.7%	0.3%	0.5%
oneDNN - R.N.N.T - f32 - CPU (ms)	**1374**	1379	**1400**
Normalized	100%	99.64%	98.12%
Standard Deviation	0.4%	1.1%	1.9%

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oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	**1385**	**1370**	1377
Normalized	98.89%	100%	99.45%
Standard Deviation	0.4%	0.4%	0.6%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	**1371**	**1391**	1382
Normalized	100%	98.54%	99.21%
Standard Deviation	1%	0.6%	1%
oneDNN - R.N.N.I - f32 - CPU (ms)	**665.228**	**666.049**	665.526
Normalized	100%	99.88%	99.96%
Standard Deviation	0.1%	0.3%	0.3%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	664.988	**664.807**	**665.265**
Normalized	99.97%	100%	99.93%
Standard Deviation	0.3%	0.3%	0.3%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	**664.680**	**666.483**	666.130
Normalized	100%	99.73%	99.78%
Standard Deviation	0.4%	0.3%	0.3%
Mobile Neural Network - SqueezeNetV1.0	**5.785**	5.797	**5.878**
Normalized	100%	99.79%	98.42%
Standard Deviation	1.2%	0.8%	0.4%
Mobile Neural Network - resnet-v2-50 (ms)	**22.130**	**22.397**	22.269
Normalized	100%	98.81%	99.38%
Standard Deviation	0.6%	0.7%	0.8%
Mobile Neural Network - MobileNetV2_224	**3.757**	**3.789**	3.780
Normalized	100%	99.16%	99.39%
Standard Deviation	0.8%	1%	0.7%
Mobile Neural Network - mobilenet-v1-1.0	**2.328**	**2.342**	2.332
Normalized	100%	99.4%	99.83%
Standard Deviation	0.7%	0.9%	1%
Mobile Neural Network - inception-v3 (ms)	**28.171**	**28.451**	28.328
Normalized	100%	99.02%	99.45%
Standard Deviation	0.2%	0.8%	0.6%
ASTC Encoder - Medium (sec)	**4.9176**	4.9412	**4.9424**
Normalized	100%	99.52%	99.5%
Standard Deviation	0.2%	0.2%	0.3%
ASTC Encoder - Thorough (sec)	7.9925	**8.0062**	**7.9898**
Normalized	99.97%	99.8%	100%
Standard Deviation	0.2%	0.2%	0.2%
ASTC Encoder - Exhaustive (sec)	**20.4428**	**20.6196**	20.5591
Normalized	100%	99.14%	99.43%
Standard Deviation	0.4%	0.2%	0.2%
simdjson - PartialTweets (GB/s)	**3.64**	**3.63**	**3.63**
Normalized	100%	99.73%	99.73%
Standard Deviation	0.4%	0.2%	0.2%
simdjson - LargeRand (GB/s)	0.96	0.96	0.96
Standard Deviation	0%	0%	0%
simdjson - Kostya (GB/s)	2.83	2.83	2.83
Standard Deviation	0%	0%	0.4%
simdjson - DistinctUserID (GB/s)	**4.01**	4.00	**3.98**
Normalized	100%	99.75%	99.25%
Standard Deviation	0.4%	0.4%	0.3%
srsLTE - OFDM_Test (Samples / Second)	**115633333**	116233333	**117866667**
Normalized	98.11%	98.61%	100%
Standard Deviation	2.7%	2.8%	1.7%
srsLTE - PHY_DL_Test (eNb Mb/s)	**257.4**	257.1	**255.9**
Normalized	100%	99.88%	99.42%
Standard Deviation	0.1%	0.1%	0.6%

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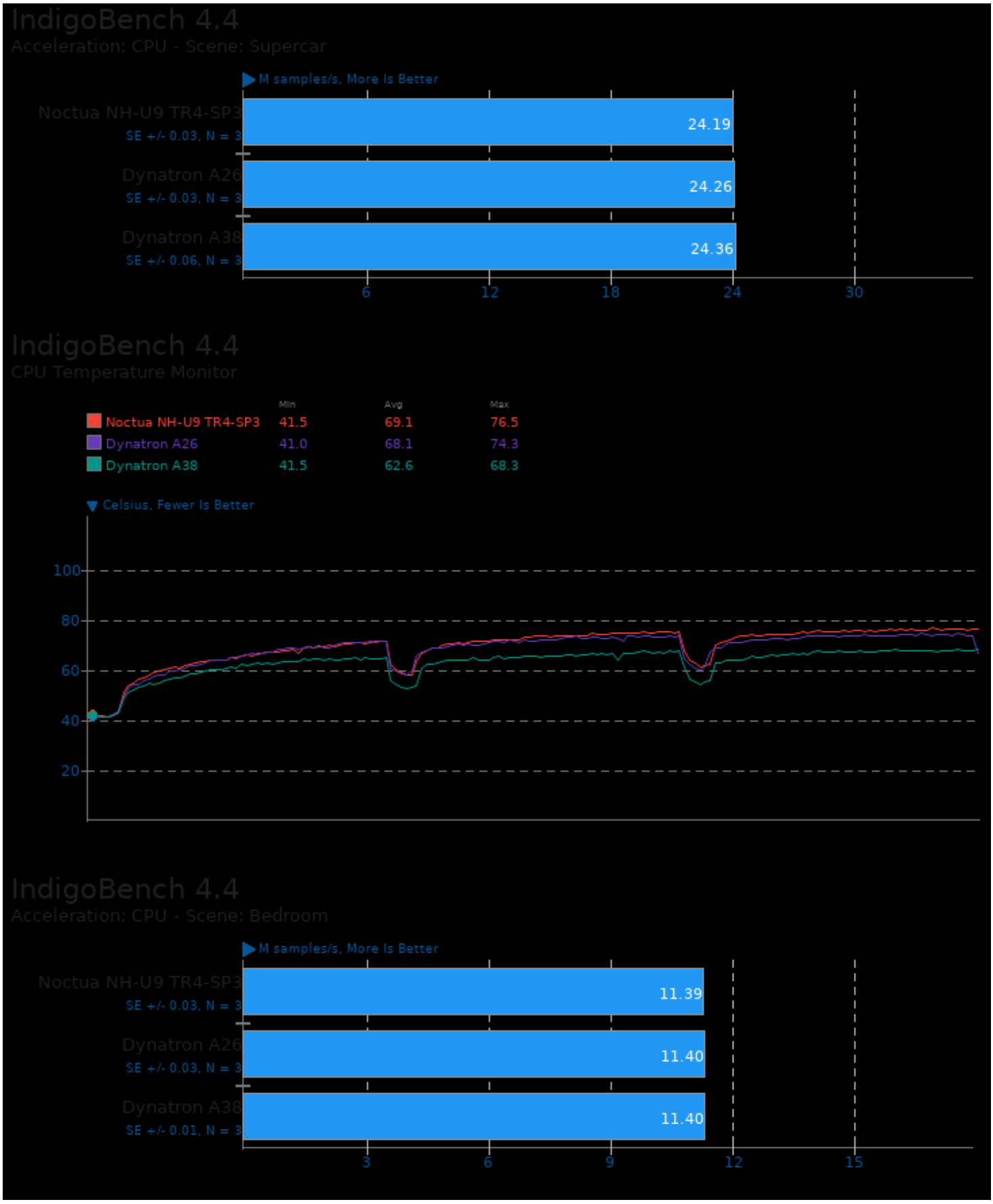
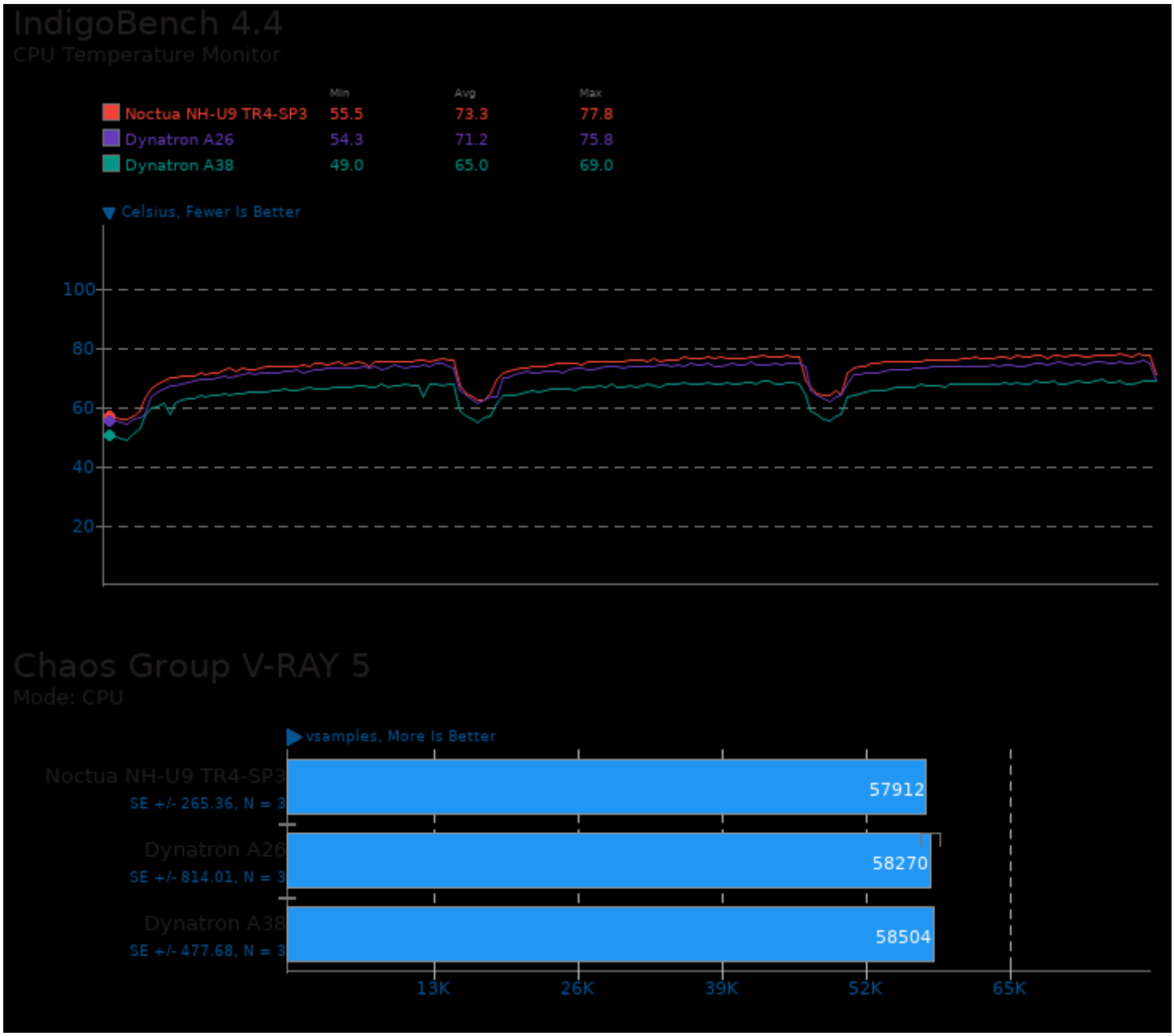
srsLTE - PHY_DL_Test (UE Mb/s)	**94.3**	**94.3**	**93.7**
Normalized	100%	100%	99.36%
Standard Deviation	0.8%	0.4%	1%
GNU Radio - F.B.t.B.F.F (MiB/s)	560.9	**567.7**	**560.1**
Normalized	98.8%	100%	98.66%
Standard Deviation	2.9%	1.8%	3.2%
GNU Radio - S.S.C (MiB/s)	3322	**3325**	**3304**
Normalized	99.92%	100%	99.37%
Standard Deviation	0.4%	1.4%	1.6%
GNU Radio - FIR Filter (MiB/s)	**639.0**	641.6	**642.0**
Normalized	99.53%	99.94%	100%
Standard Deviation	0.2%	0.3%	0.5%
GNU Radio - IIR Filter (MiB/s)	**608.6**	**604.7**	607.0
Normalized	100%	99.36%	99.74%
Standard Deviation	0.4%	0.4%	0.6%
GNU Radio - F.D.F (MiB/s)	**765.3**	**760.3**	764.1
Normalized	100%	99.35%	99.84%
Standard Deviation	0.5%	0.2%	0.6%
GNU Radio - Hilbert Transform (MiB/s)	**378.2**	377.3	**376.2**
Normalized	100%	99.76%	99.47%
Standard Deviation	0.6%	0.8%	0.6%
LuaRadio - F.B.t.B.F.F (MiB/s)	1102	**1111**	**1097**
Normalized	99.19%	100%	98.81%
Standard Deviation	0.6%	0.2%	0.4%
LuaRadio - F.D.F (MiB/s)	**344.7**	344.2	**343.4**
Normalized	100%	99.85%	99.62%
Standard Deviation	0.1%	0.1%	0.2%
LuaRadio - Hilbert Transform (MiB/s)	**93.5**	**93.6**	**93.5**
Normalized	99.89%	100%	99.89%
Standard Deviation	0.1%	0.1%	0.1%
LuaRadio - Complex Phase (MiB/s)	**591.8**	591.6	**591.0**
Normalized	100%	99.97%	99.86%
Standard Deviation	0.2%	0.2%	0.1%
Liquid-DSP - 16 - 256 - 57 (samples/s)	803310000	**800190000**	**804146667**
Normalized	99.9%	99.51%	100%
Standard Deviation	1.4%	1.2%	0.6%
Liquid-DSP - 32 - 256 - 57 (samples/s)	**1613766667**	**1614933333**	1614566667
Normalized	99.93%	100%	99.98%
Standard Deviation	0.4%	0.4%	0.3%
Liquid-DSP - 64 - 256 - 57 (samples/s)	2792400000	**2782866667**	**2793733333**
Normalized	99.95%	99.61%	100%
Standard Deviation	0.3%	0.2%	0.2%
Liquid-DSP - 128 - 256 - 57 (samples/s)	**3017933333**	3028066667	**3028133333**
Normalized	99.66%	100%	100%
Standard Deviation	0.1%	0%	0%
GROMACS - water_GMX50_bare (Ns/Day)	**5.577**	5.582	**5.599**
Normalized	99.61%	99.7%	100%
Standard Deviation	0.1%	0.6%	0.3%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	**0.38110**	0.38164	**0.38215**
Normalized	100%	99.86%	99.73%
Standard Deviation	0.2%	0.2%	0.3%

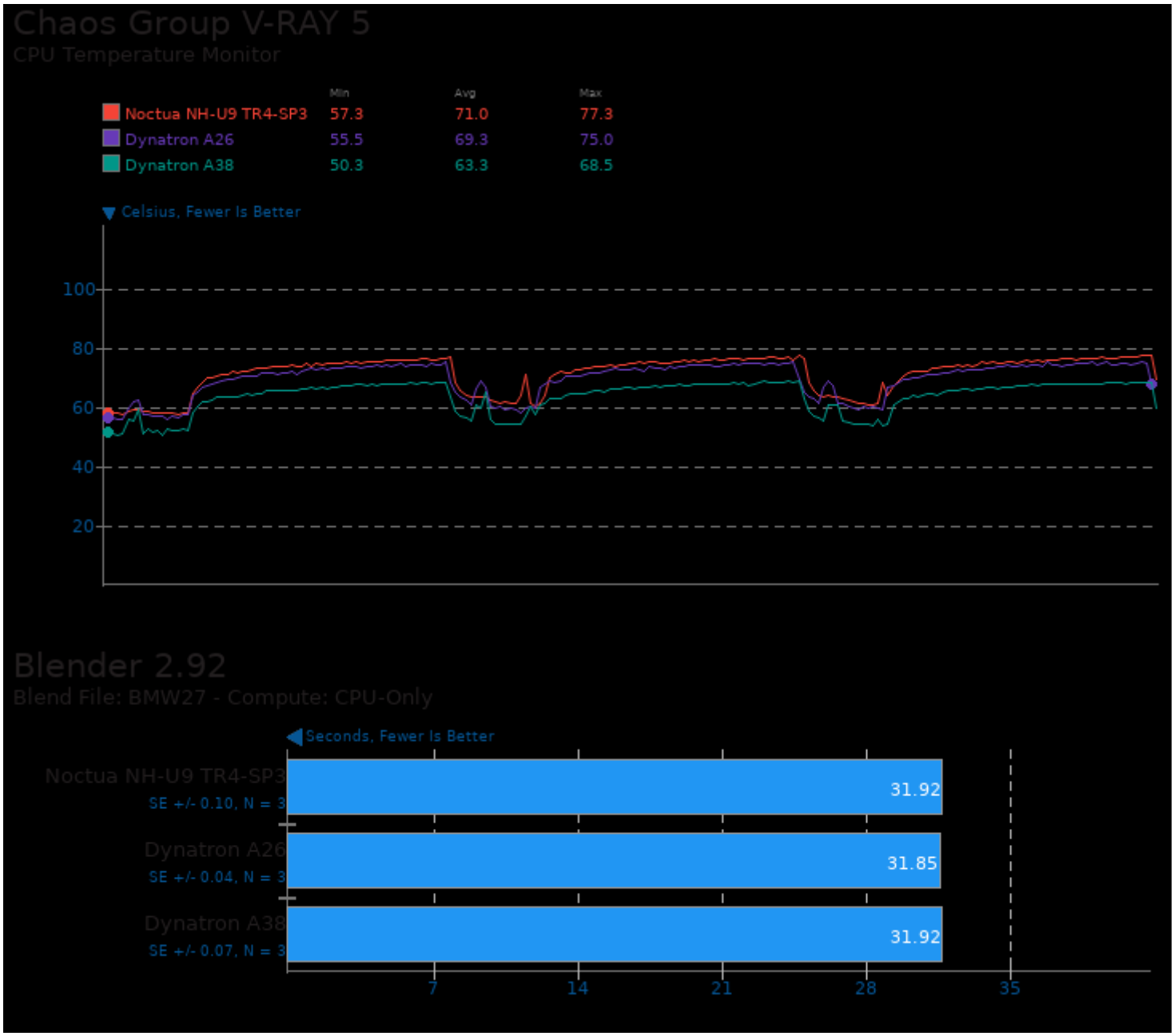
AMD EPYC 7763 Cooling Performance



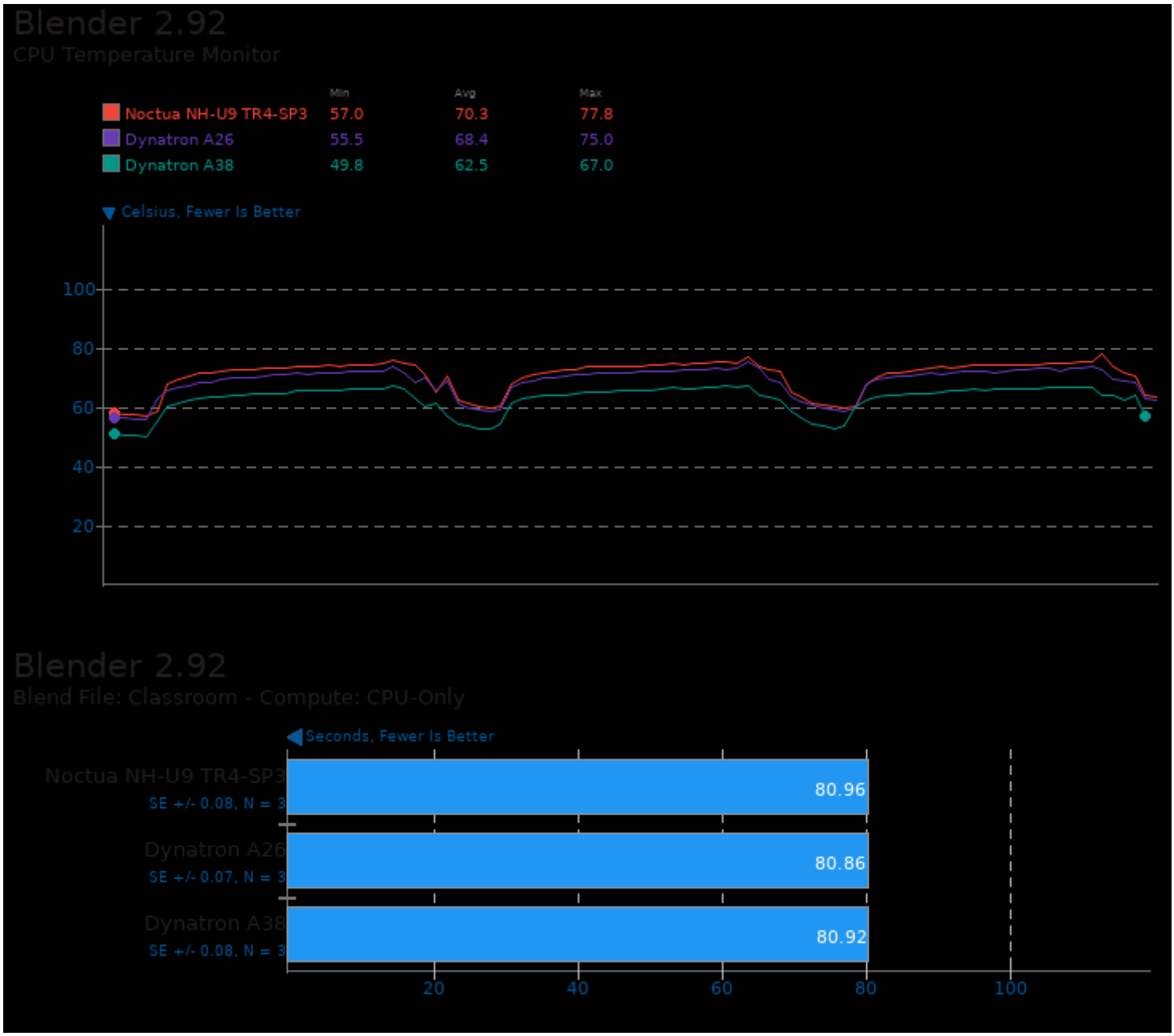
AMD EPYC 7763 Cooling Performance



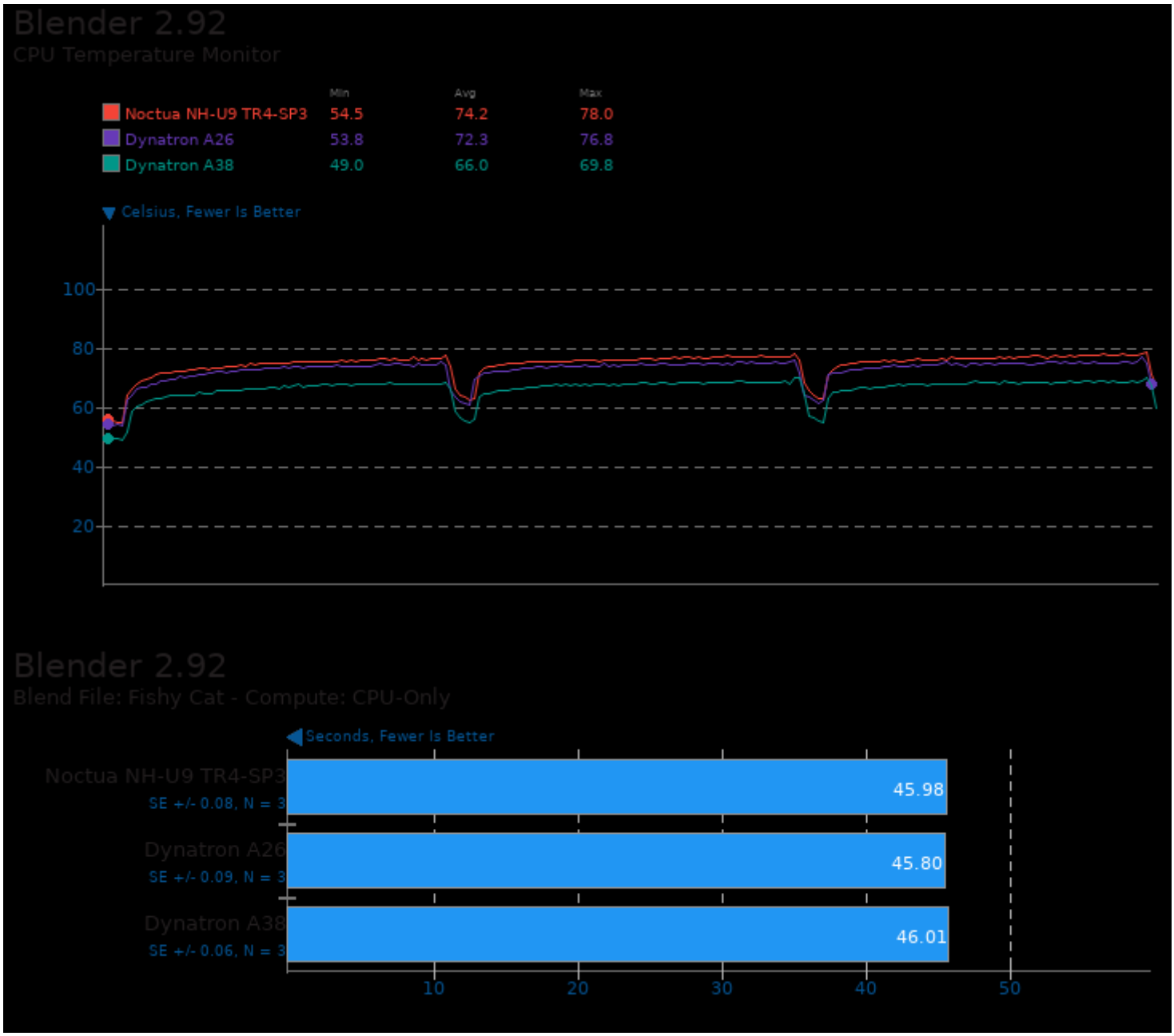
AMD EPYC 7763 Cooling Performance



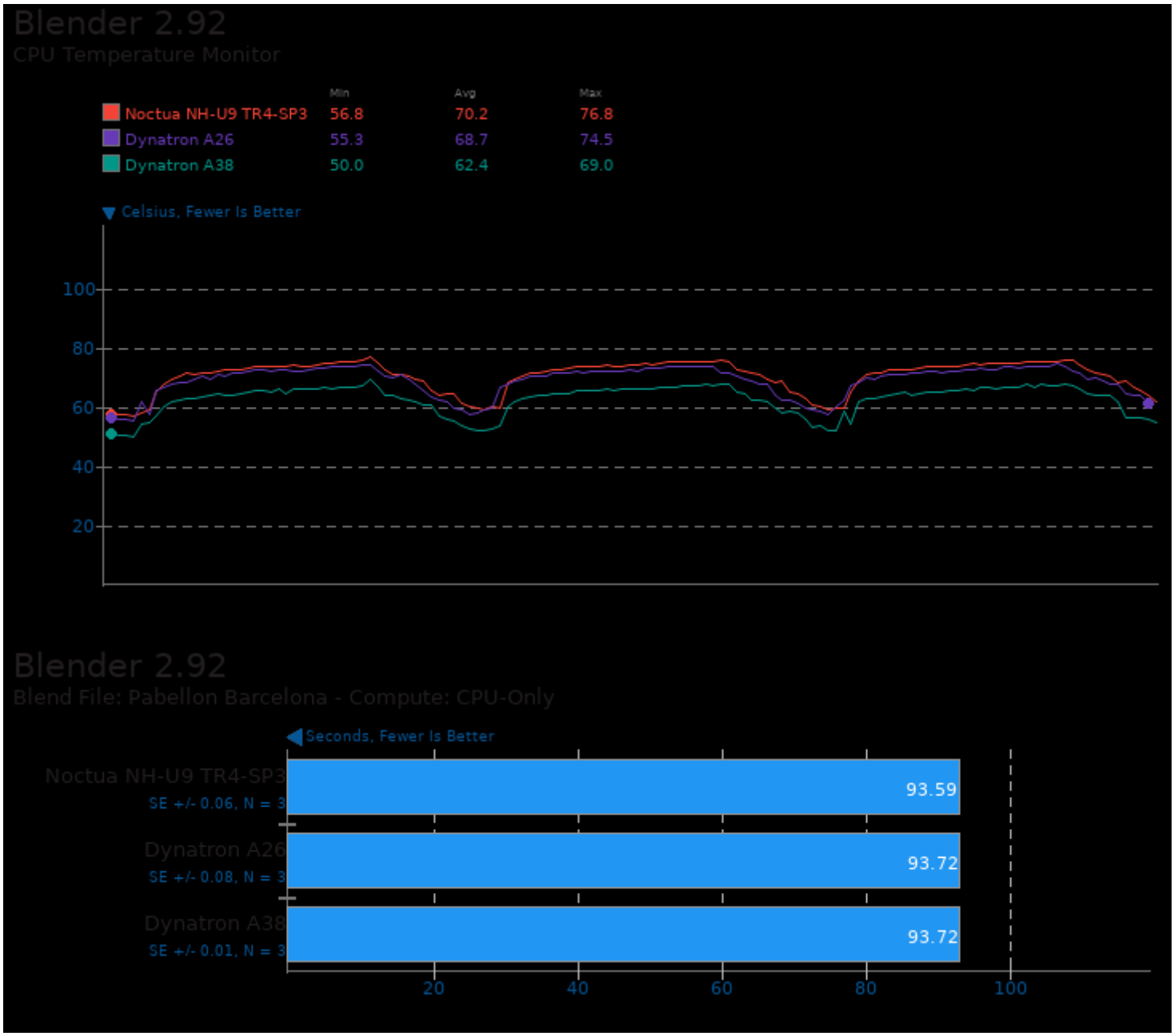
AMD EPYC 7763 Cooling Performance



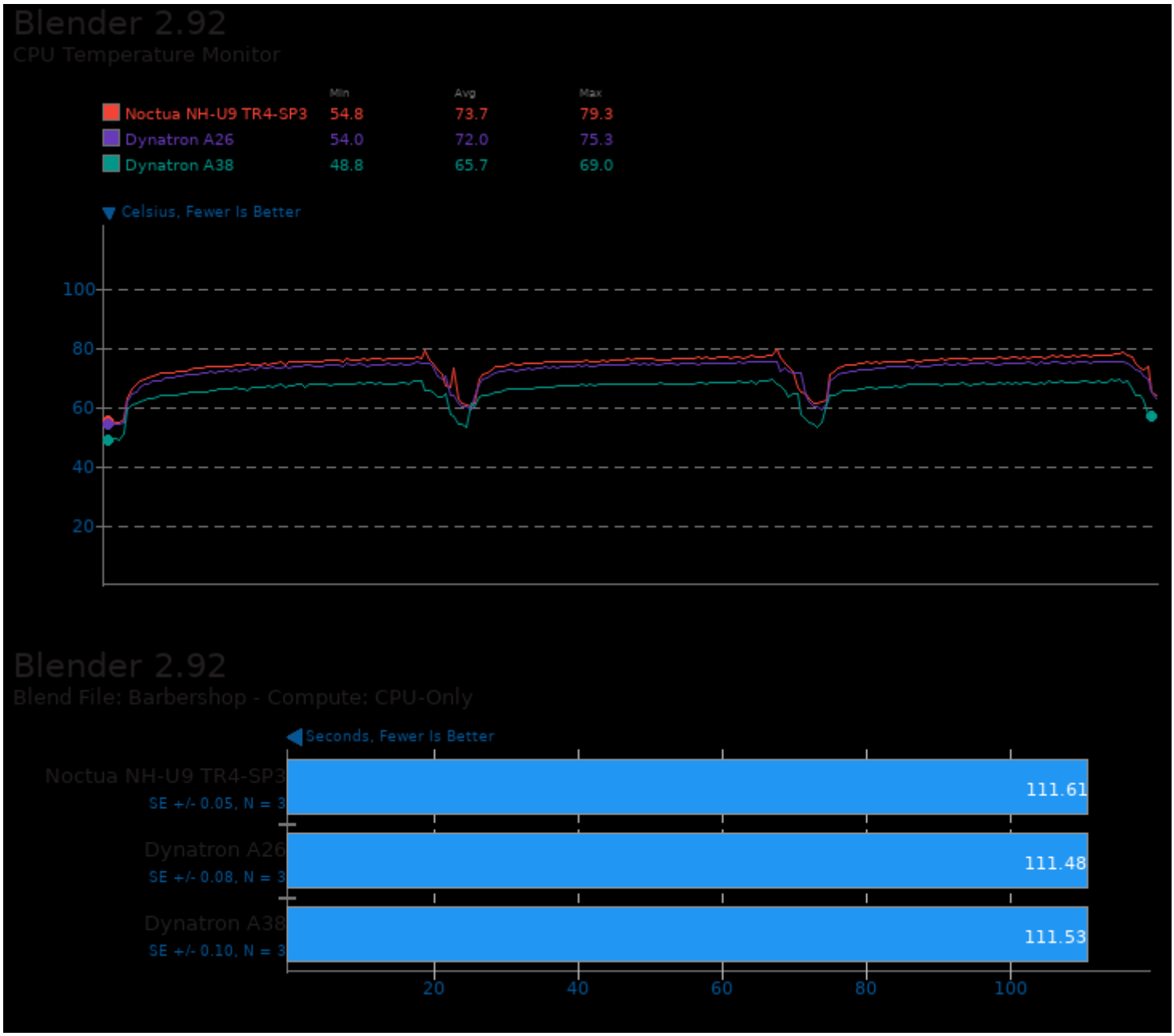
AMD EPYC 7763 Cooling Performance



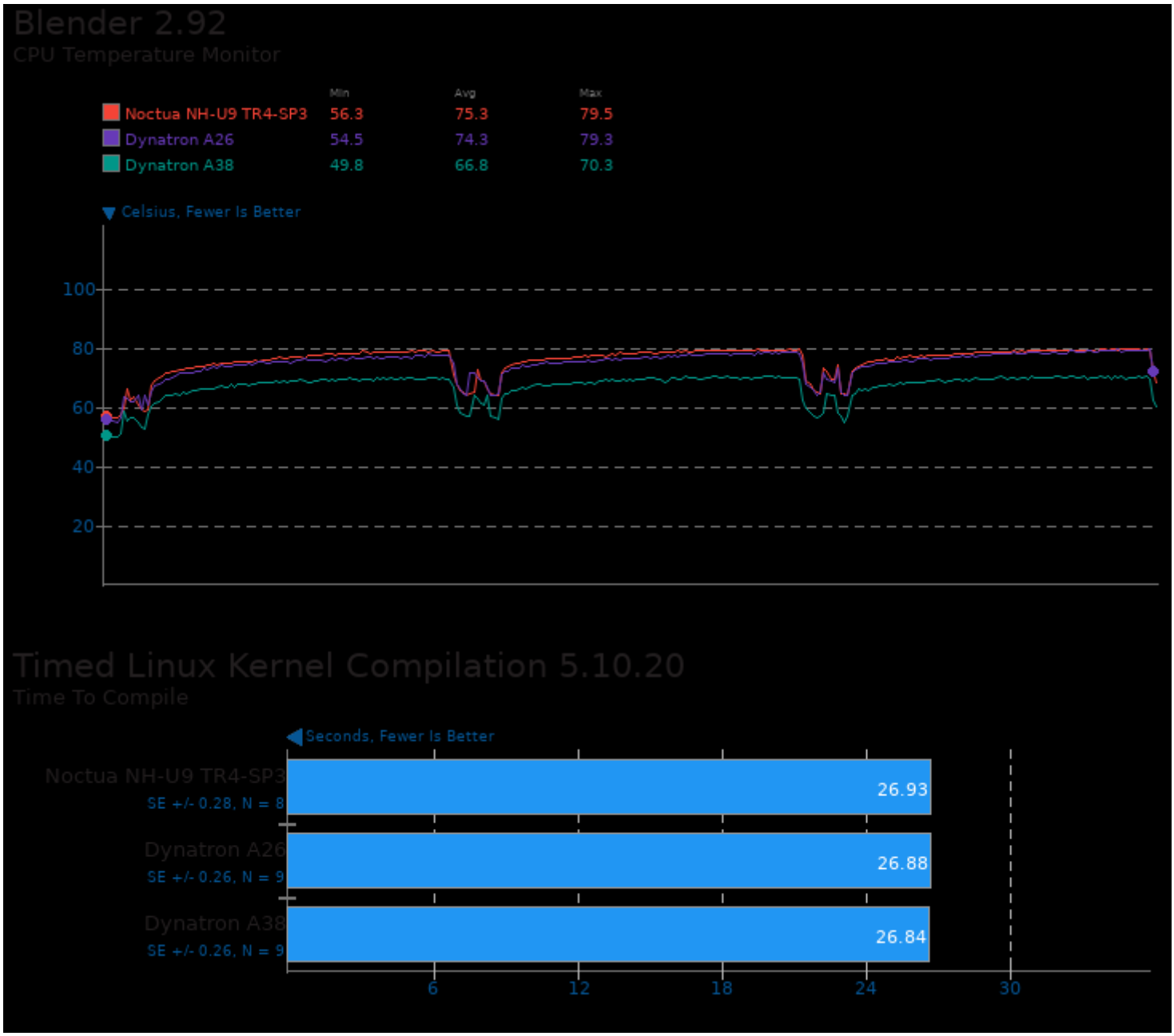
AMD EPYC 7763 Cooling Performance



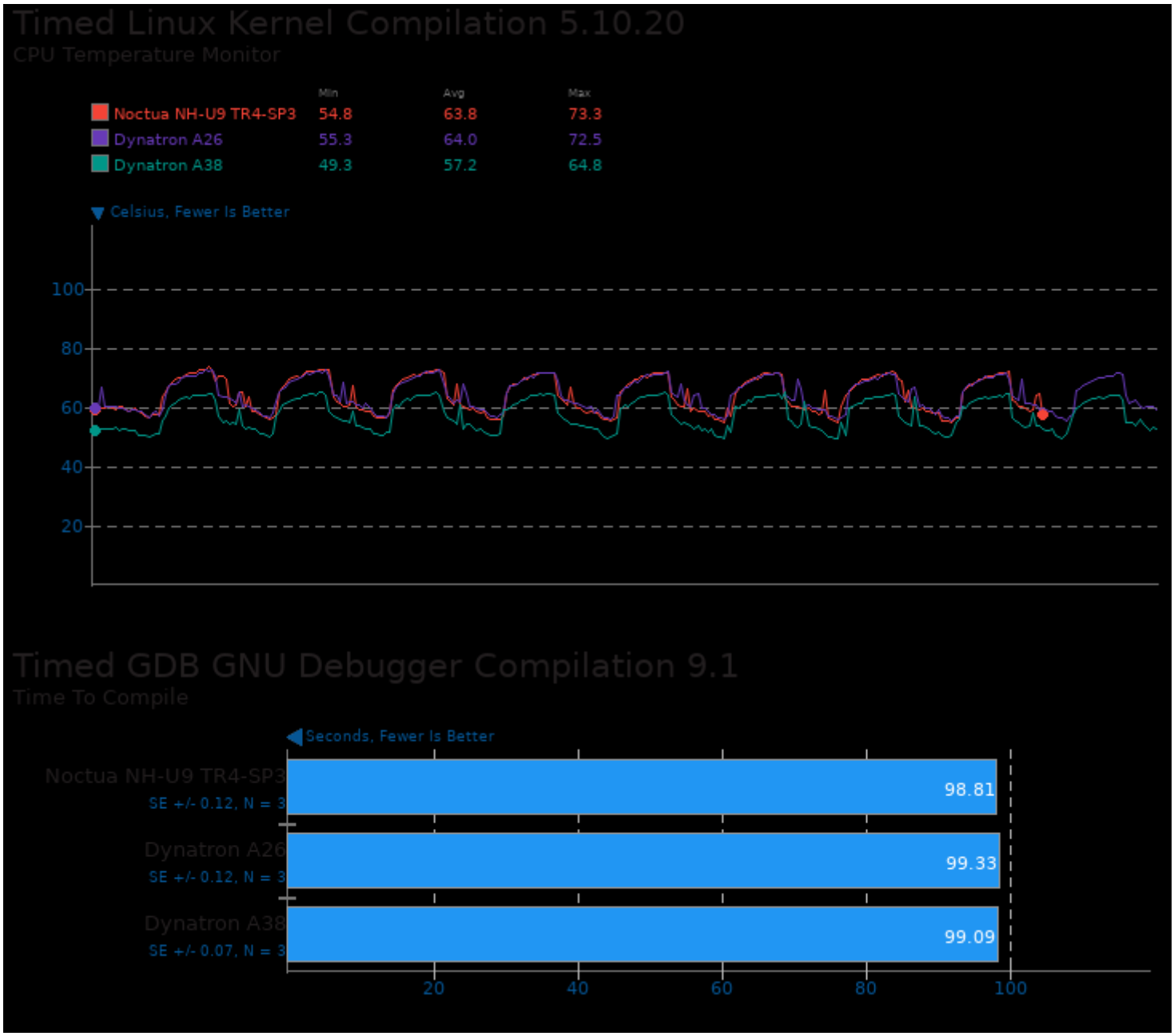
AMD EPYC 7763 Cooling Performance



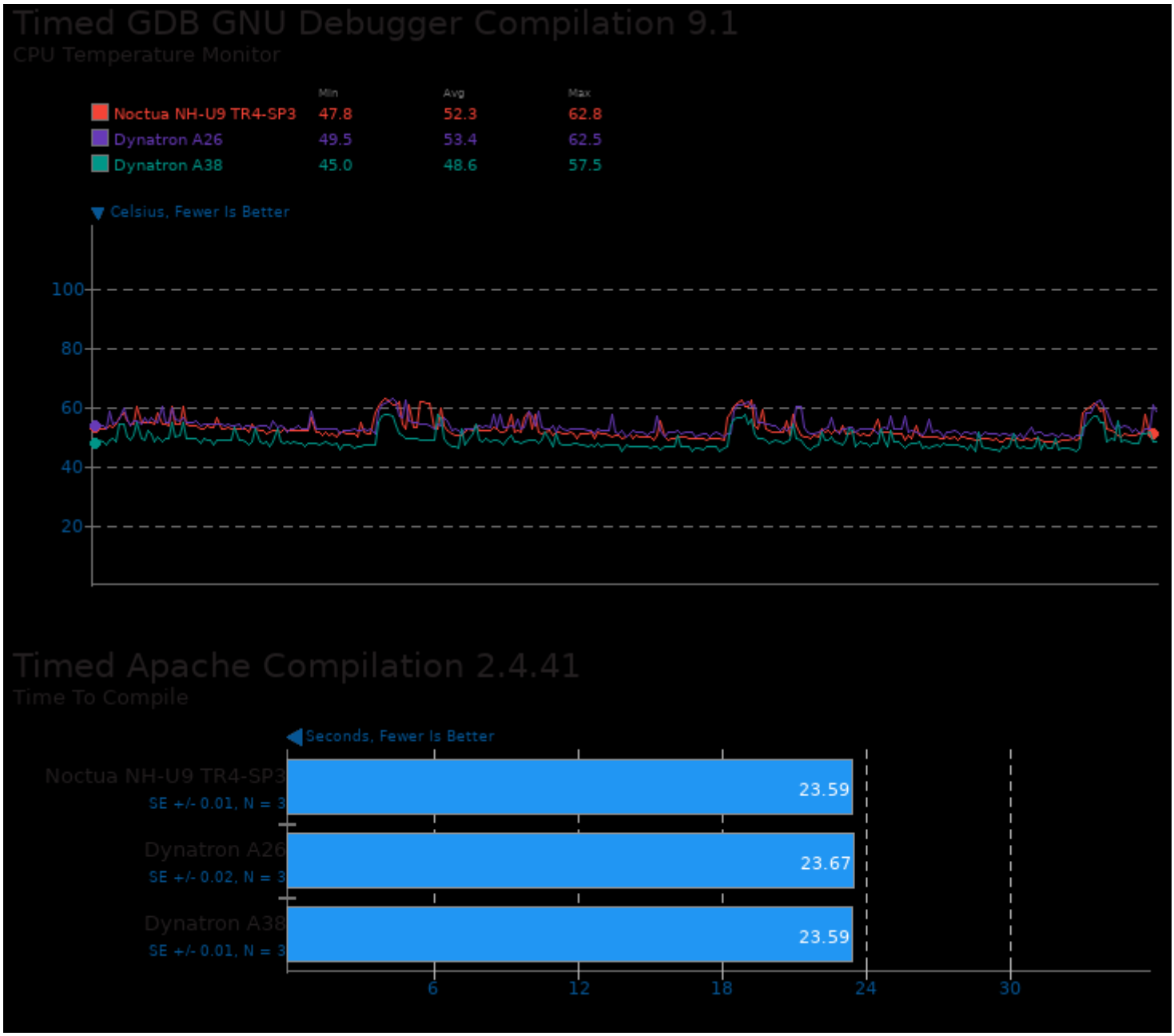
AMD EPYC 7763 Cooling Performance



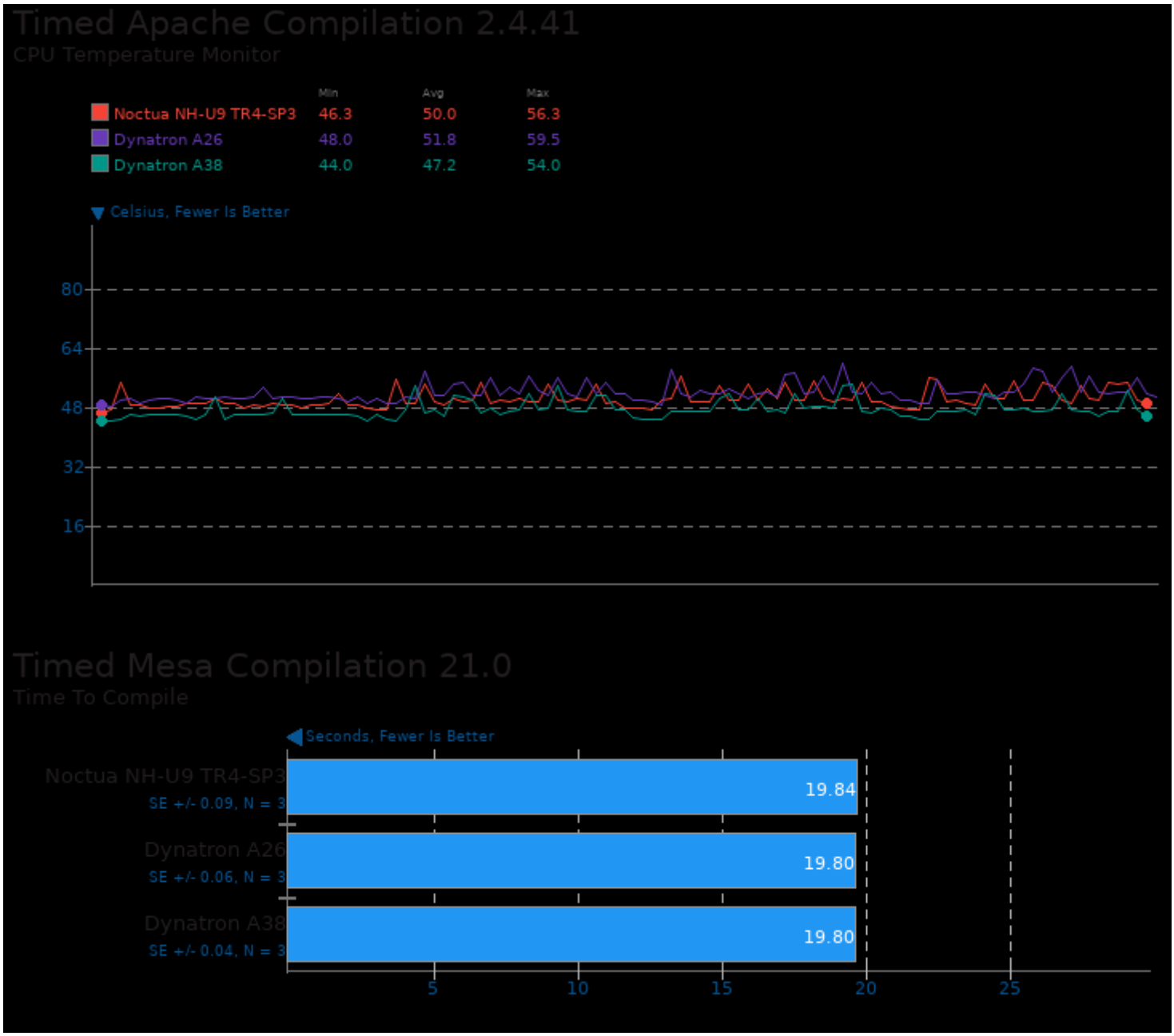
AMD EPYC 7763 Cooling Performance



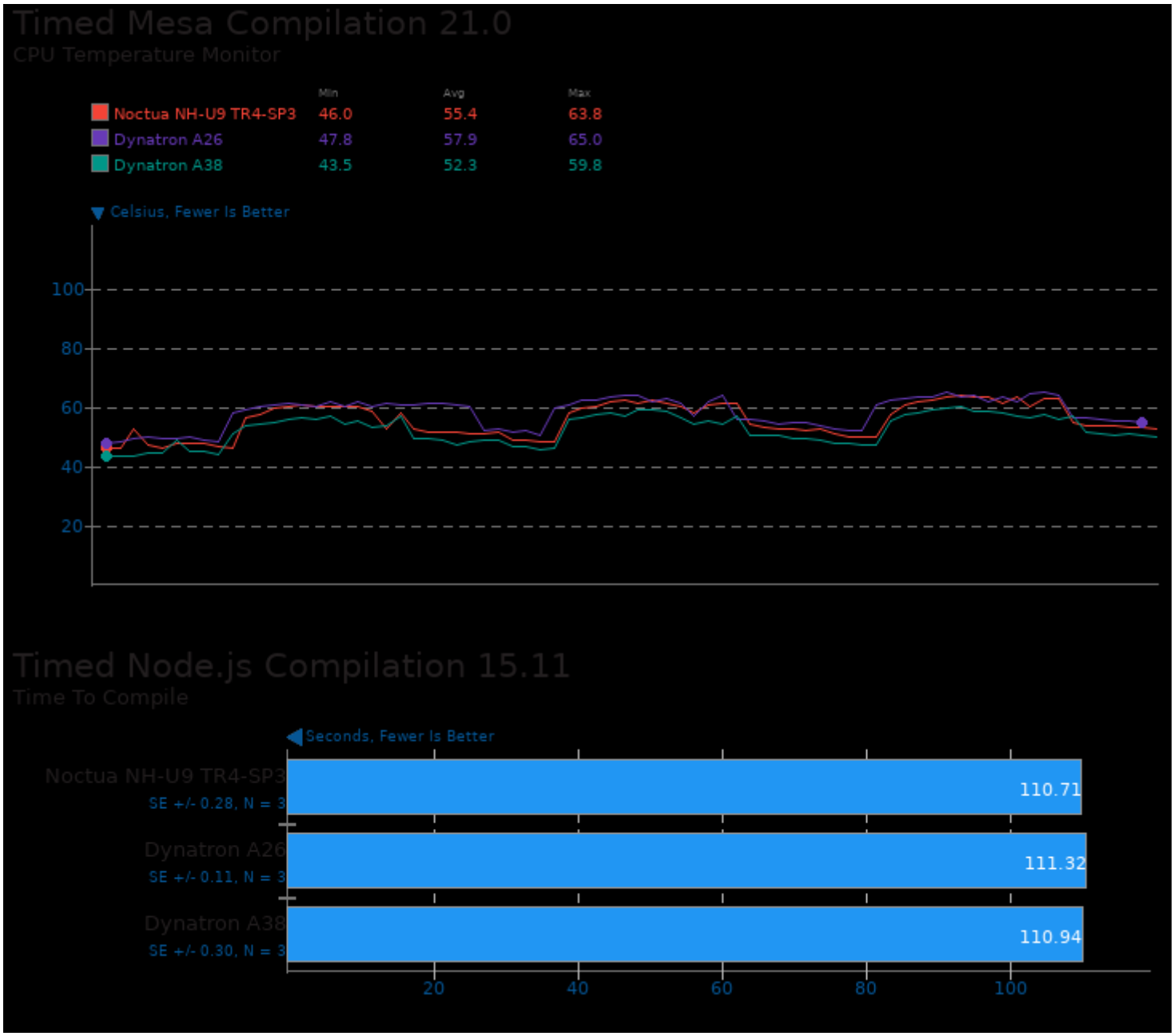
AMD EPYC 7763 Cooling Performance



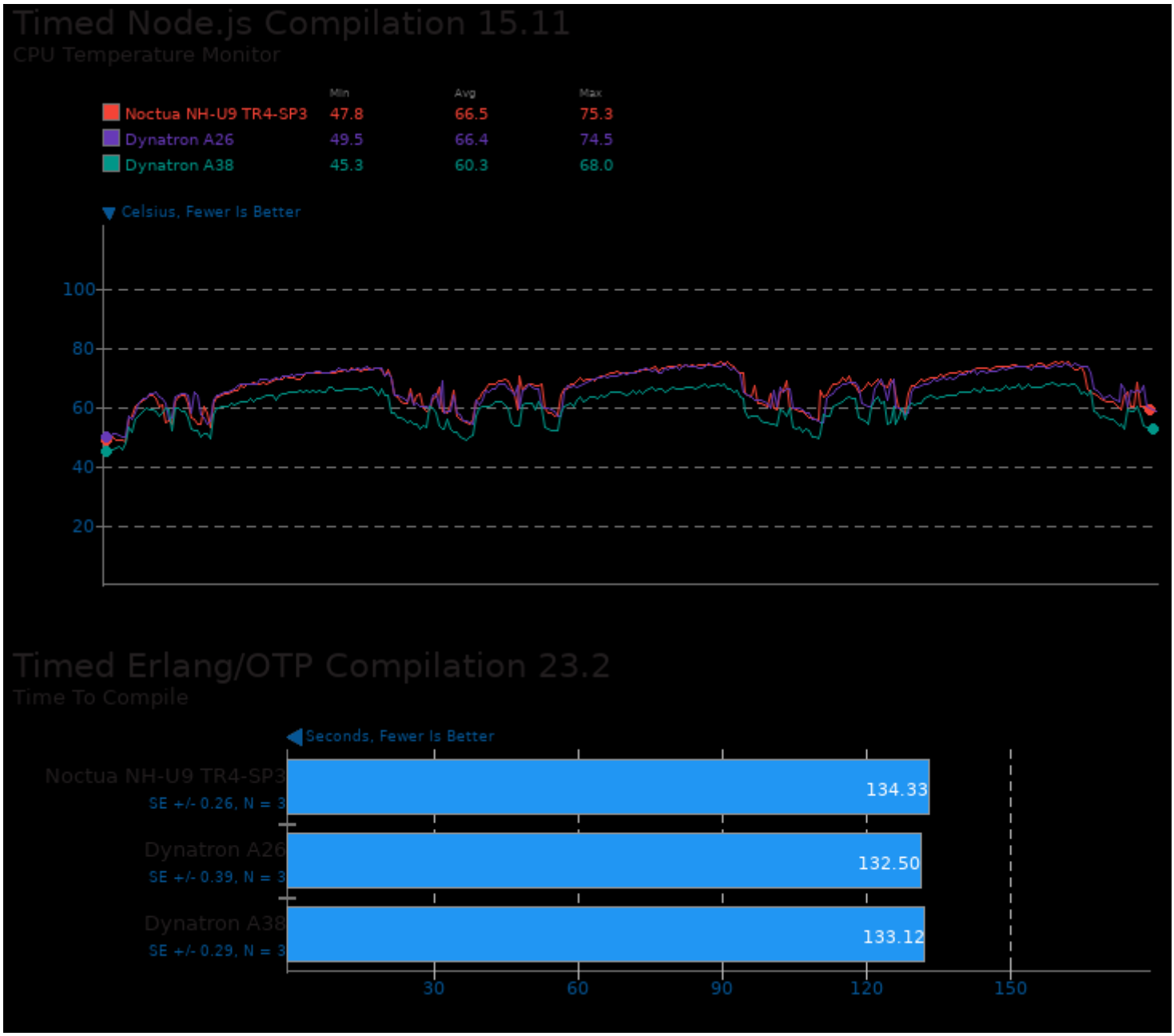
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance

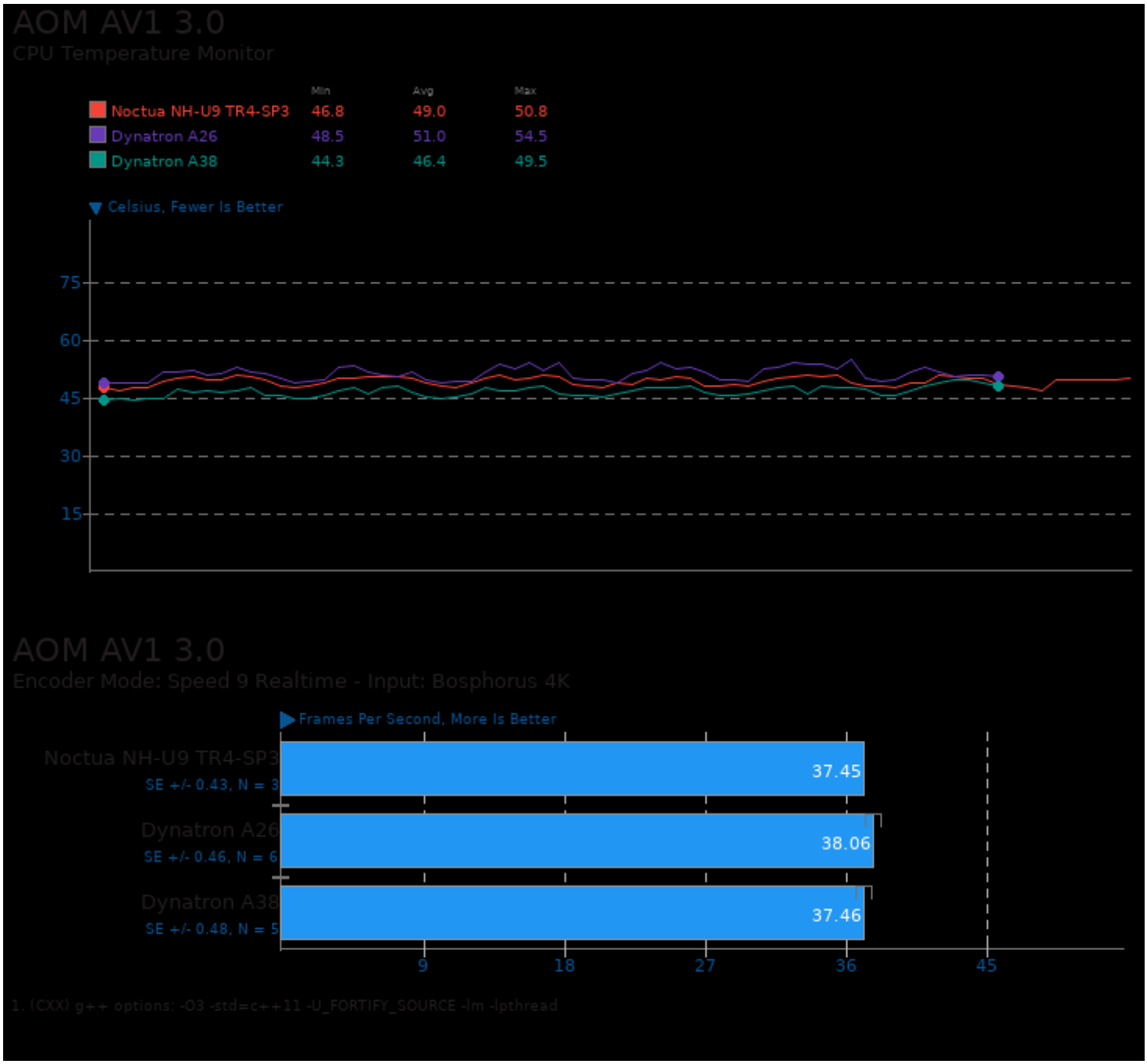


AMD EPYC 7763 Cooling Performance

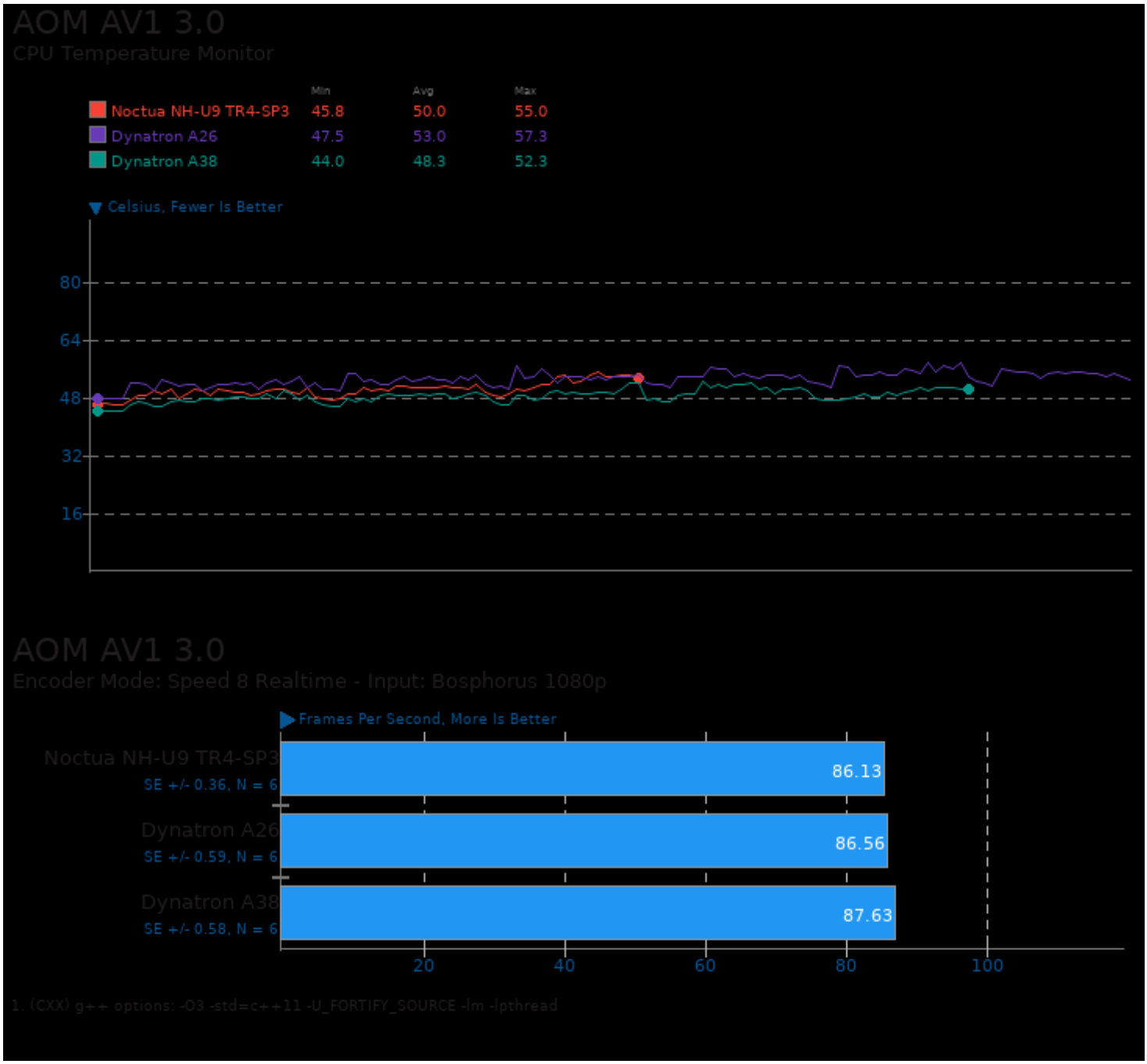


AMD EPYC 7763 Cooling Performance

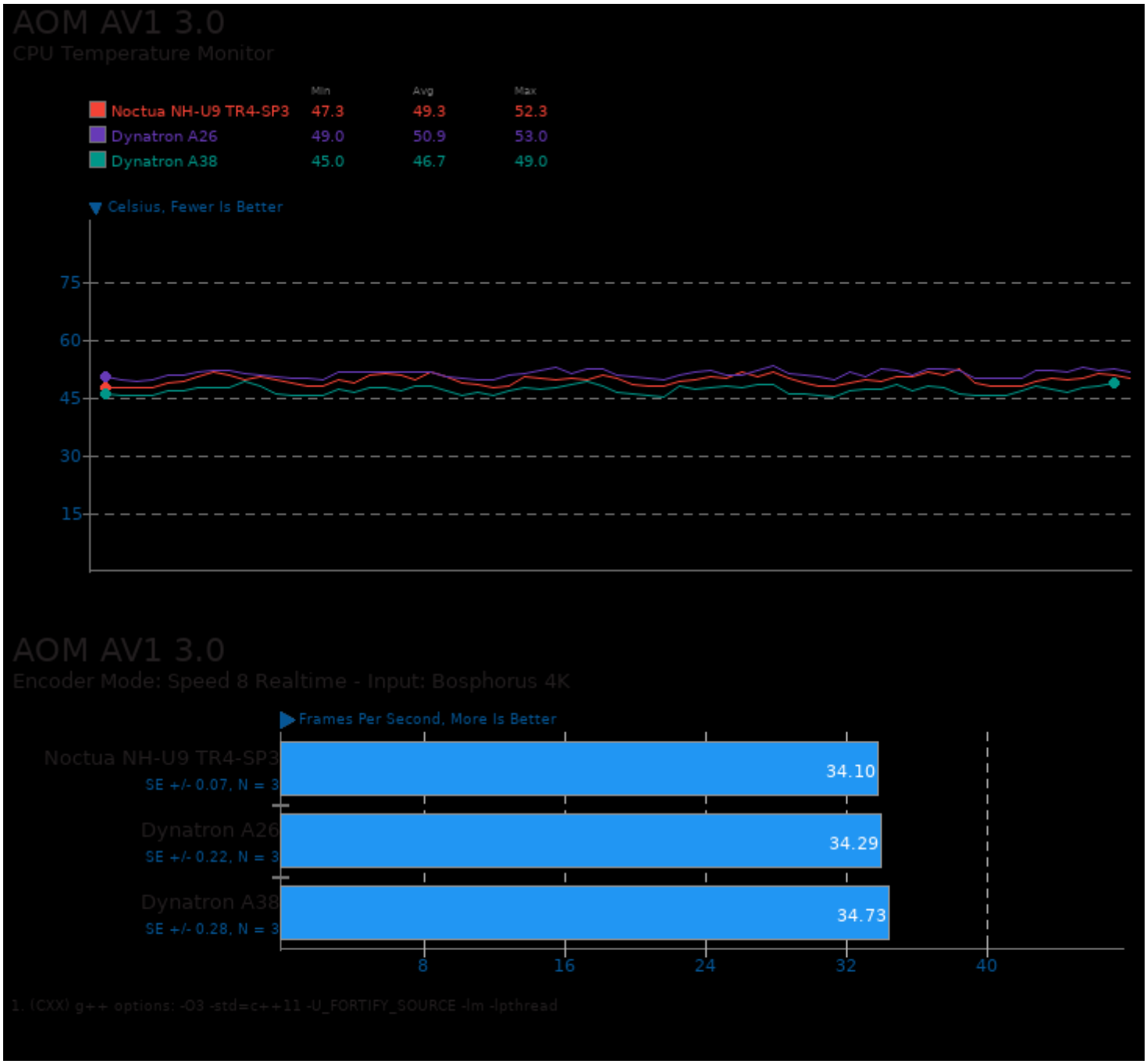
AMD EPYC 7763 Cooling Performance



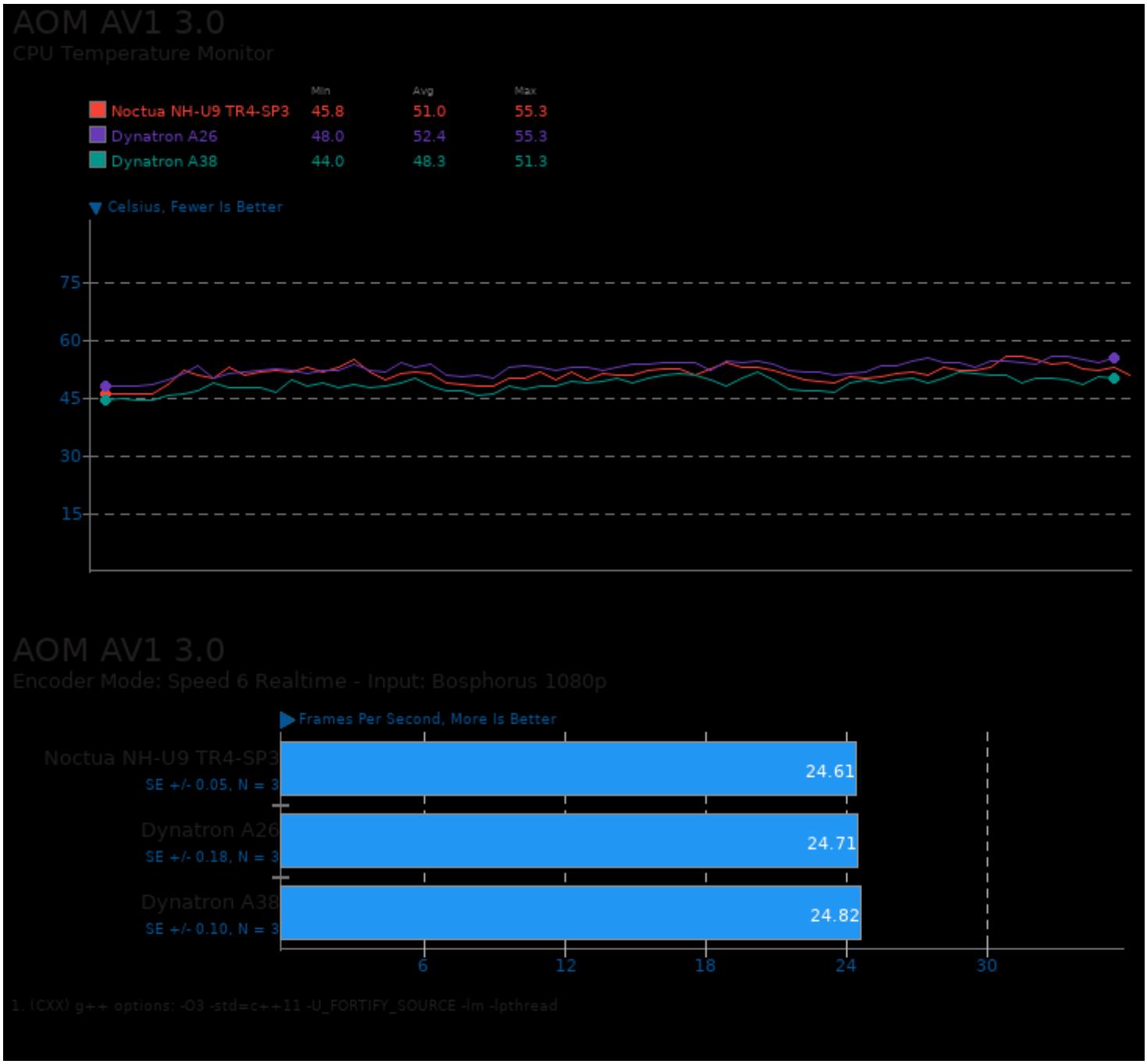
AMD EPYC 7763 Cooling Performance



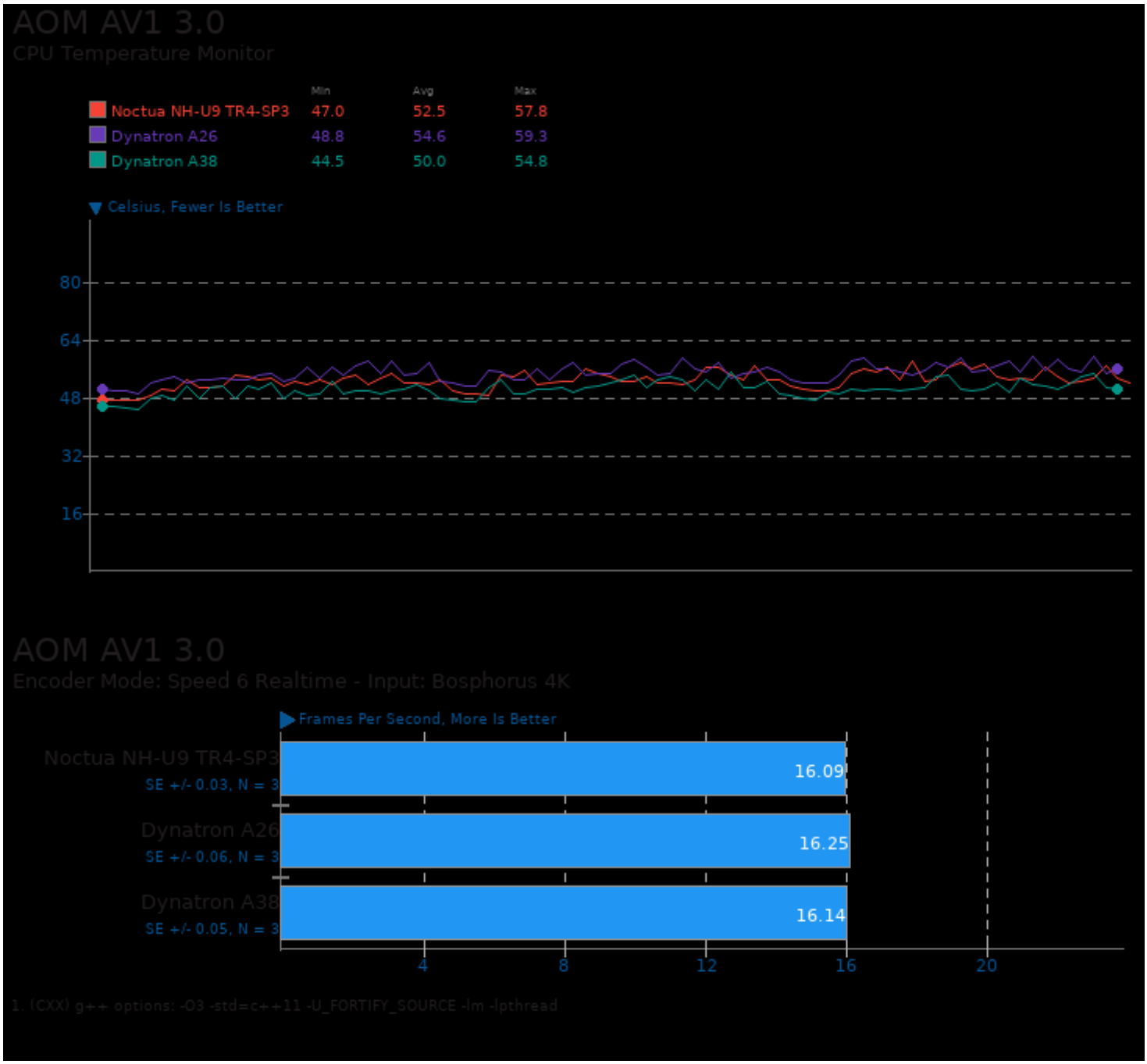
AMD EPYC 7763 Cooling Performance



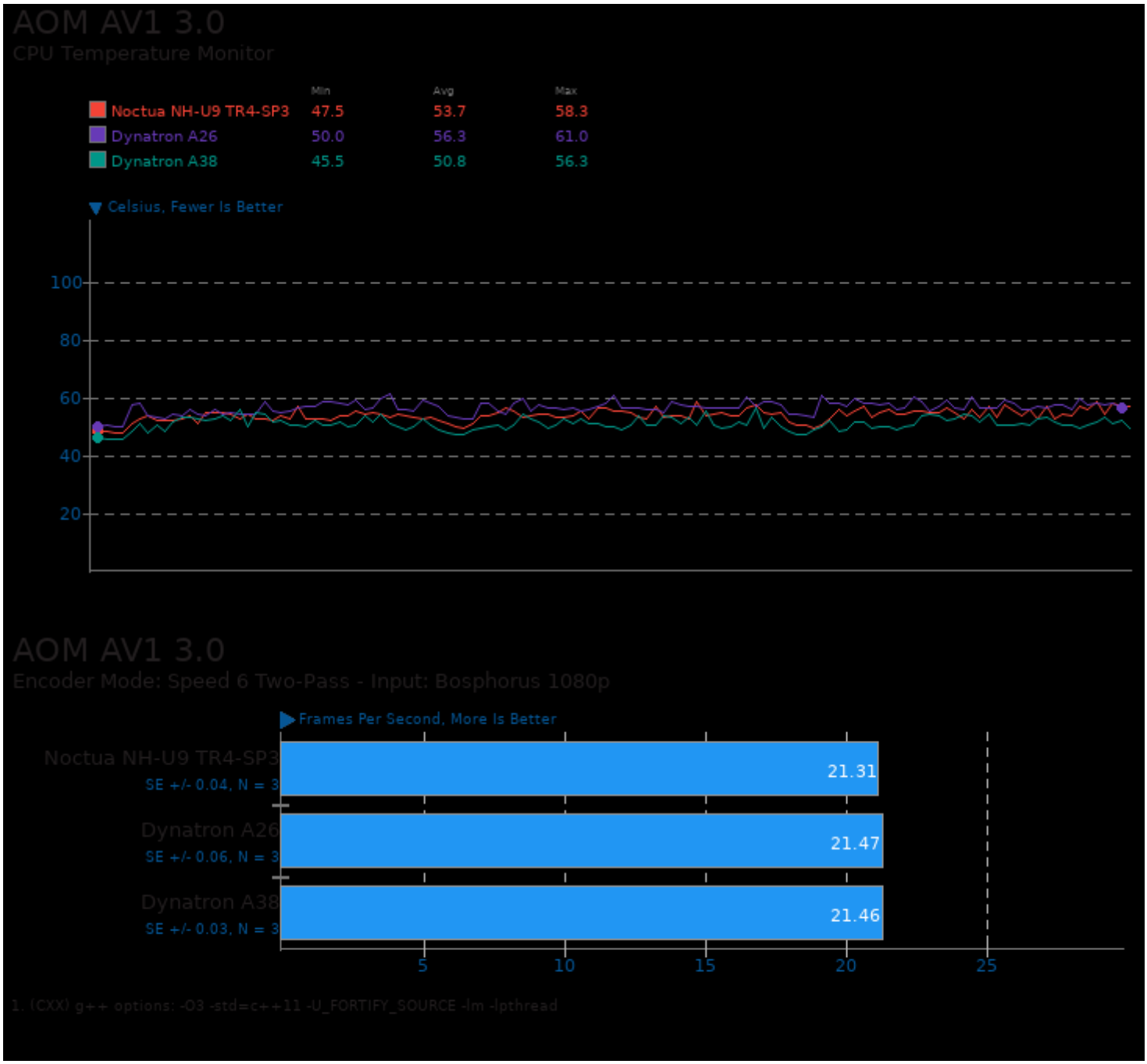
AMD EPYC 7763 Cooling Performance



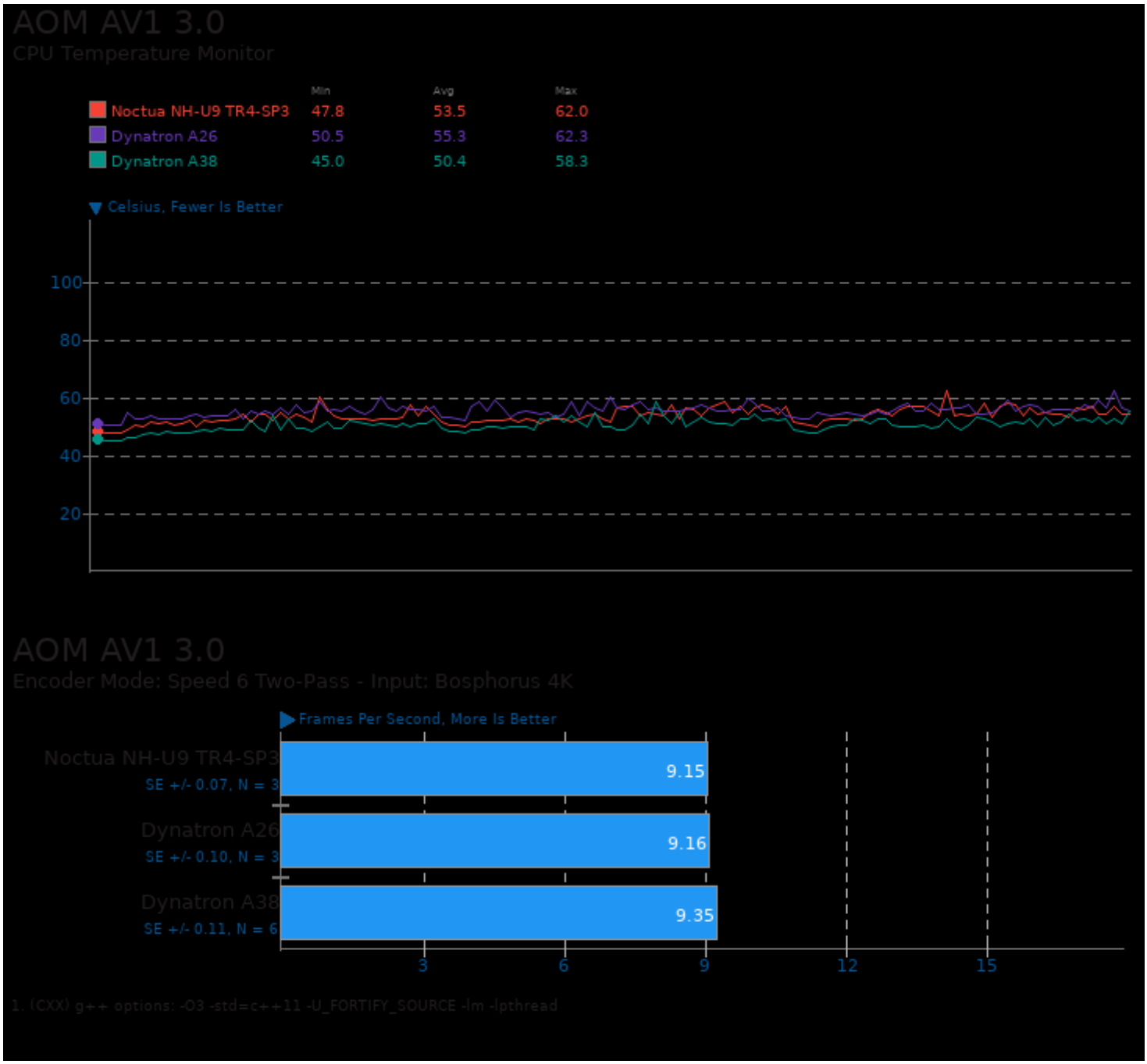
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance

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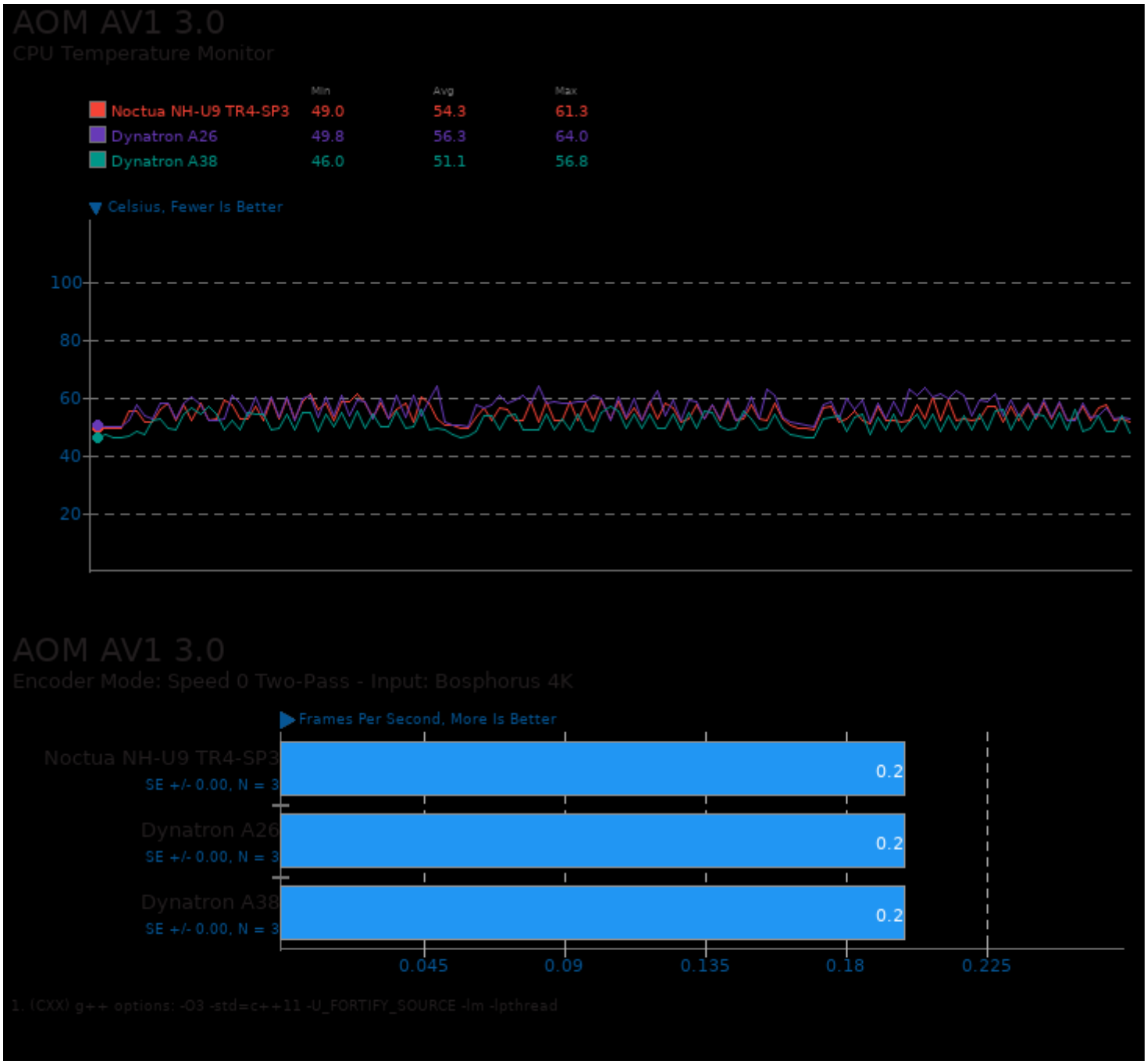
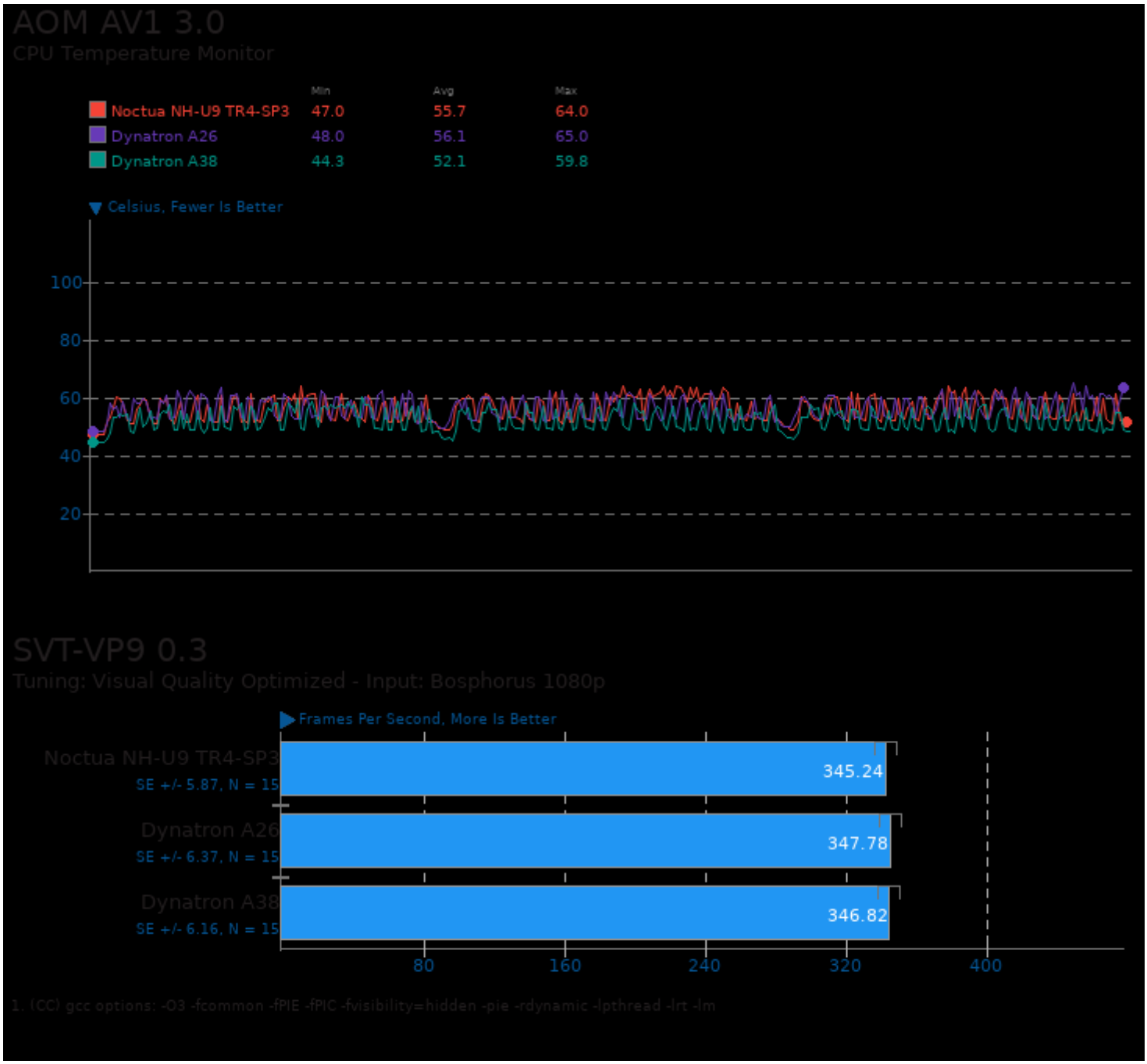
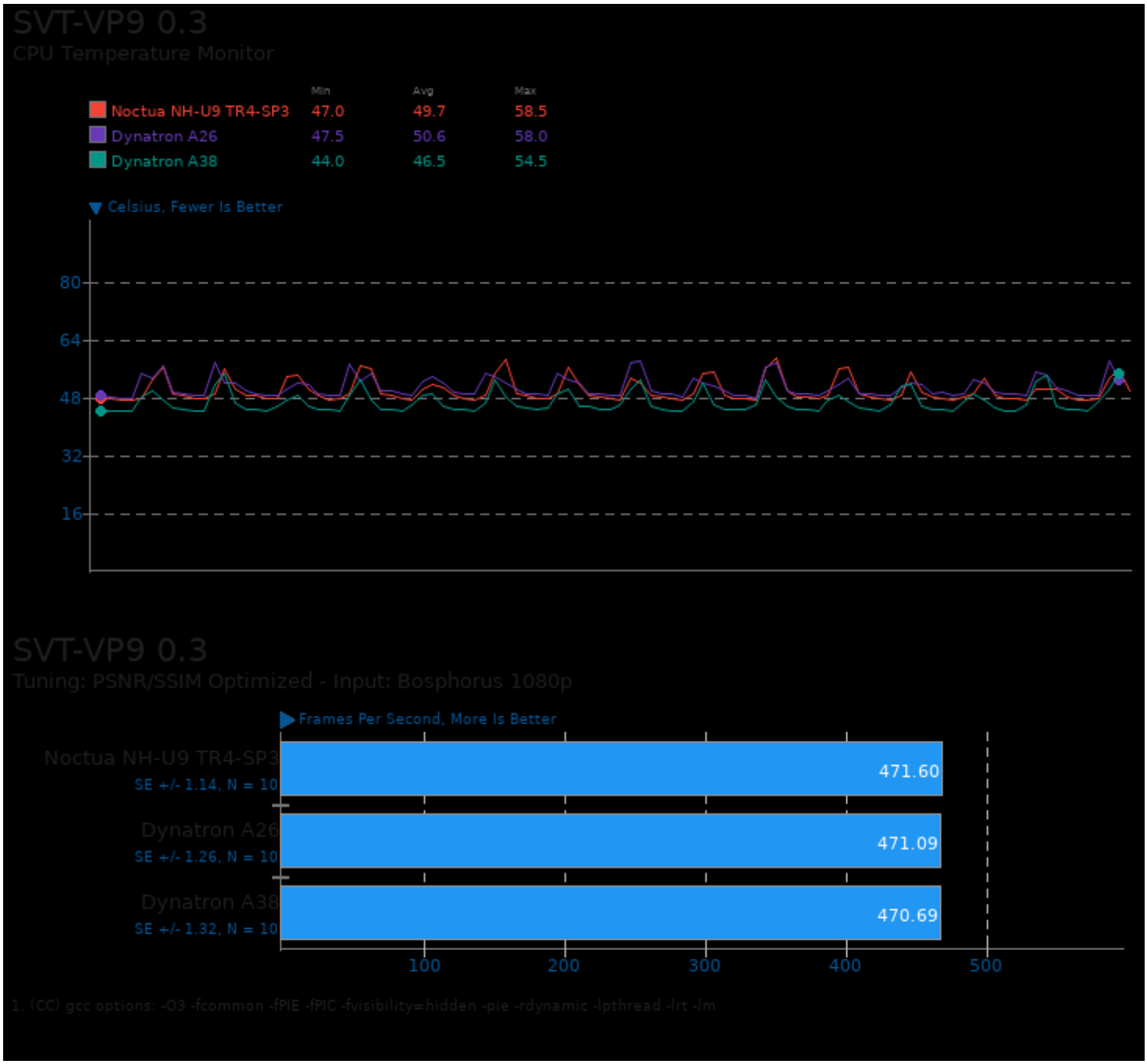


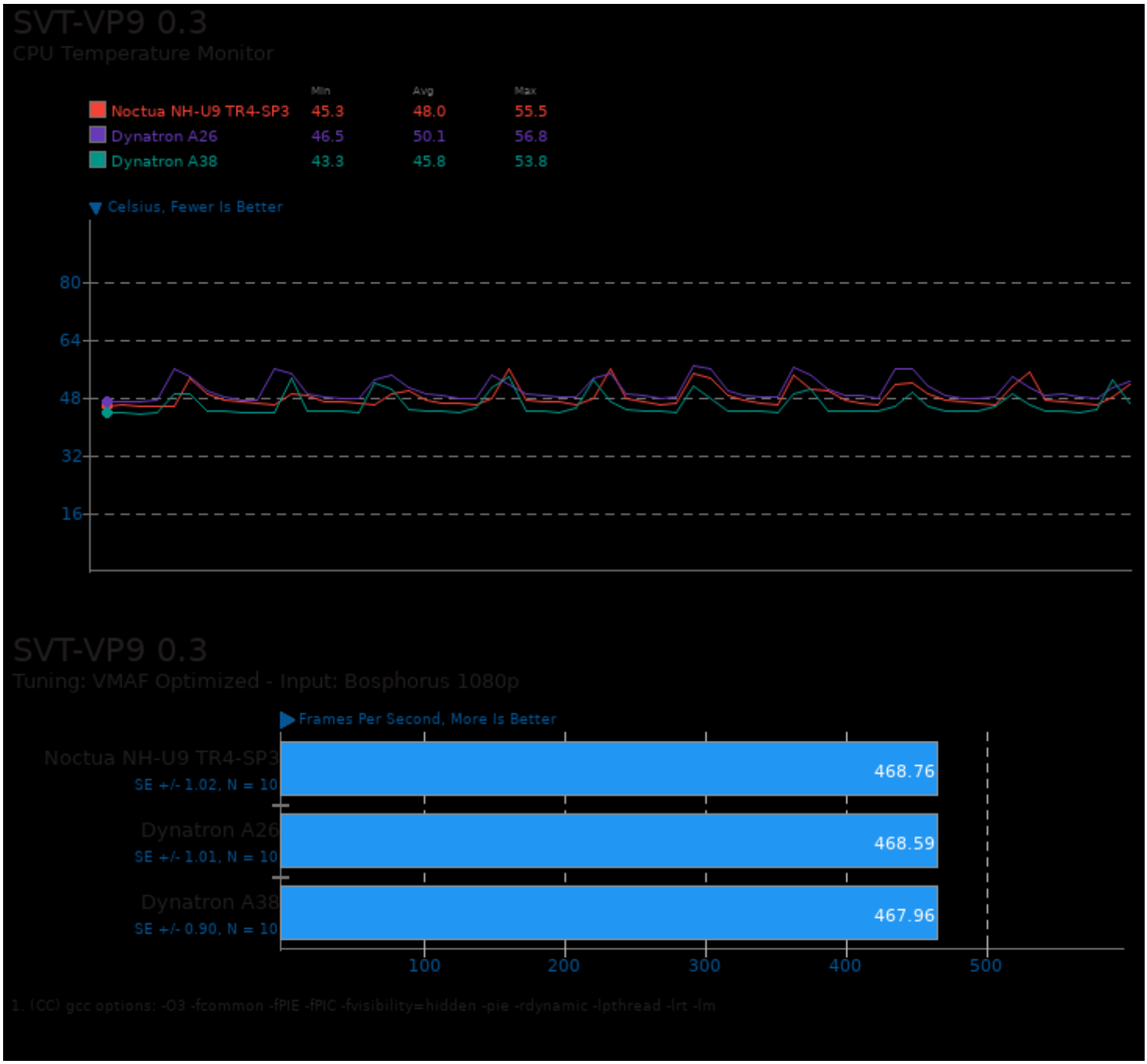
AMD EPYC 7763 Cooling Performance



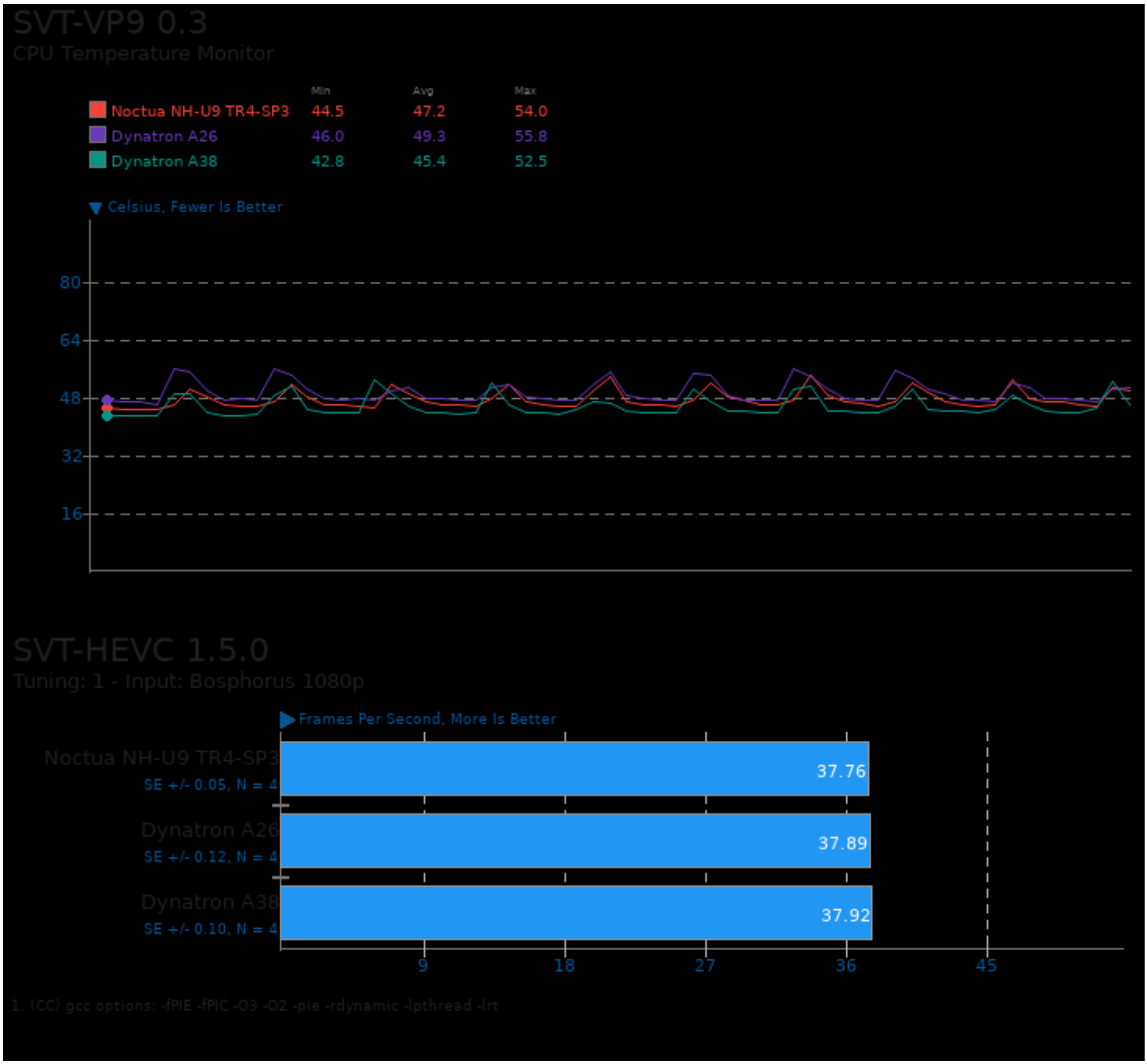
AMD EPYC 7763 Cooling Performance



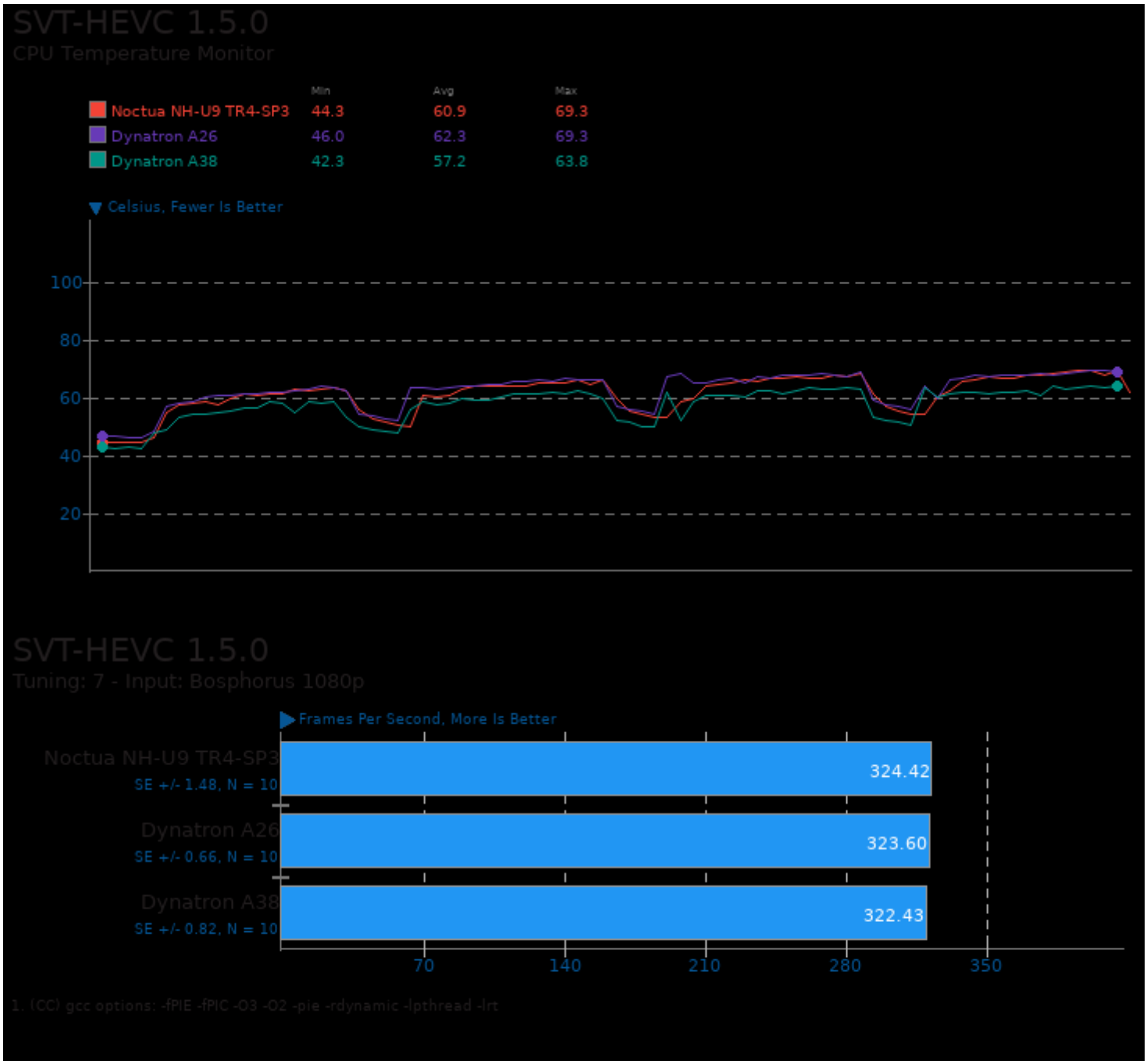
AMD EPYC 7763 Cooling Performance



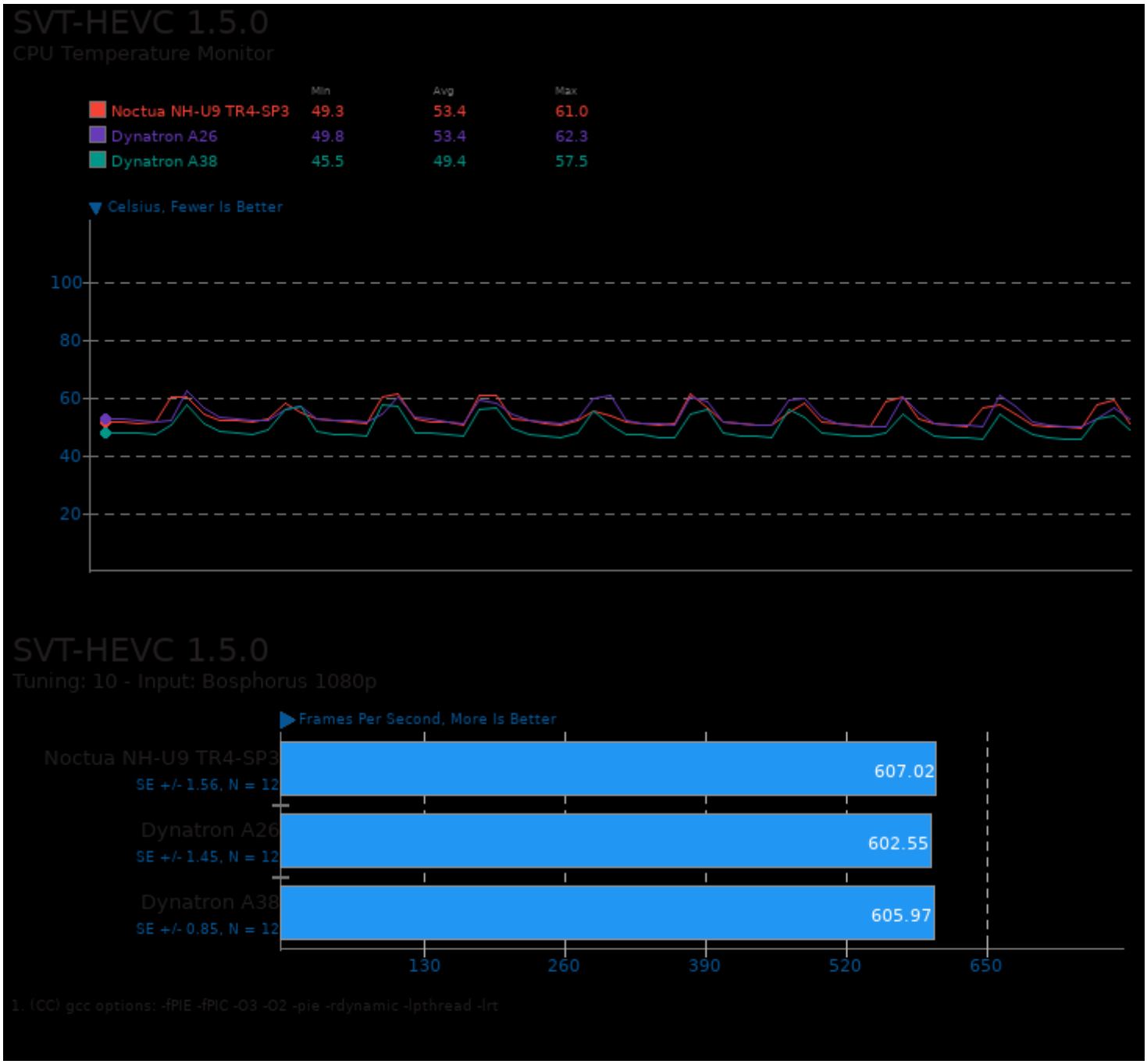
AMD EPYC 7763 Cooling Performance



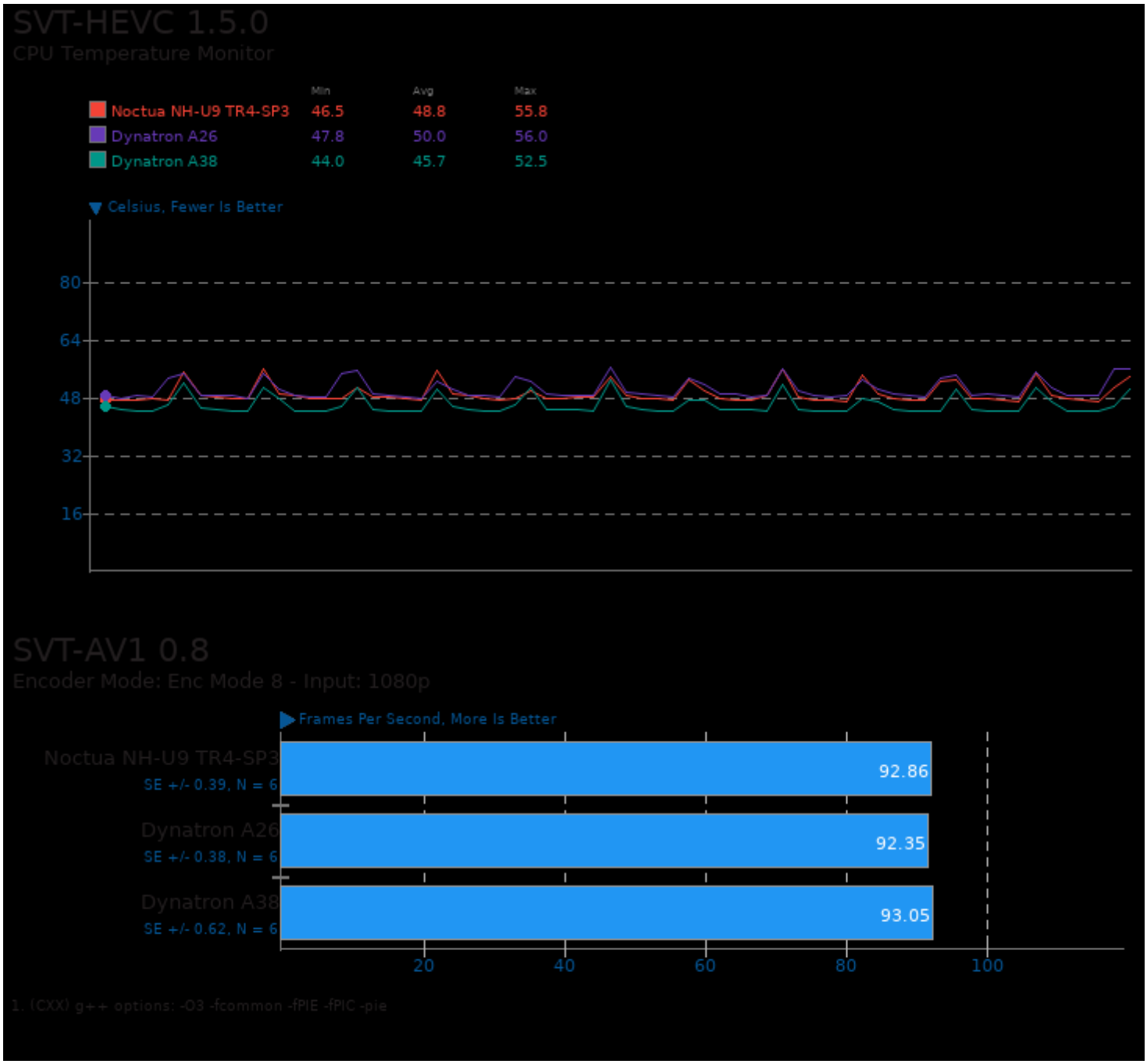
AMD EPYC 7763 Cooling Performance



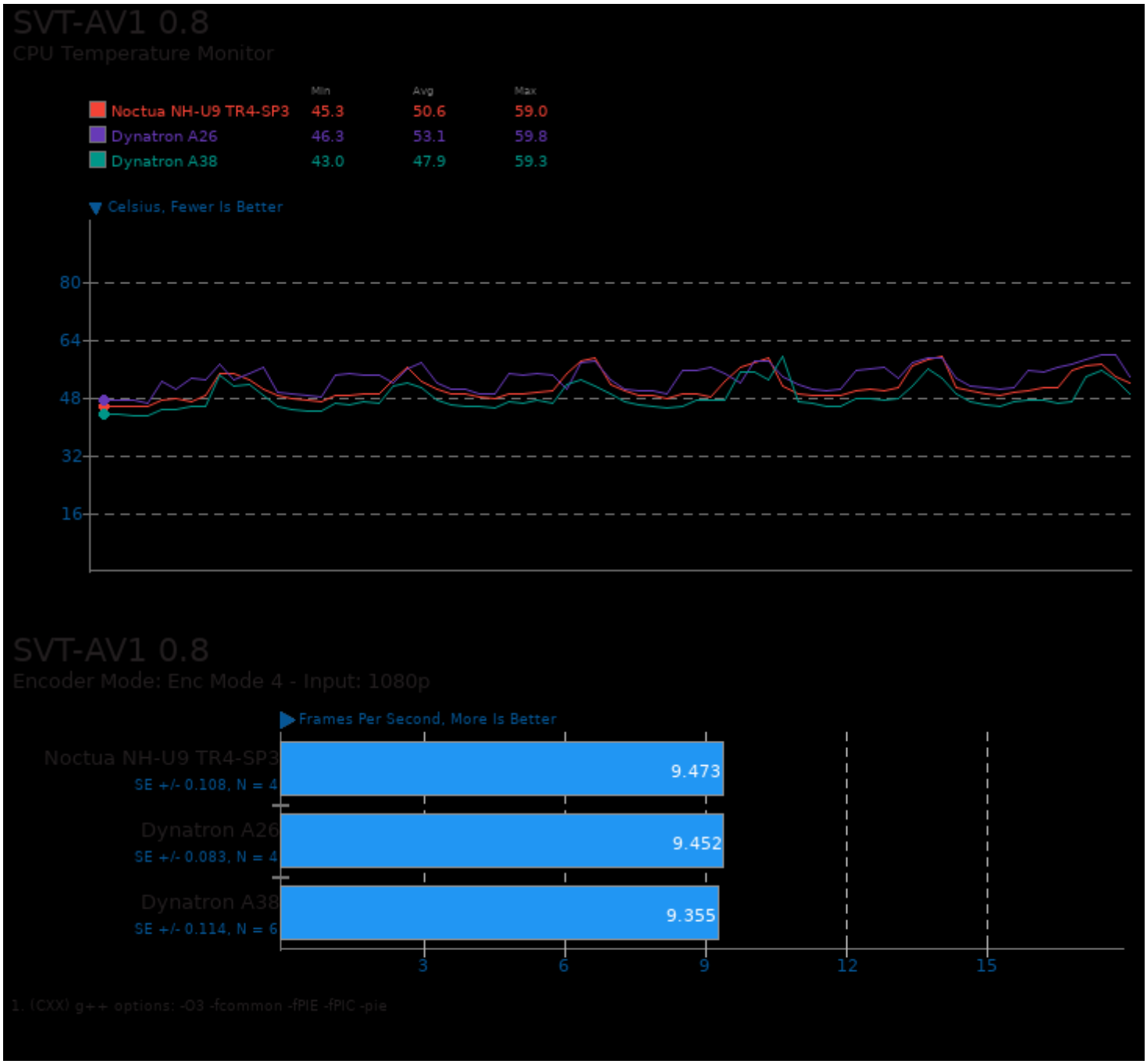
AMD EPYC 7763 Cooling Performance



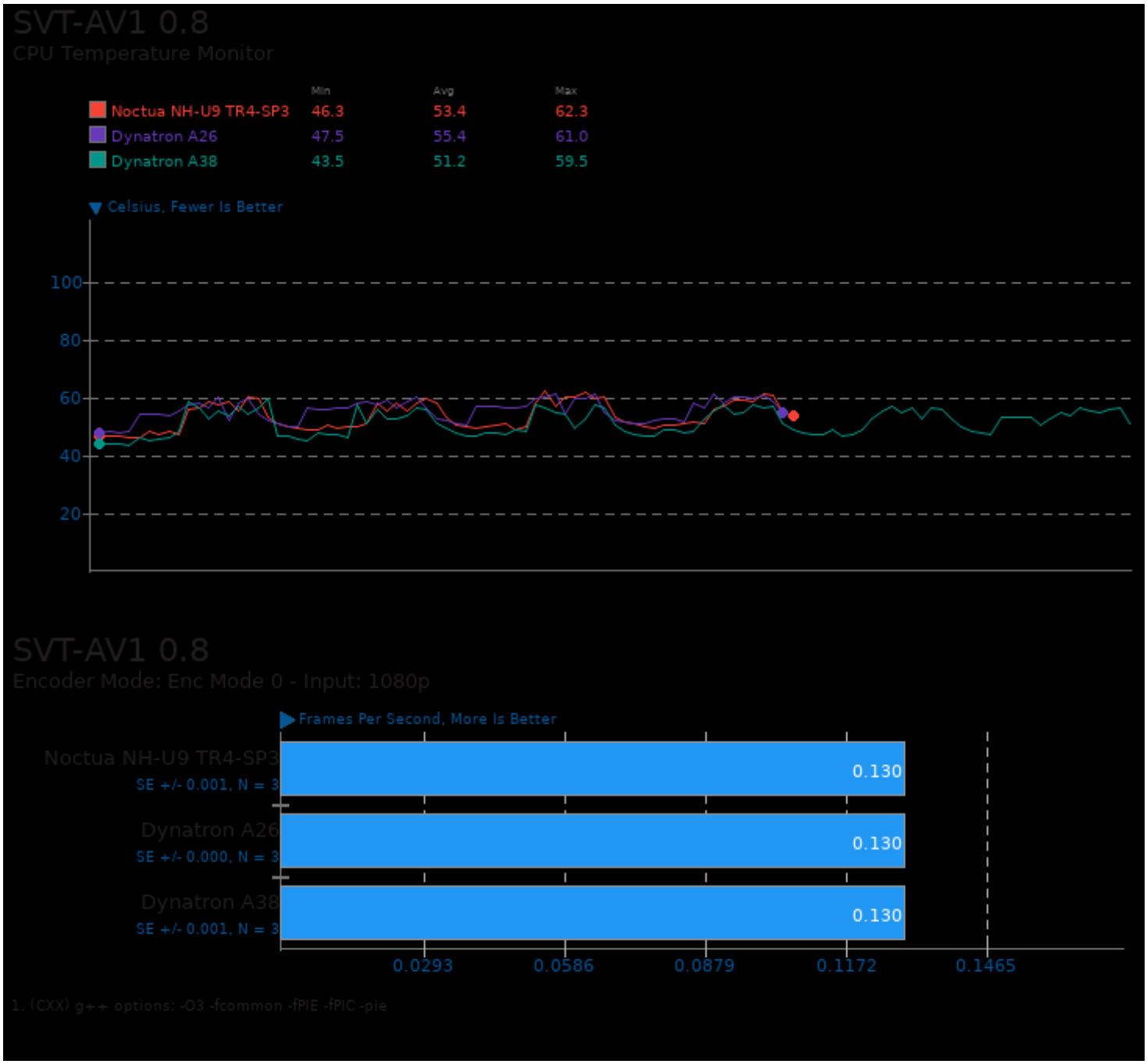
AMD EPYC 7763 Cooling Performance



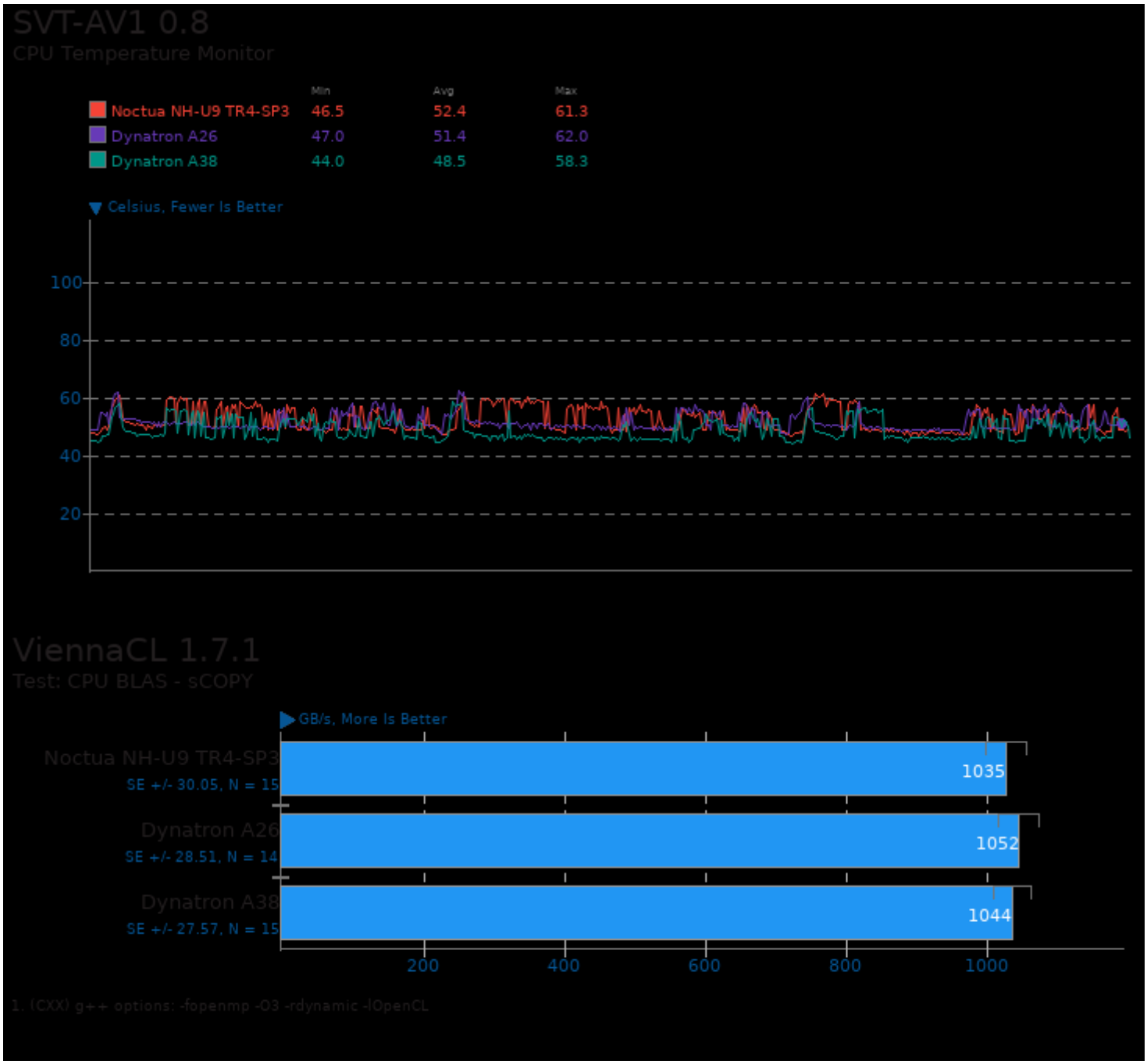
AMD EPYC 7763 Cooling Performance



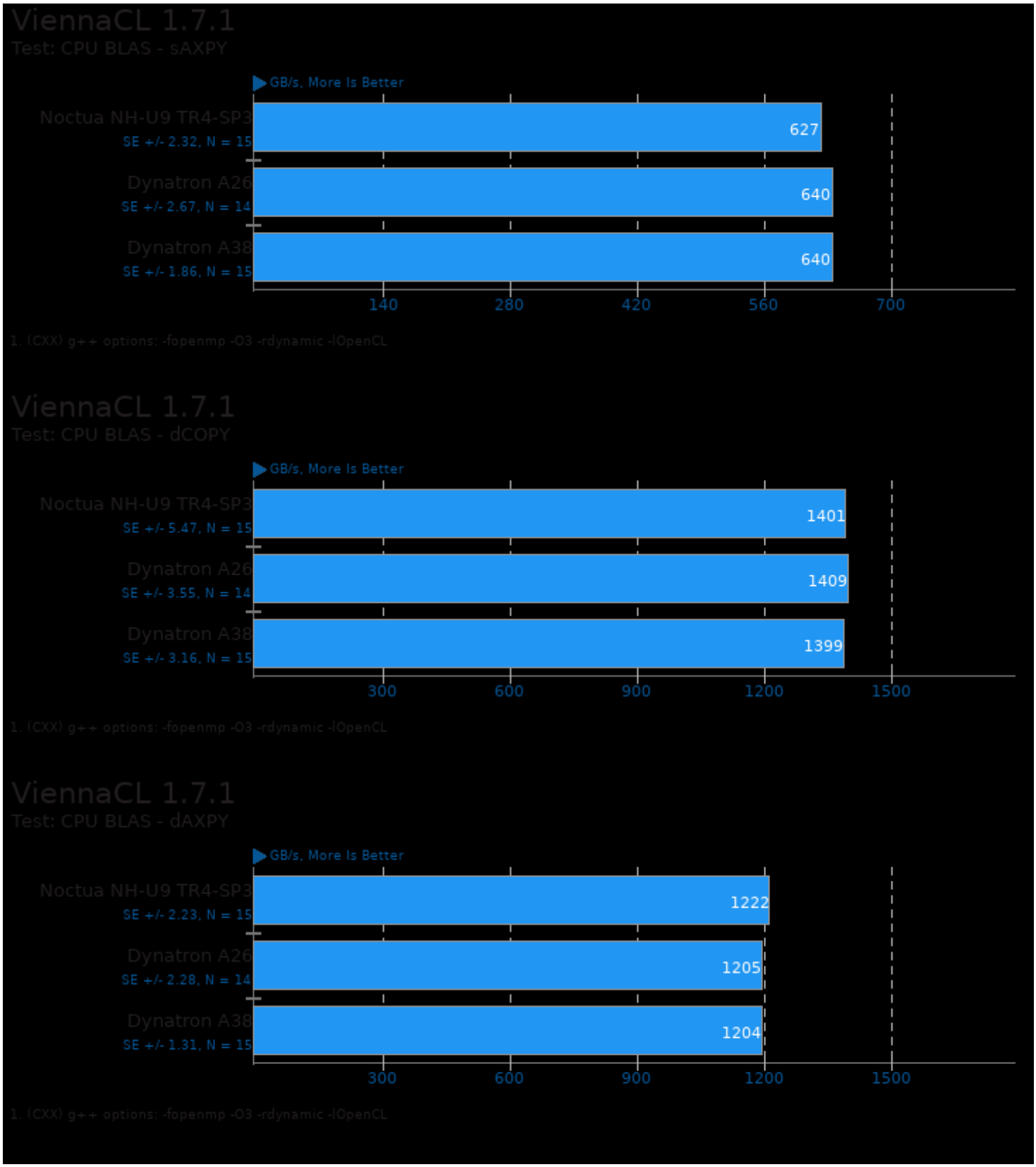
AMD EPYC 7763 Cooling Performance



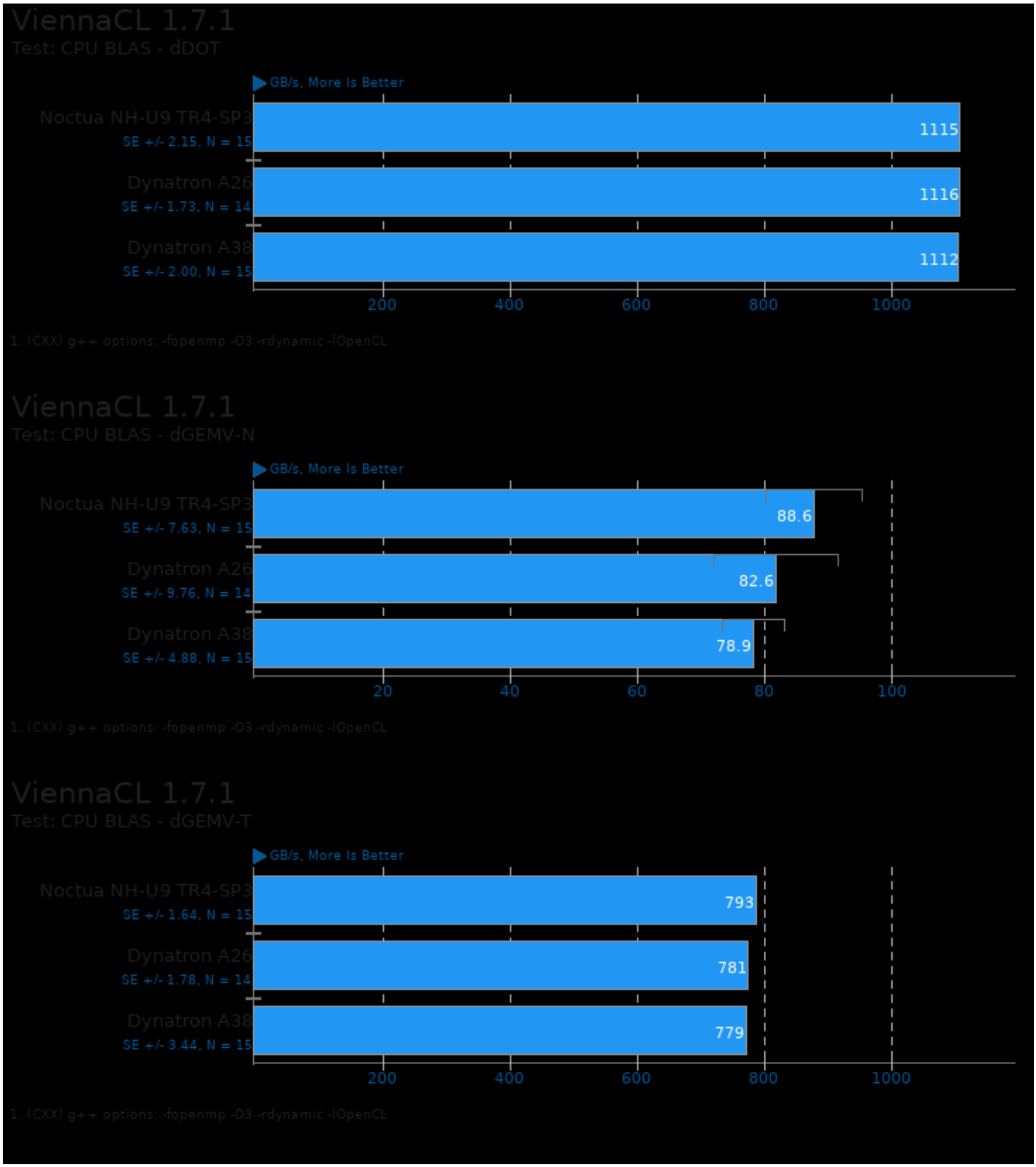
AMD EPYC 7763 Cooling Performance



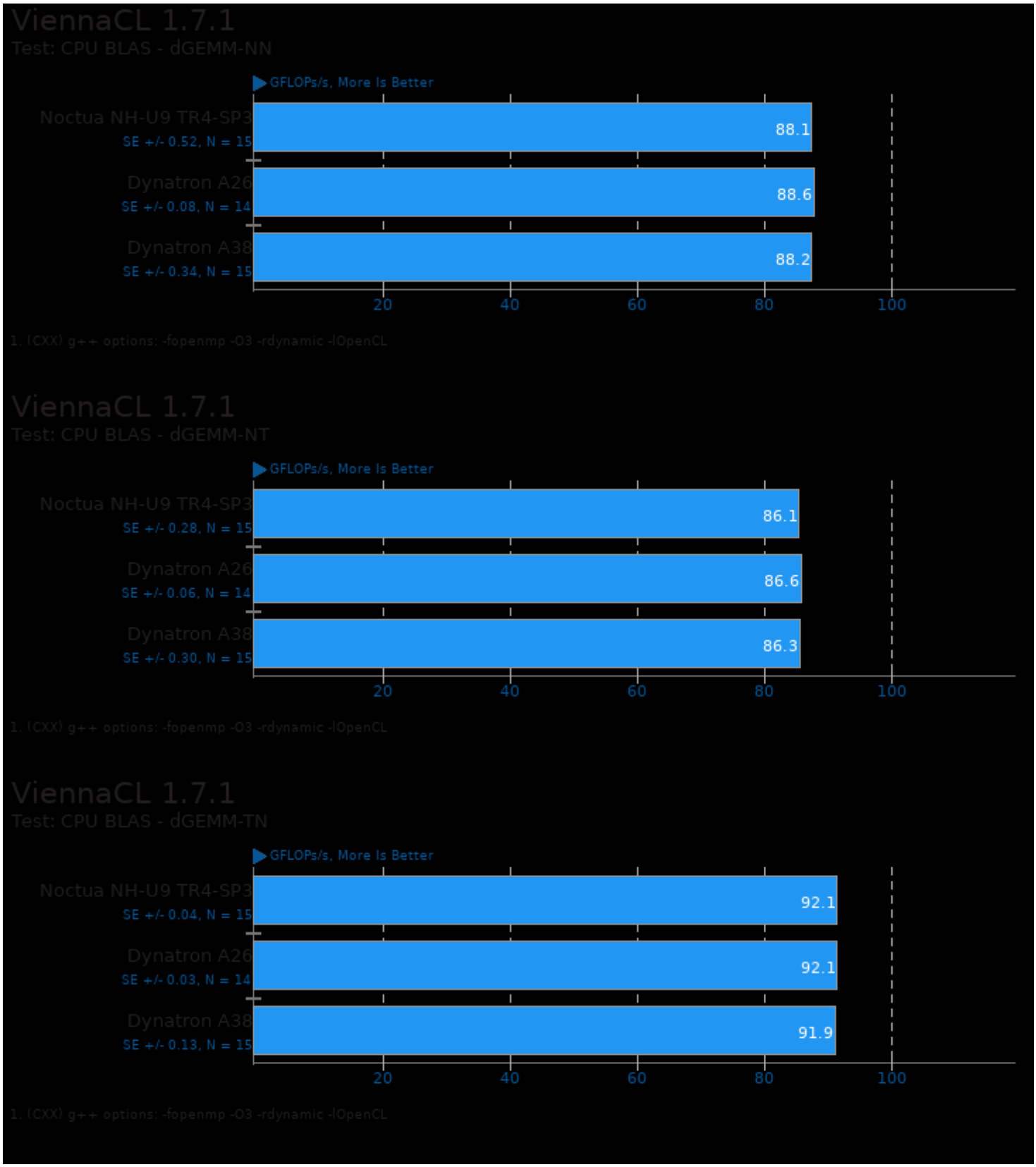
AMD EPYC 7763 Cooling Performance



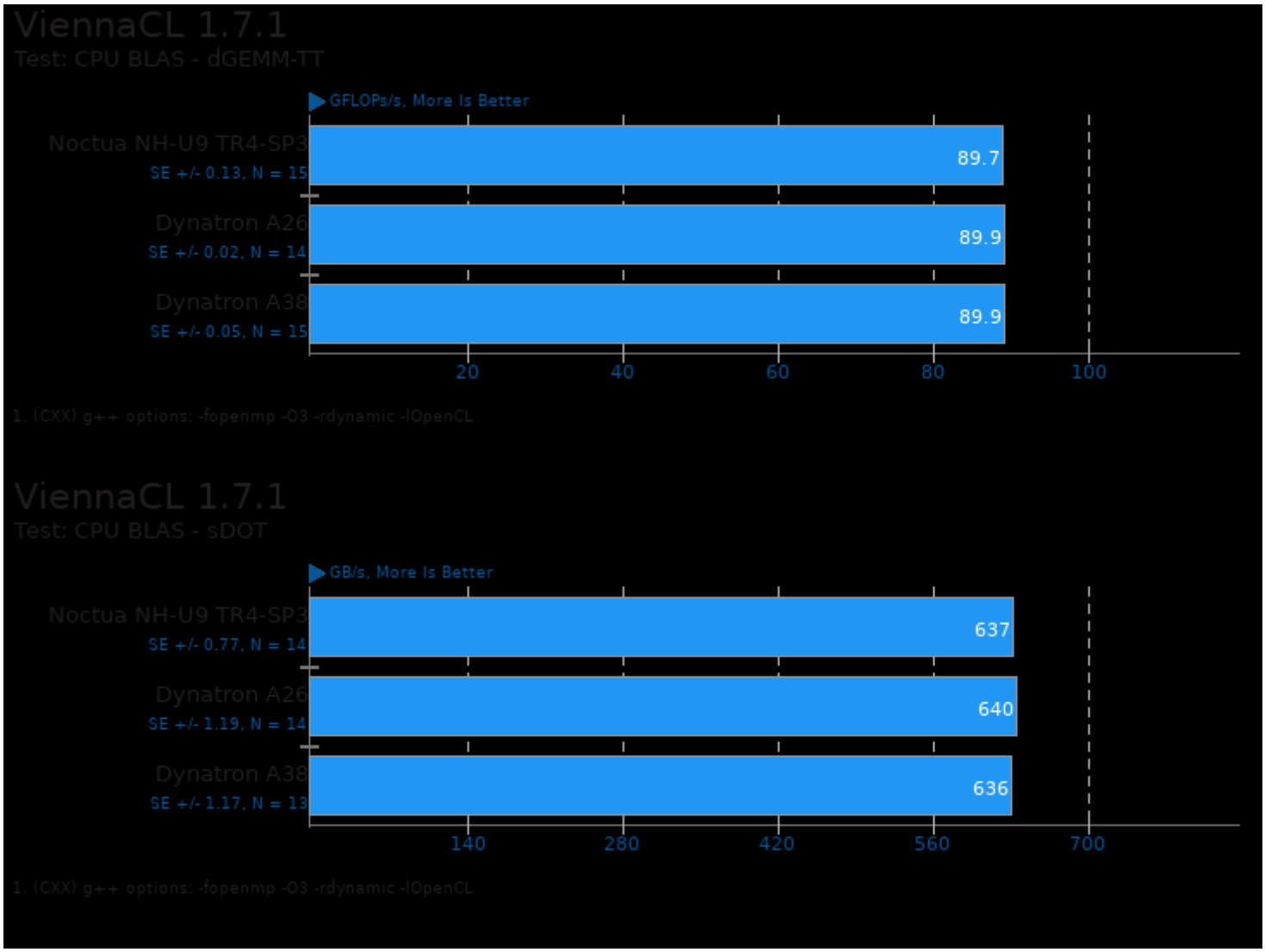
AMD EPYC 7763 Cooling Performance



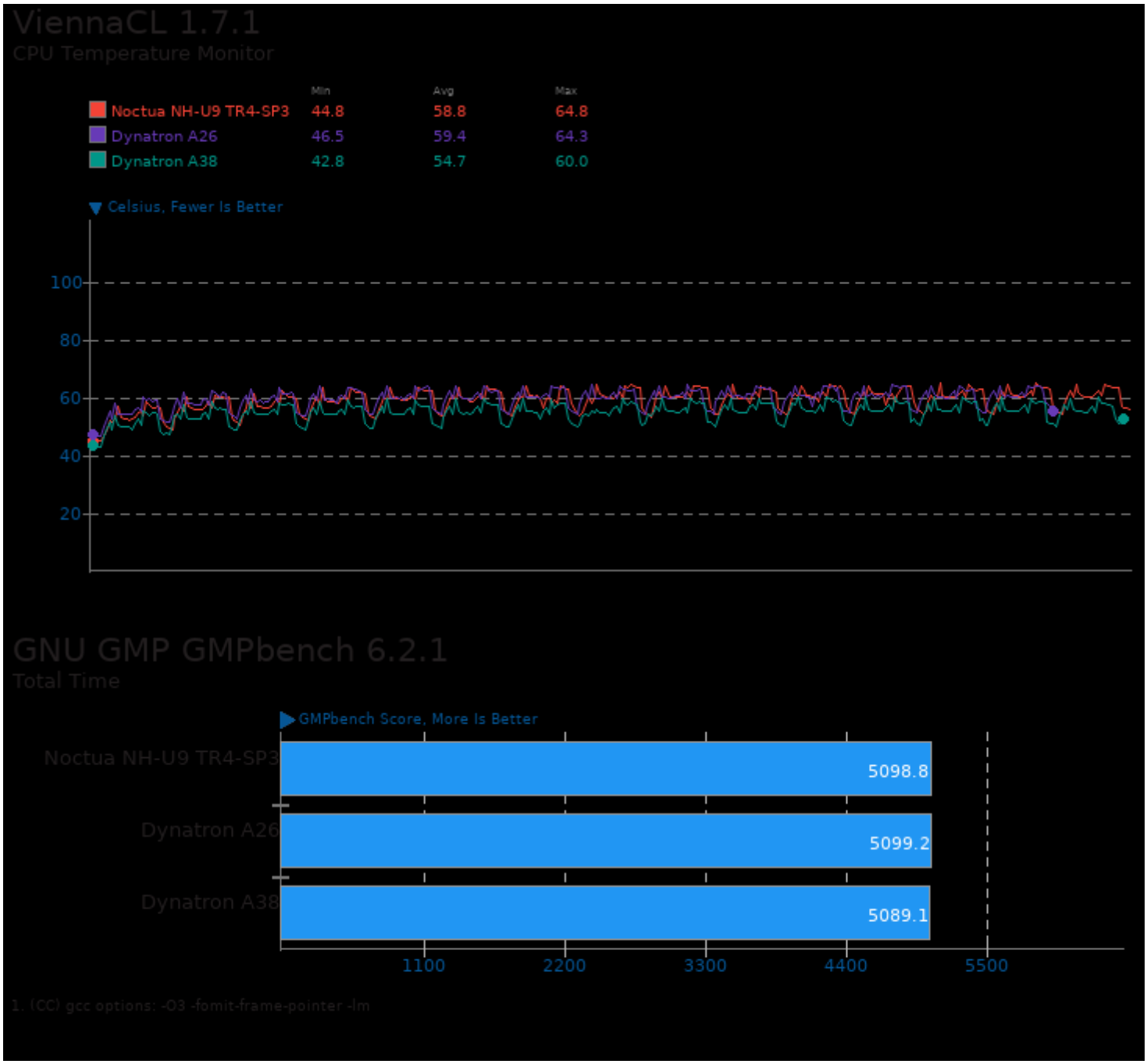
AMD EPYC 7763 Cooling Performance



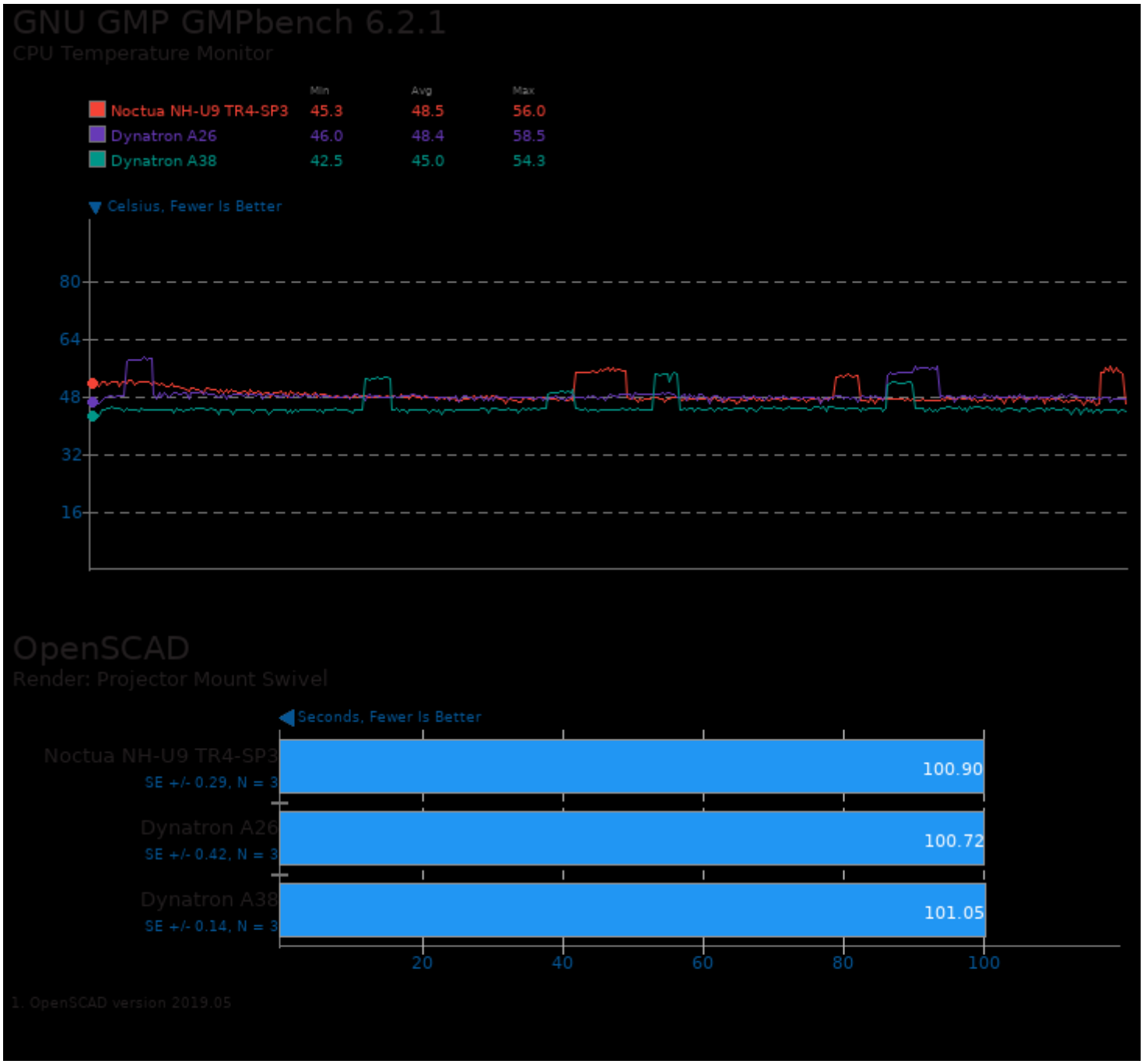
AMD EPYC 7763 Cooling Performance



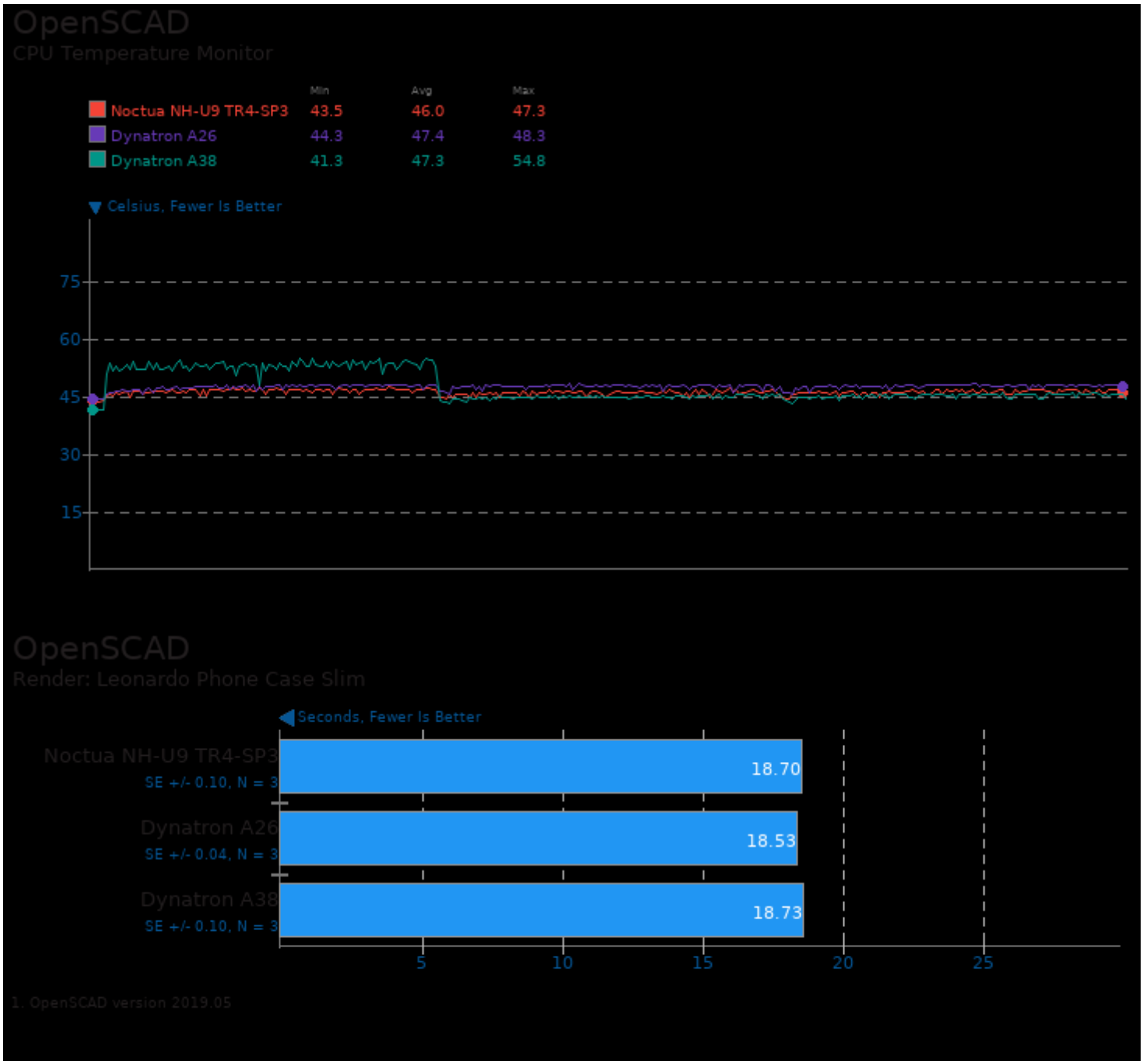
AMD EPYC 7763 Cooling Performance



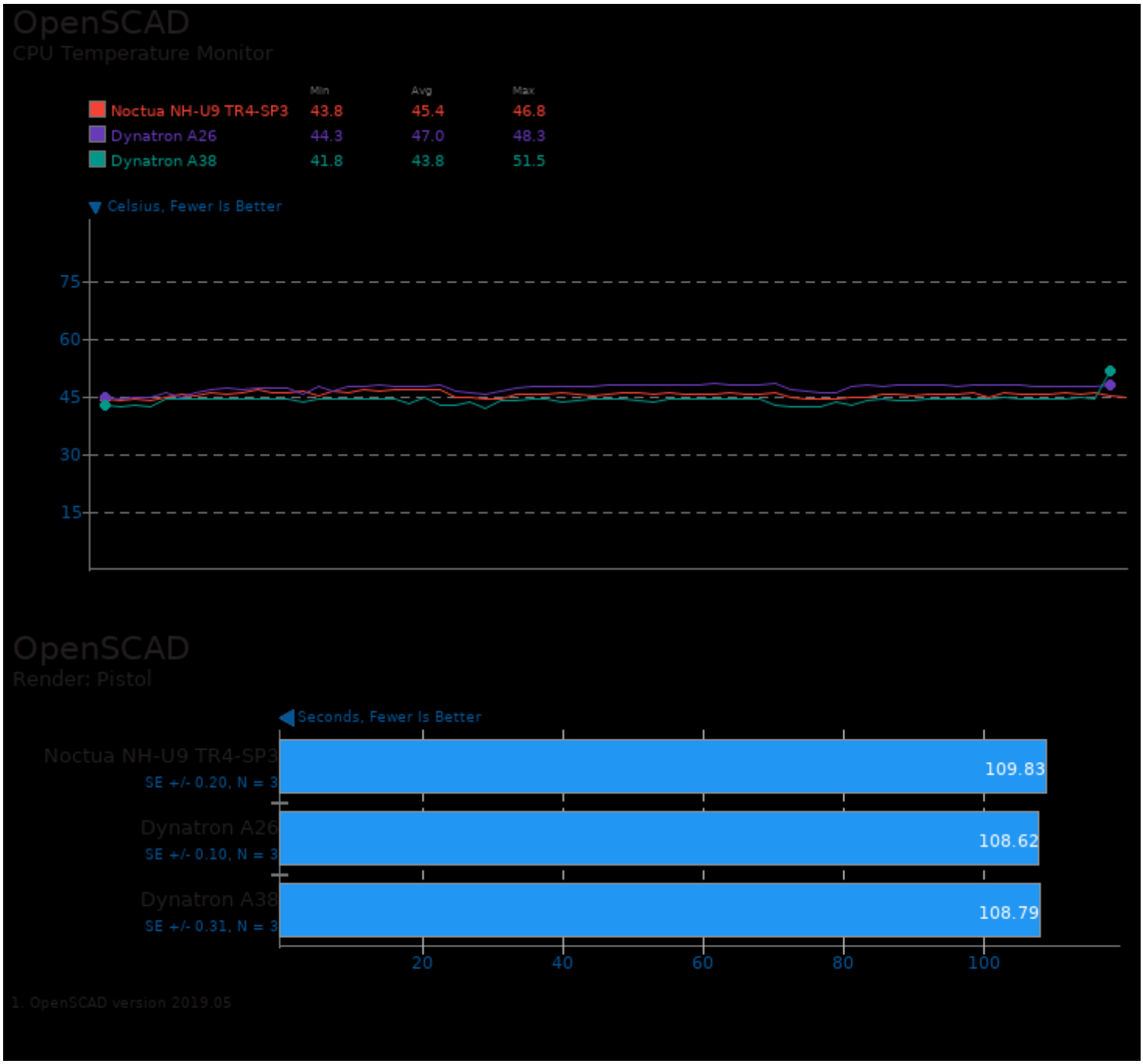
AMD EPYC 7763 Cooling Performance



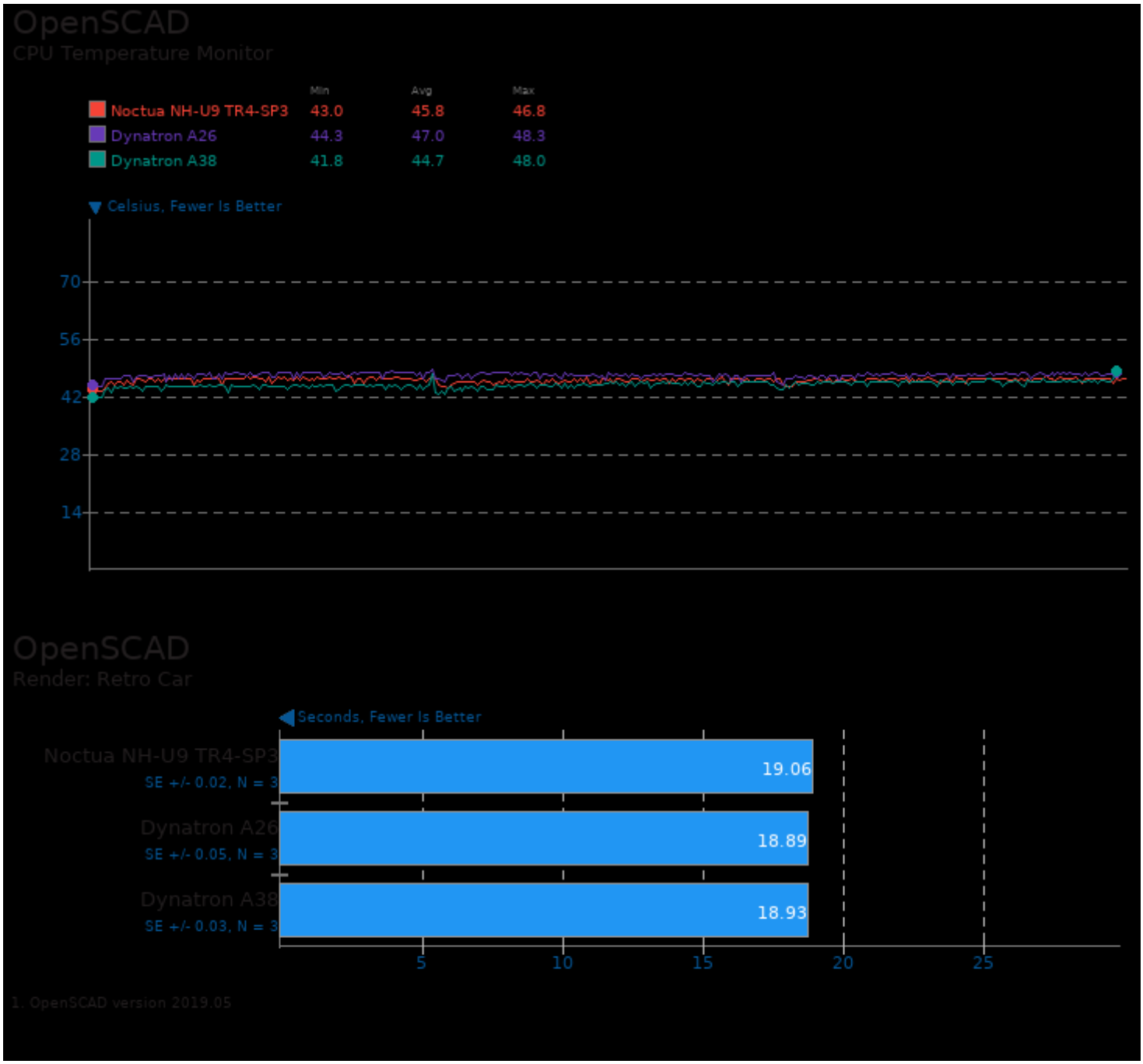
AMD EPYC 7763 Cooling Performance



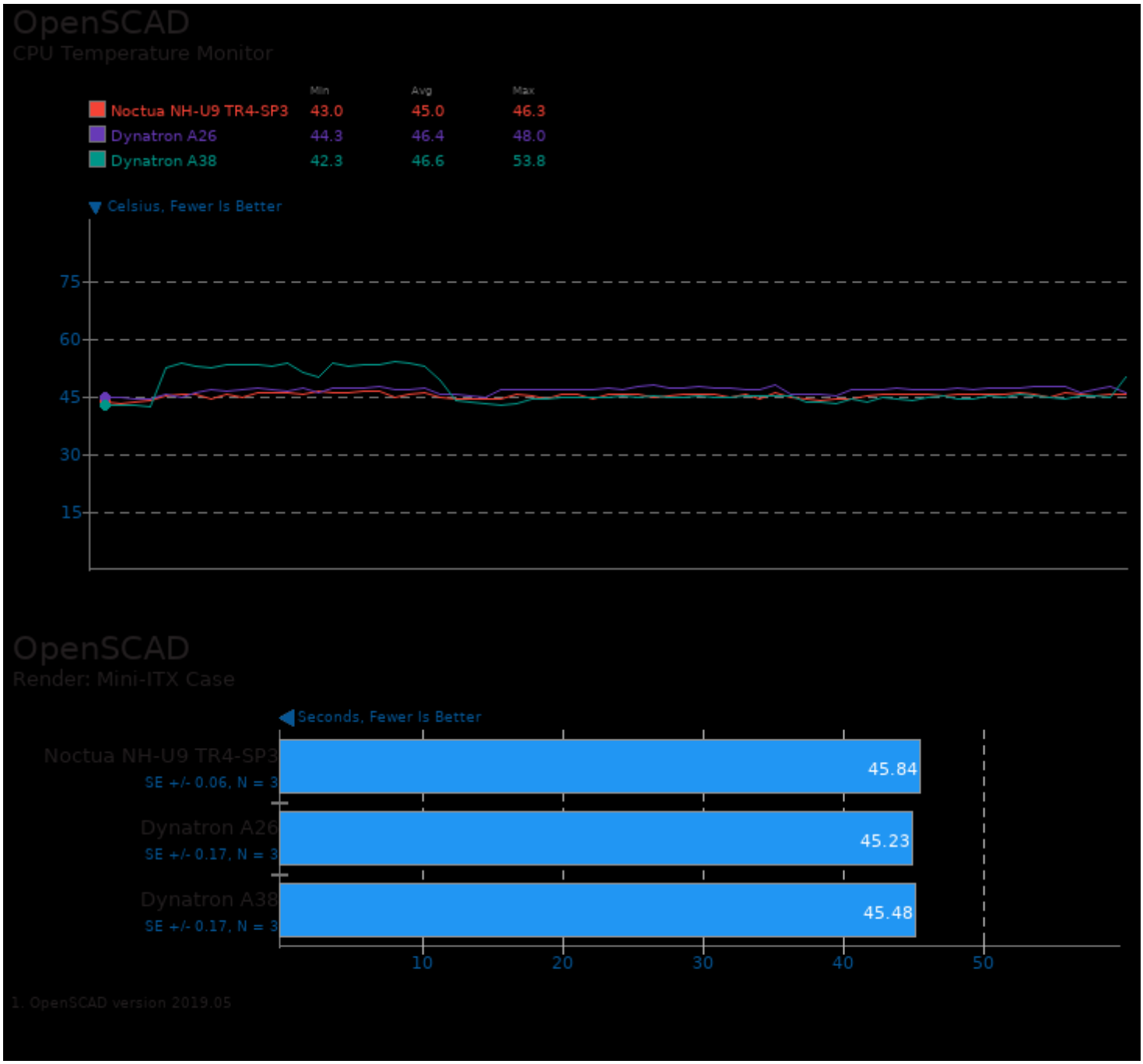
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



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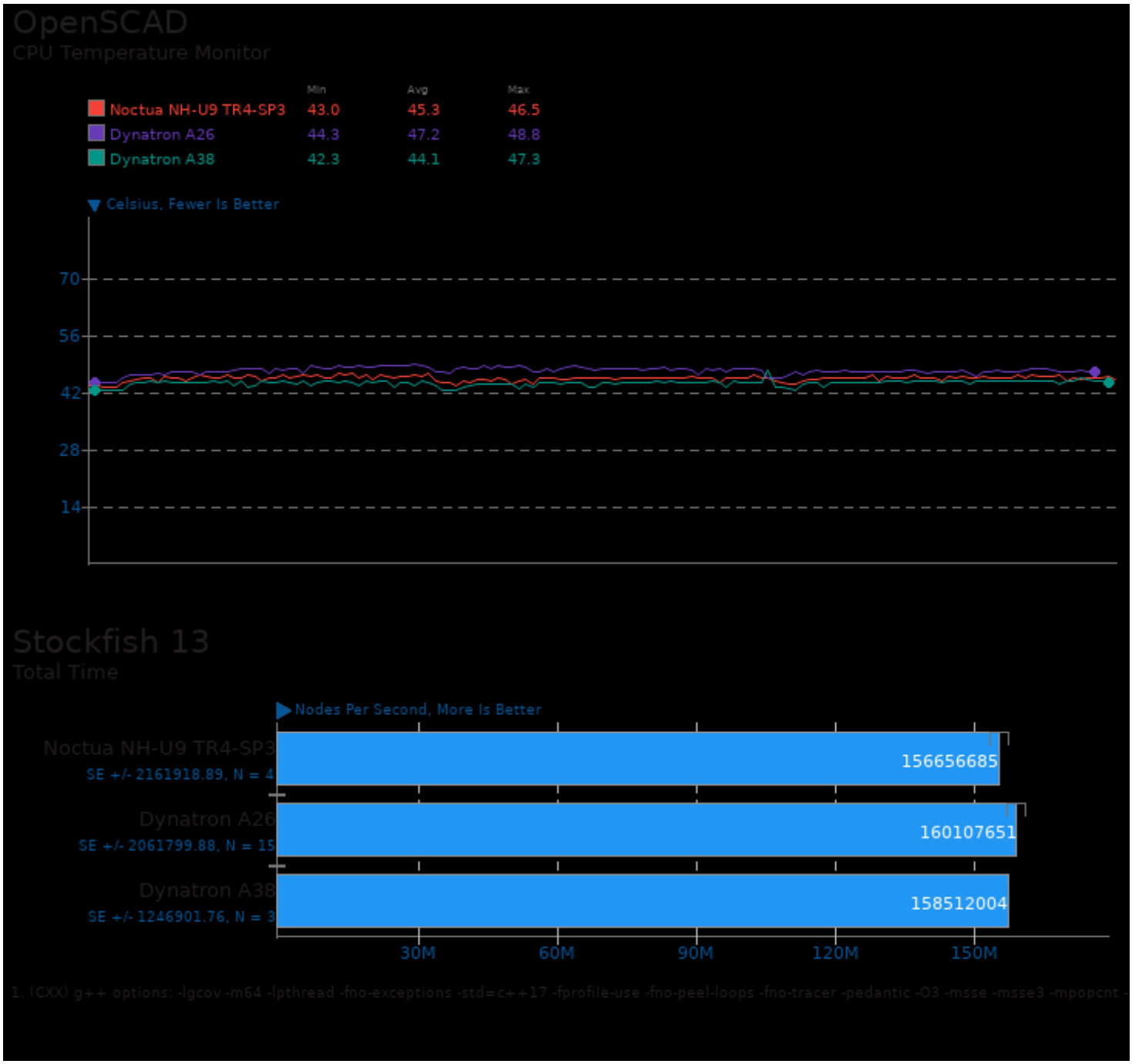
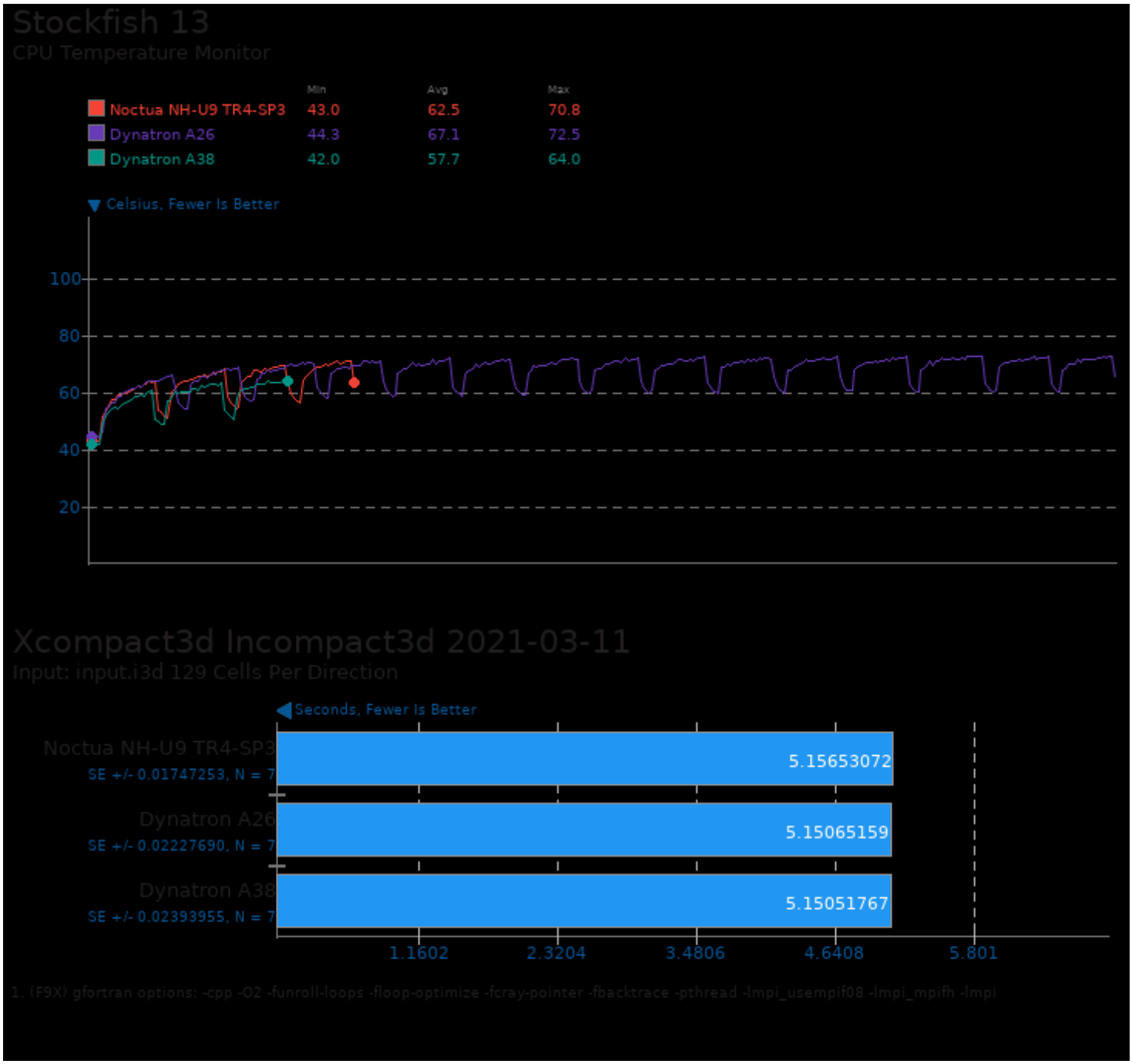
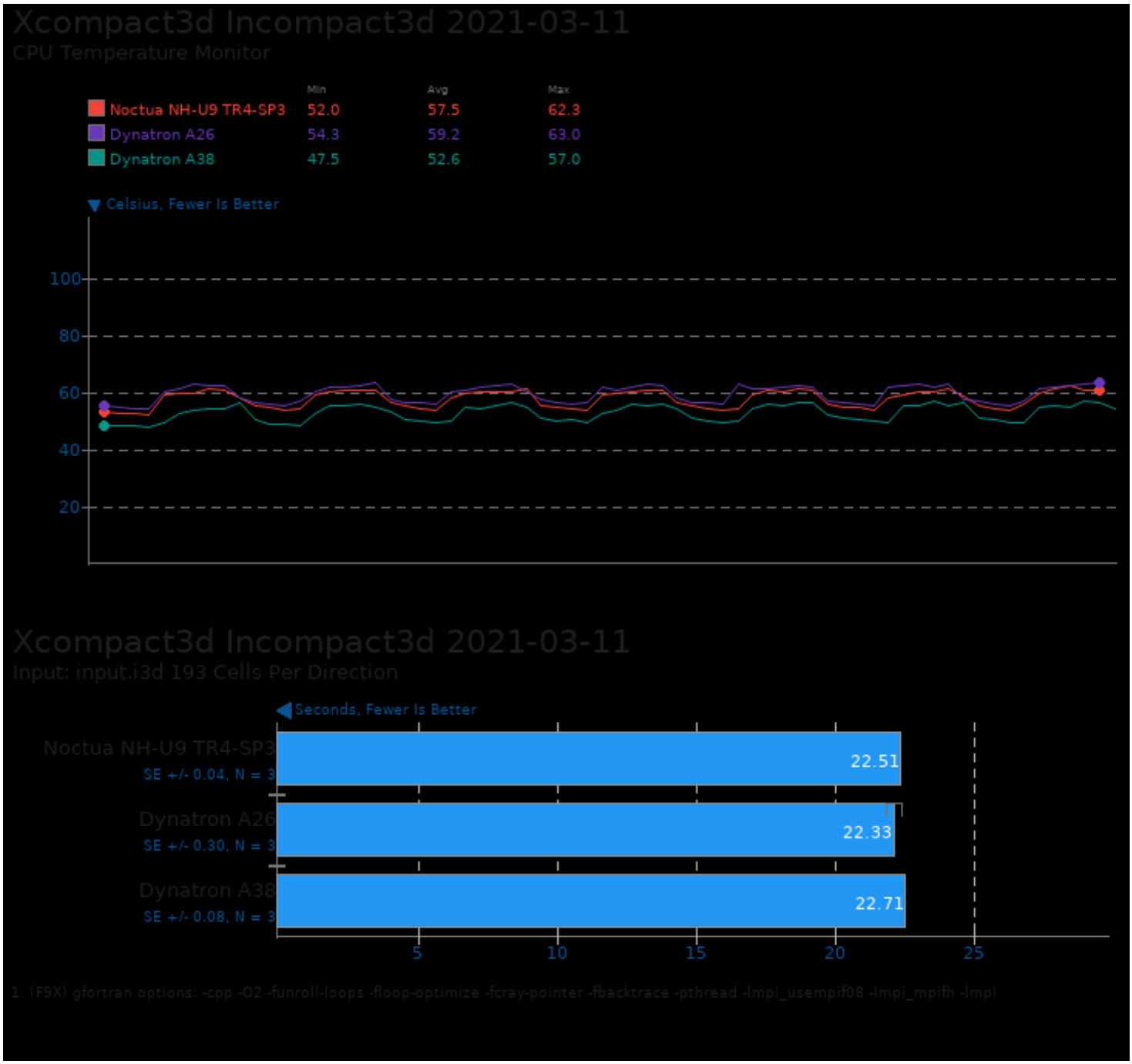


AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance

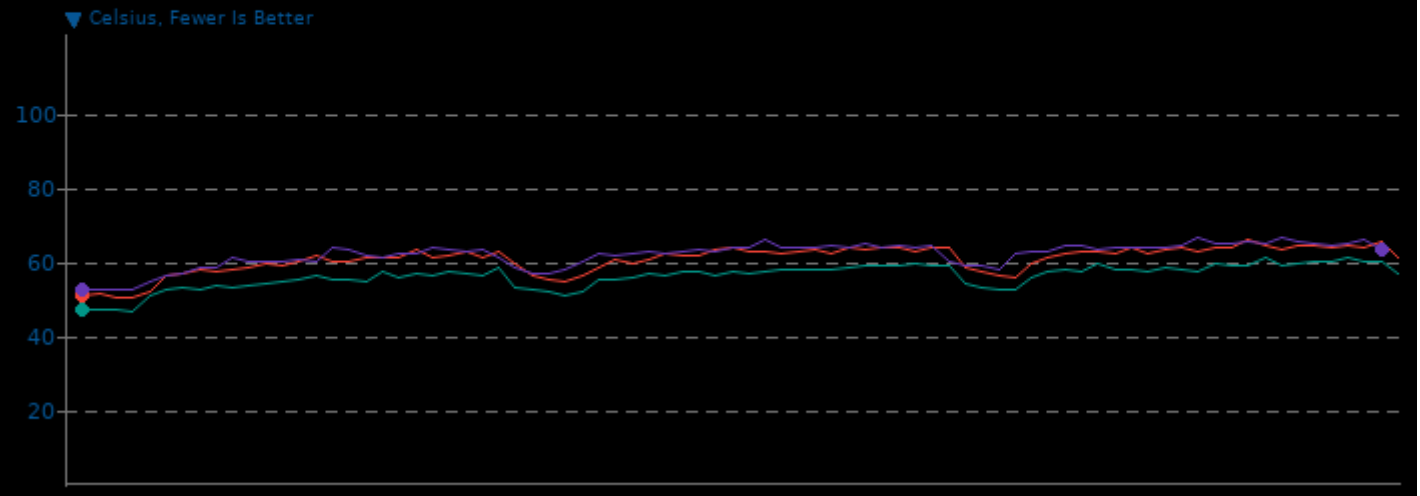


AMD EPYC 7763 Cooling Performance

Xcompact3d Incompact3d 2021-03-11

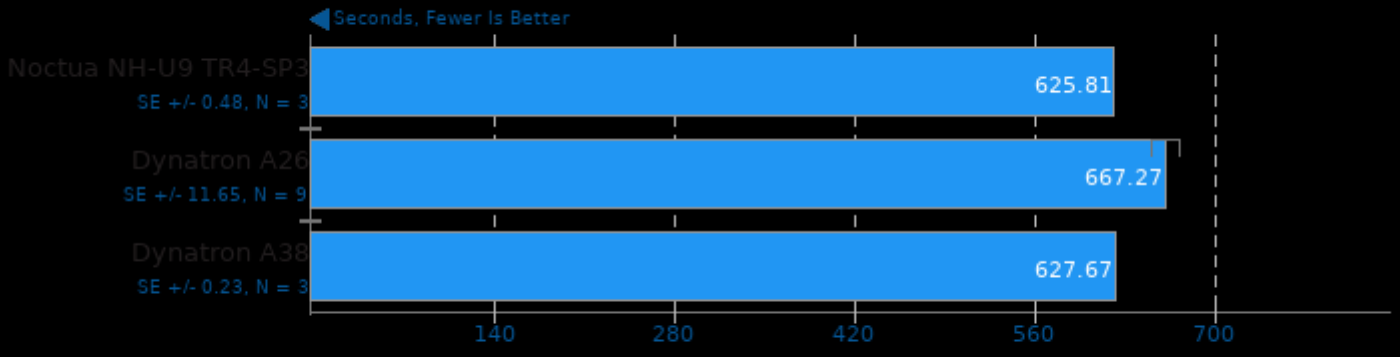
CPU Temperature Monitor

	Min	Avg	Max
Noctua NH-U9 TR4-SP3	50.3	60.6	65.8
Dynatron A26	52.3	61.8	66.5
Dynatron A38	46.8	56.1	61.3



Xcompact3d Incompact3d 2021-03-11

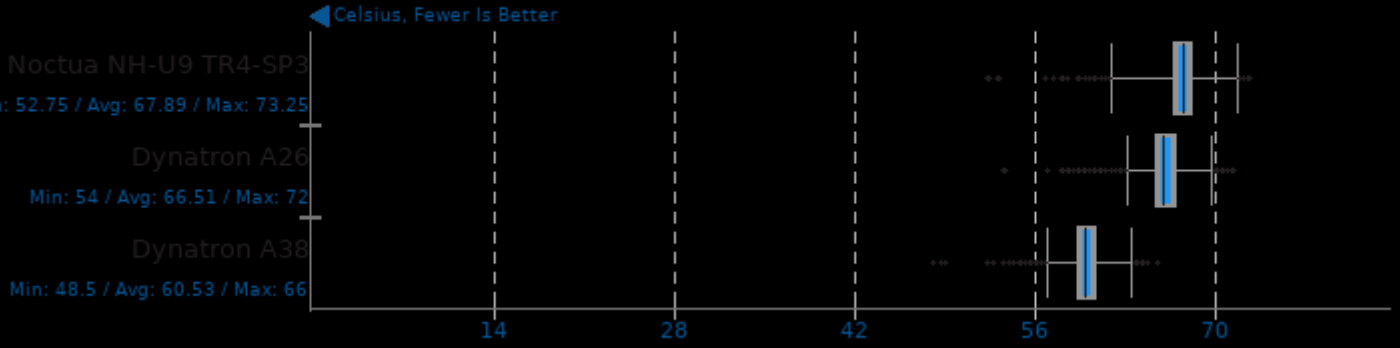
Input: X3D-benchmarking input.i3d



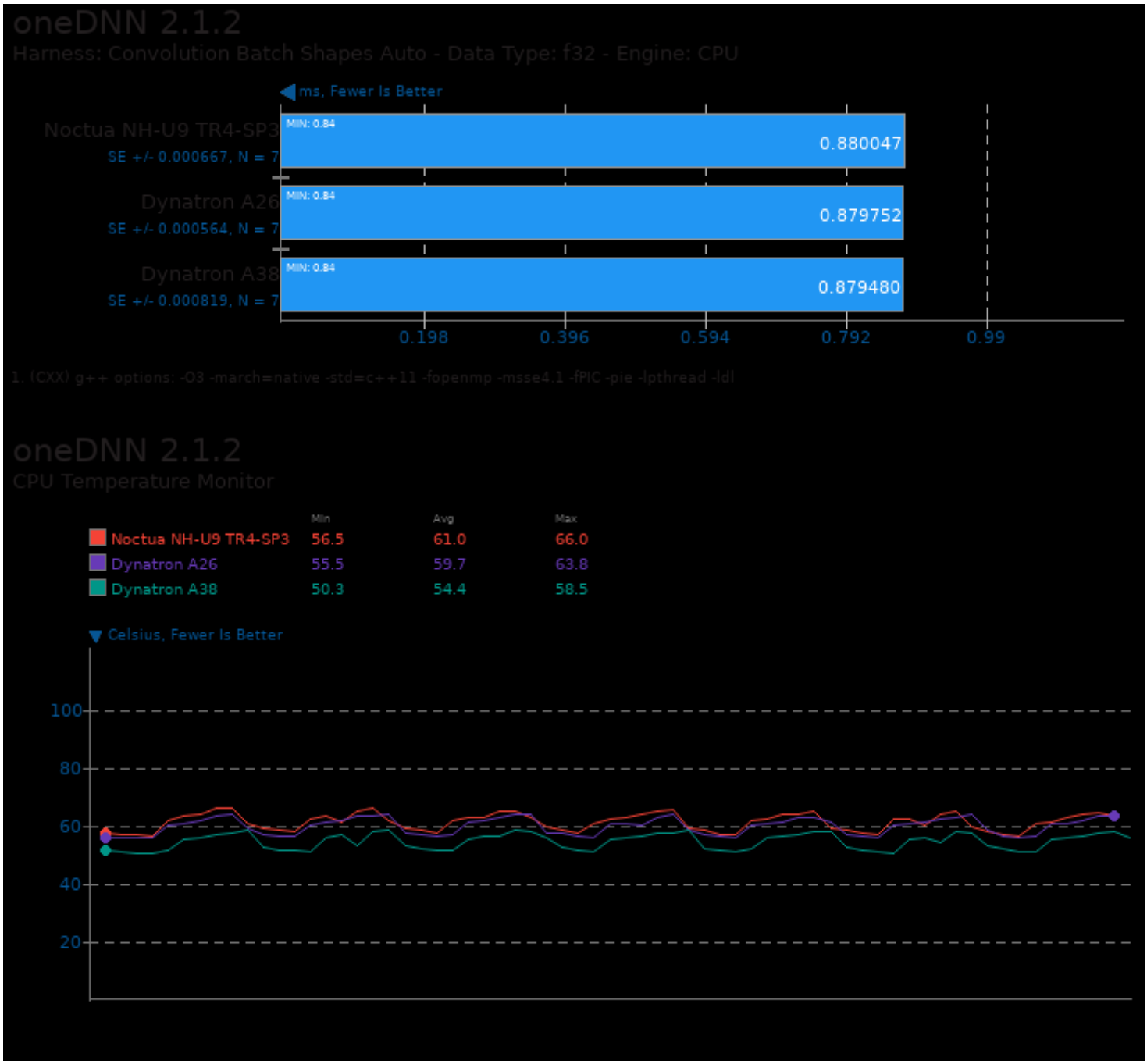
1. (F9X) gfortran options: -cpp -O2 -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

Xcompact3d Incompact3d 2021-03-11

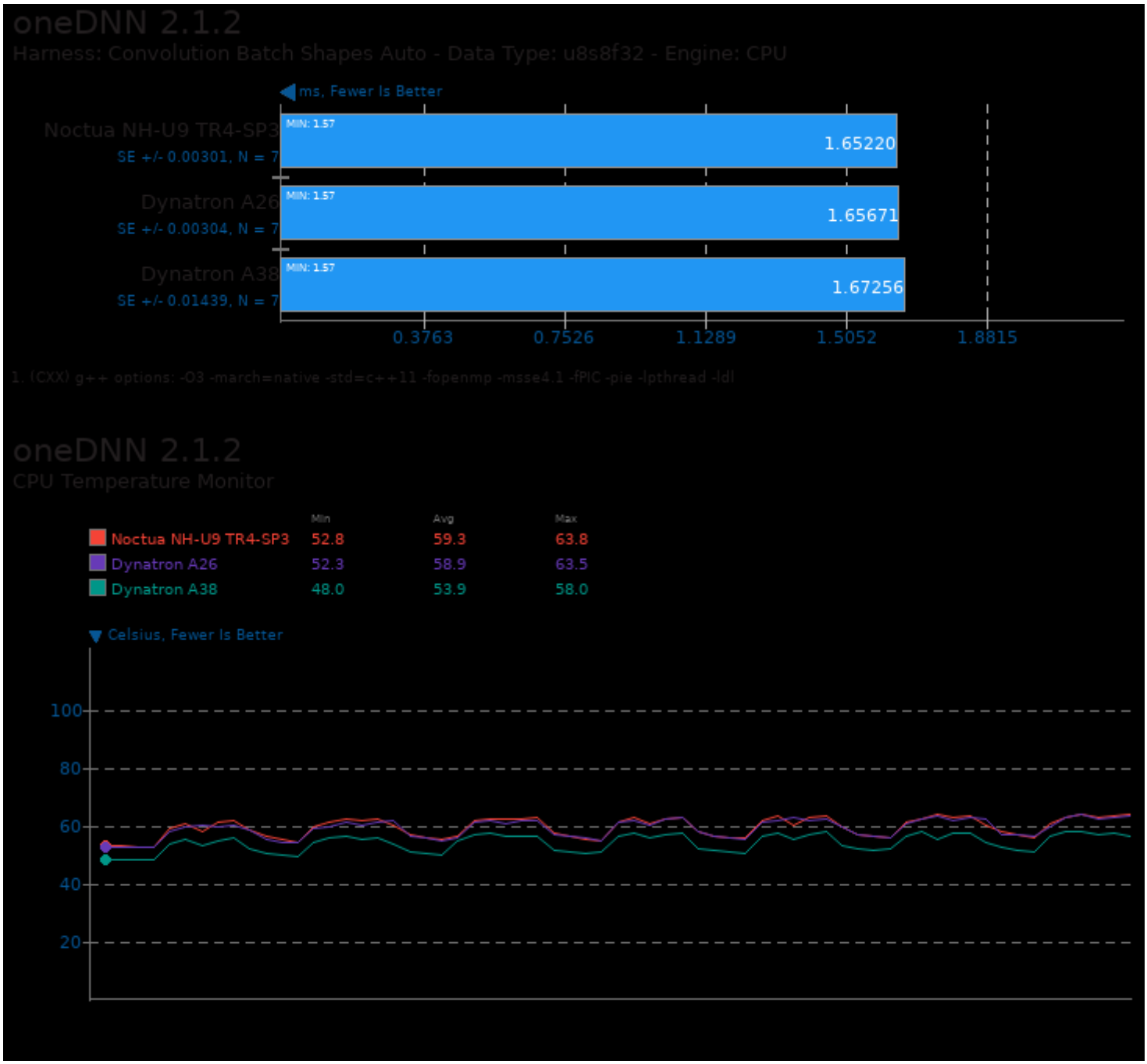
CPU Temperature Monitor



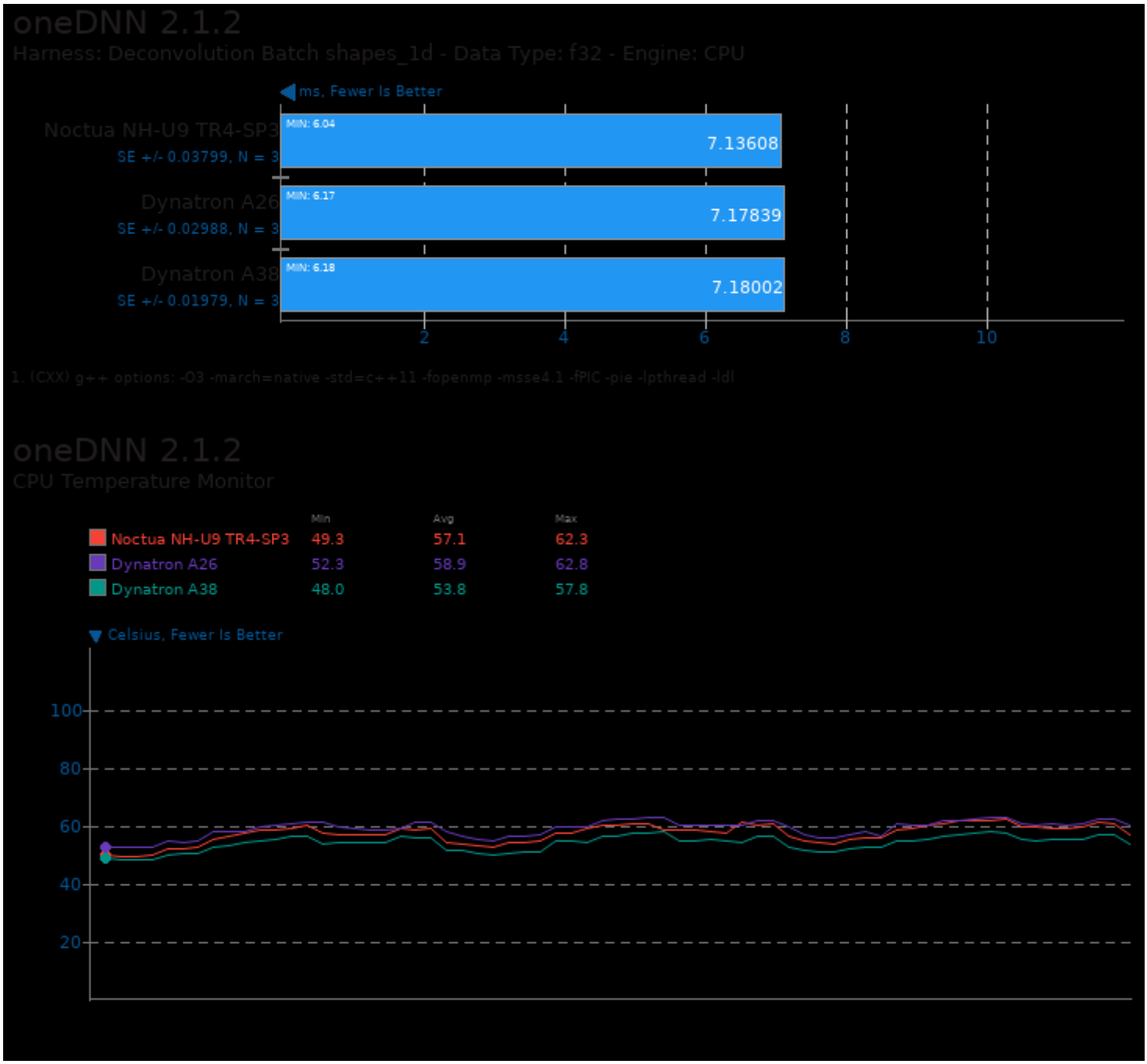
AMD EPYC 7763 Cooling Performance



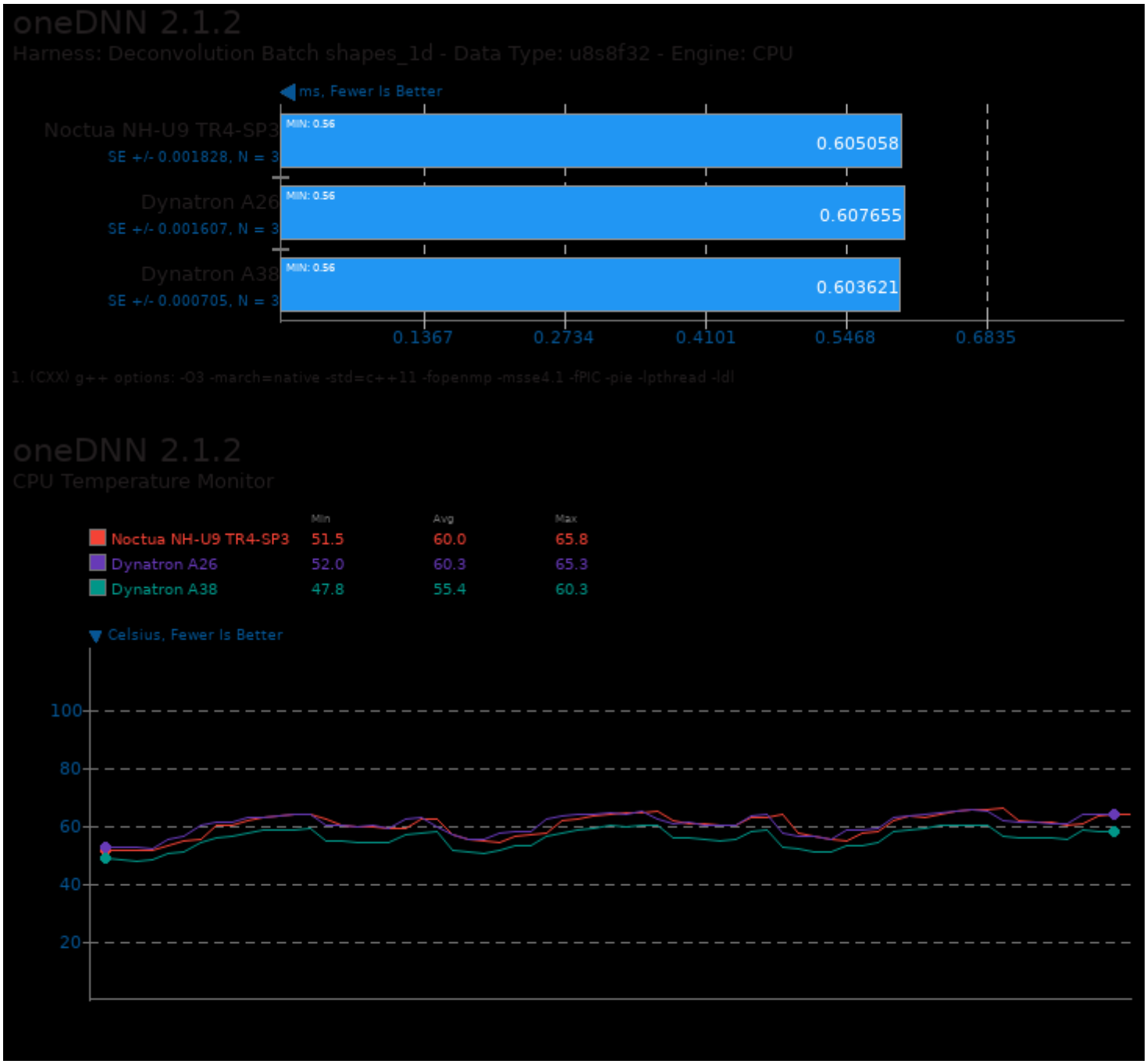
AMD EPYC 7763 Cooling Performance



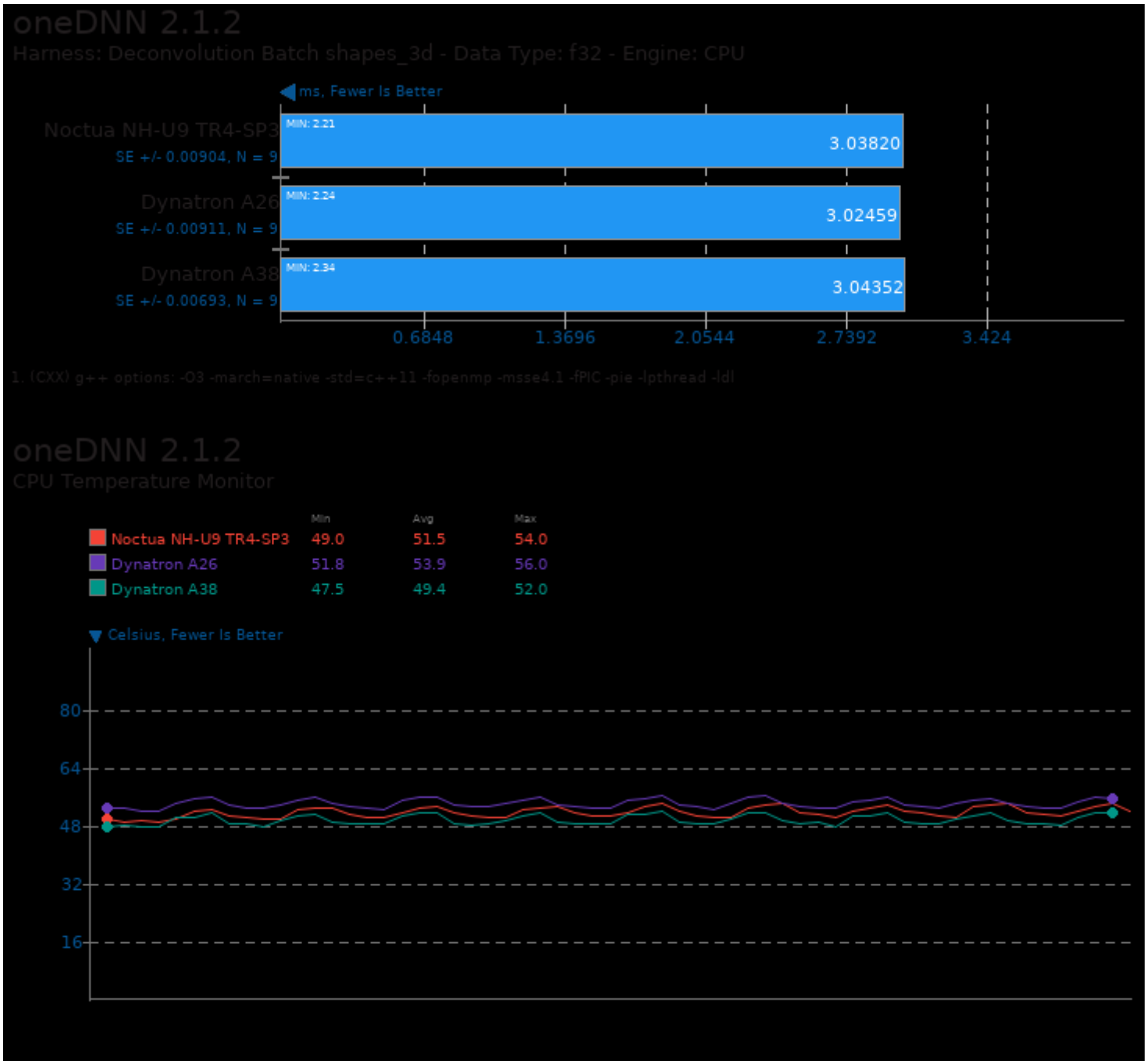
AMD EPYC 7763 Cooling Performance



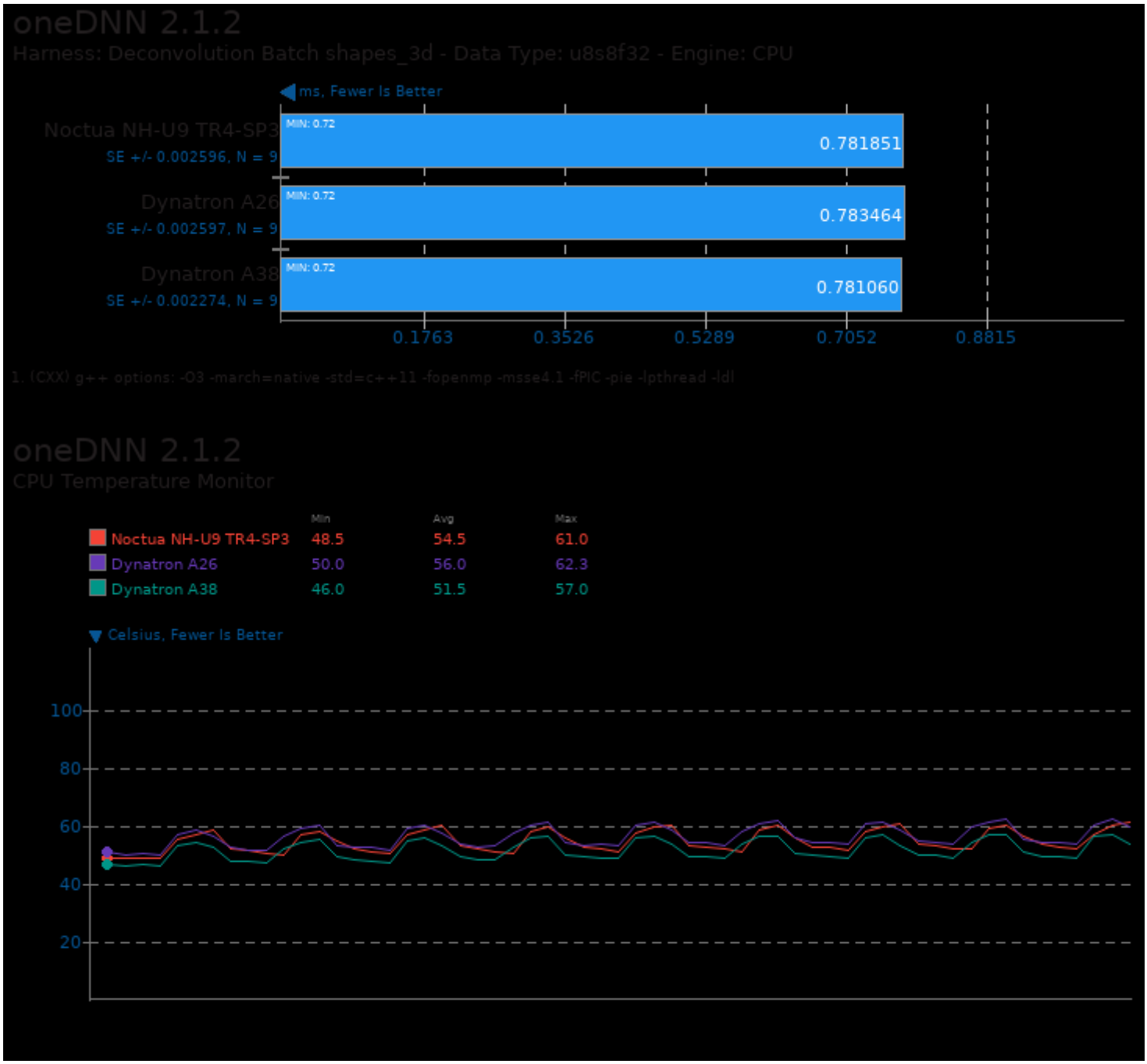
AMD EPYC 7763 Cooling Performance



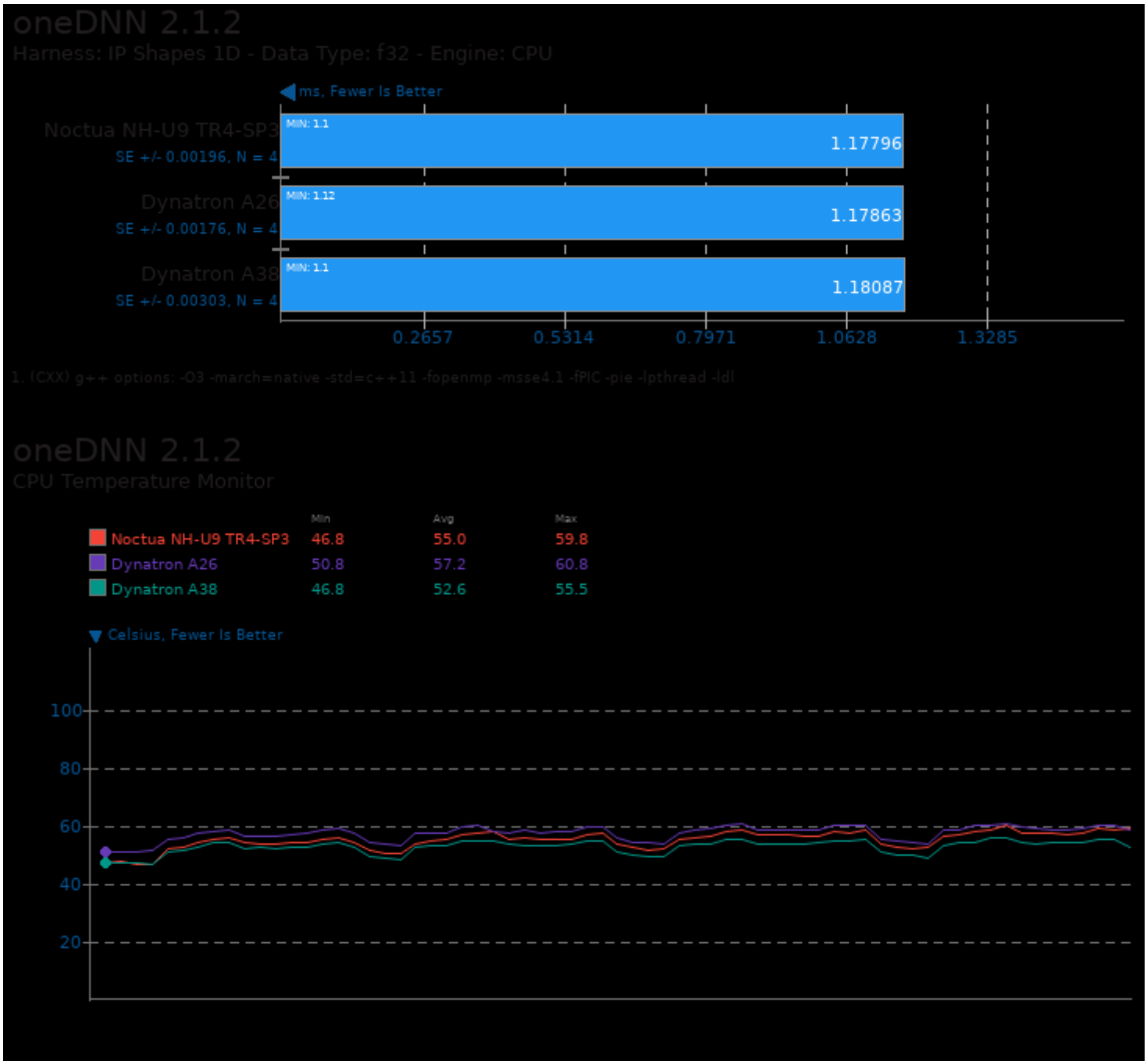
AMD EPYC 7763 Cooling Performance



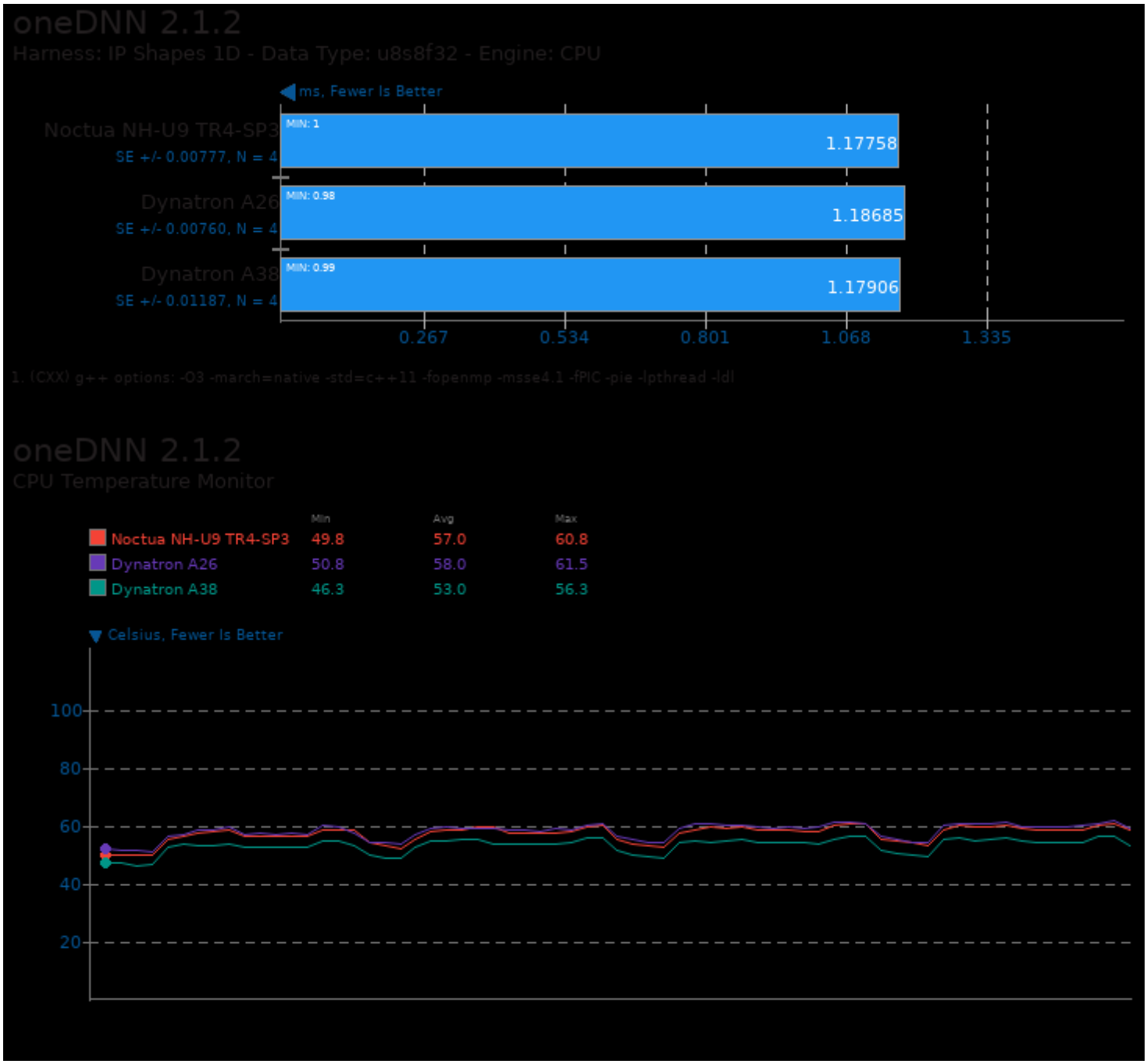
AMD EPYC 7763 Cooling Performance



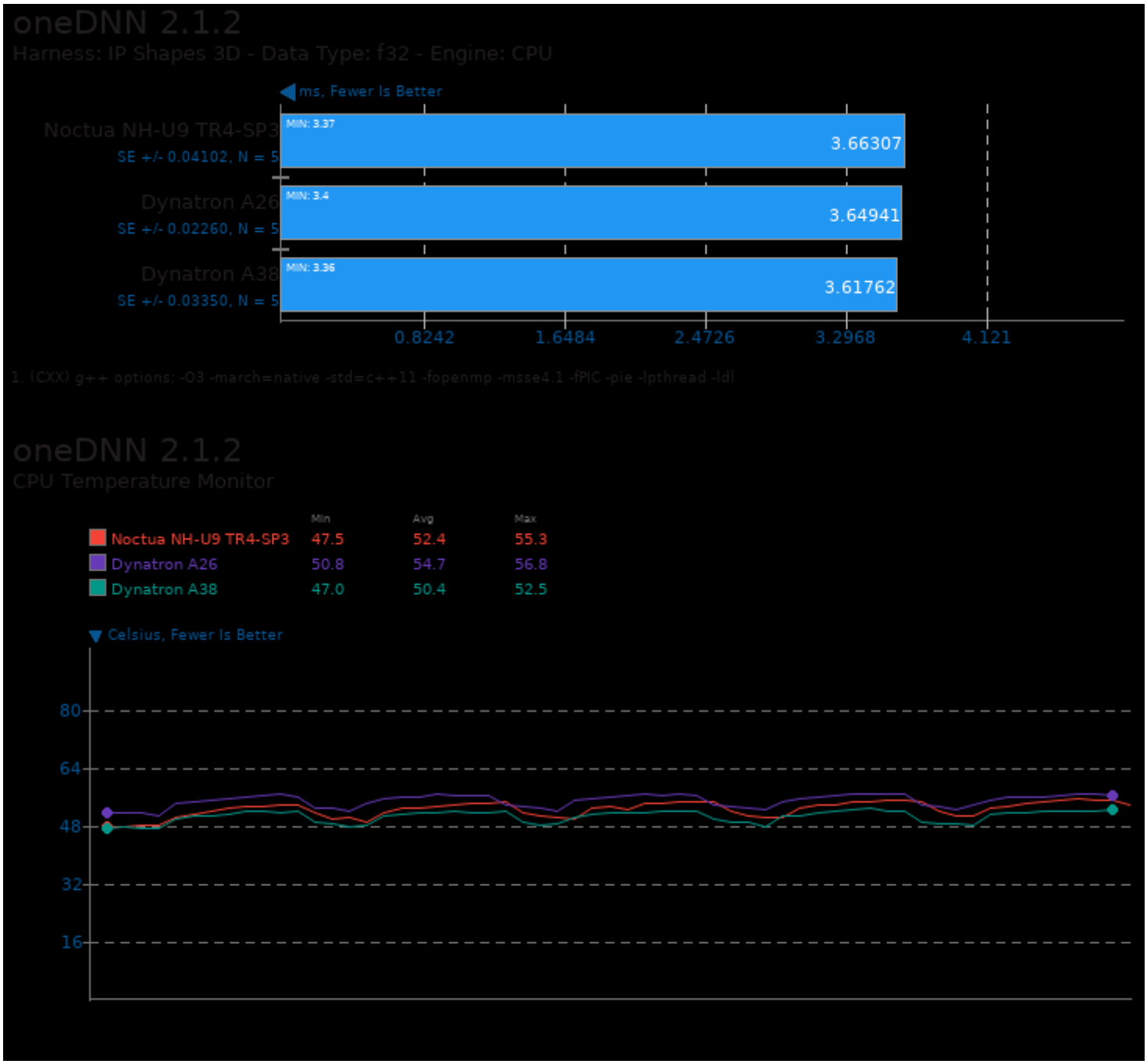
AMD EPYC 7763 Cooling Performance



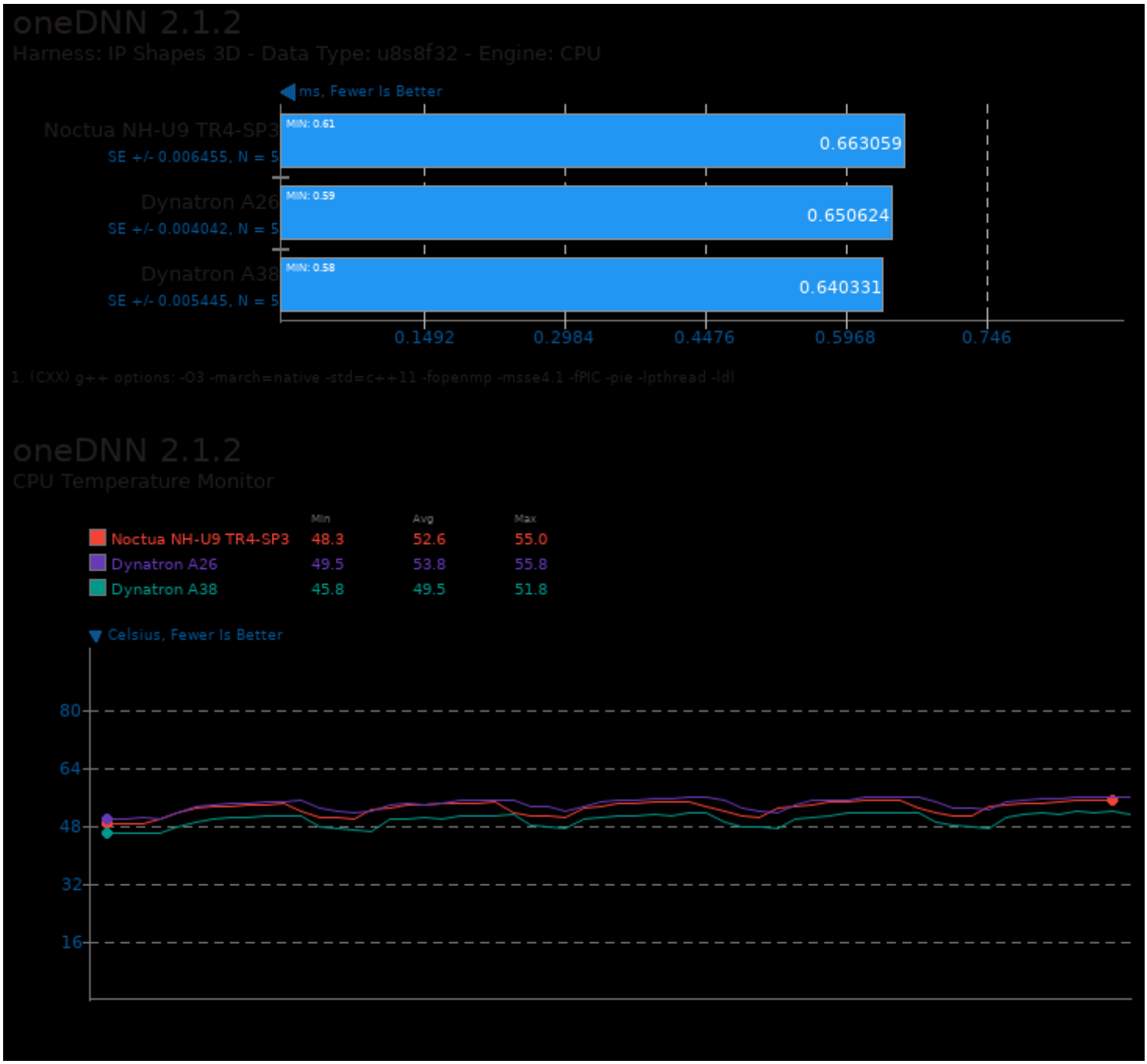
AMD EPYC 7763 Cooling Performance



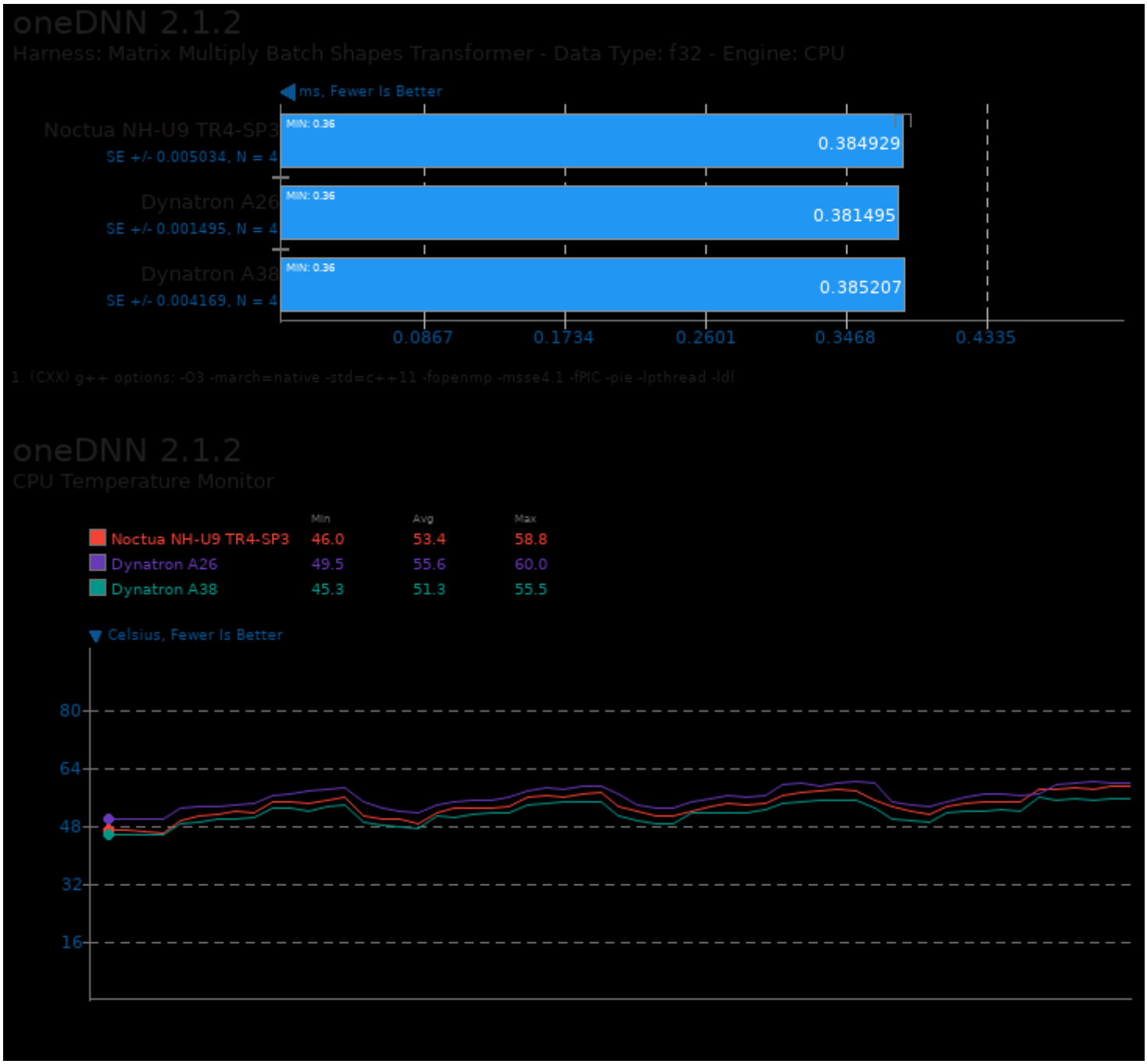
AMD EPYC 7763 Cooling Performance



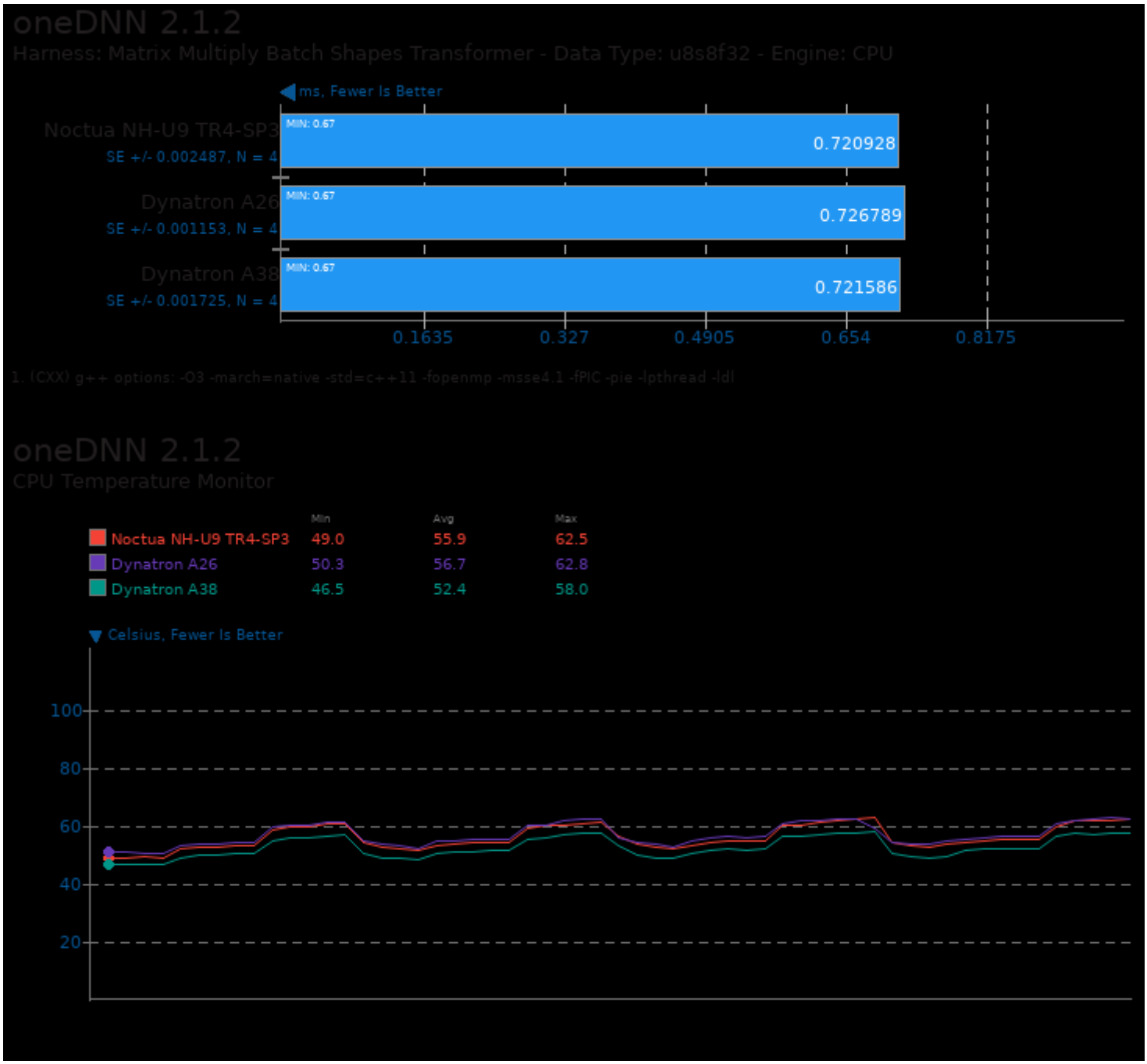
AMD EPYC 7763 Cooling Performance



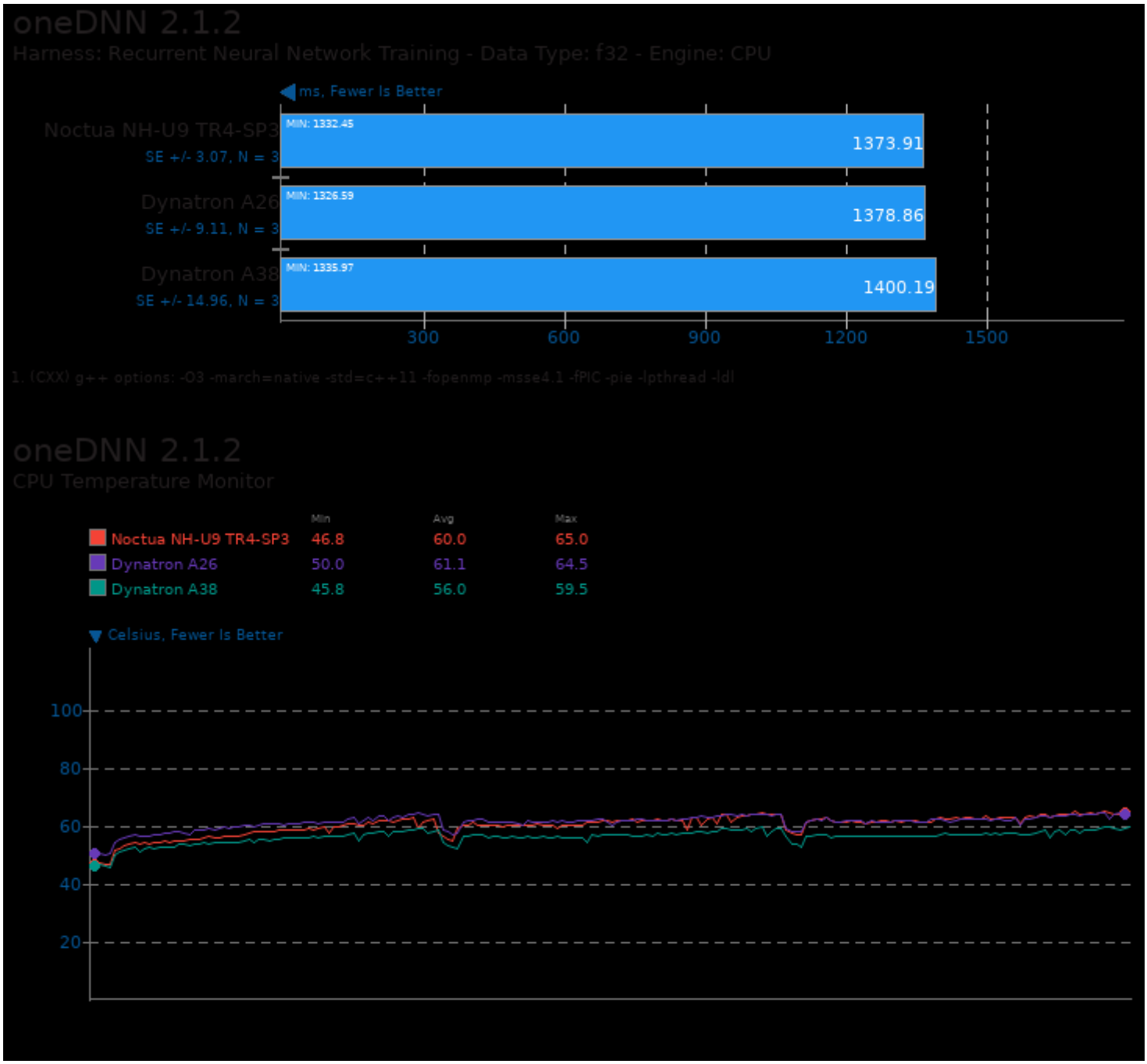
AMD EPYC 7763 Cooling Performance



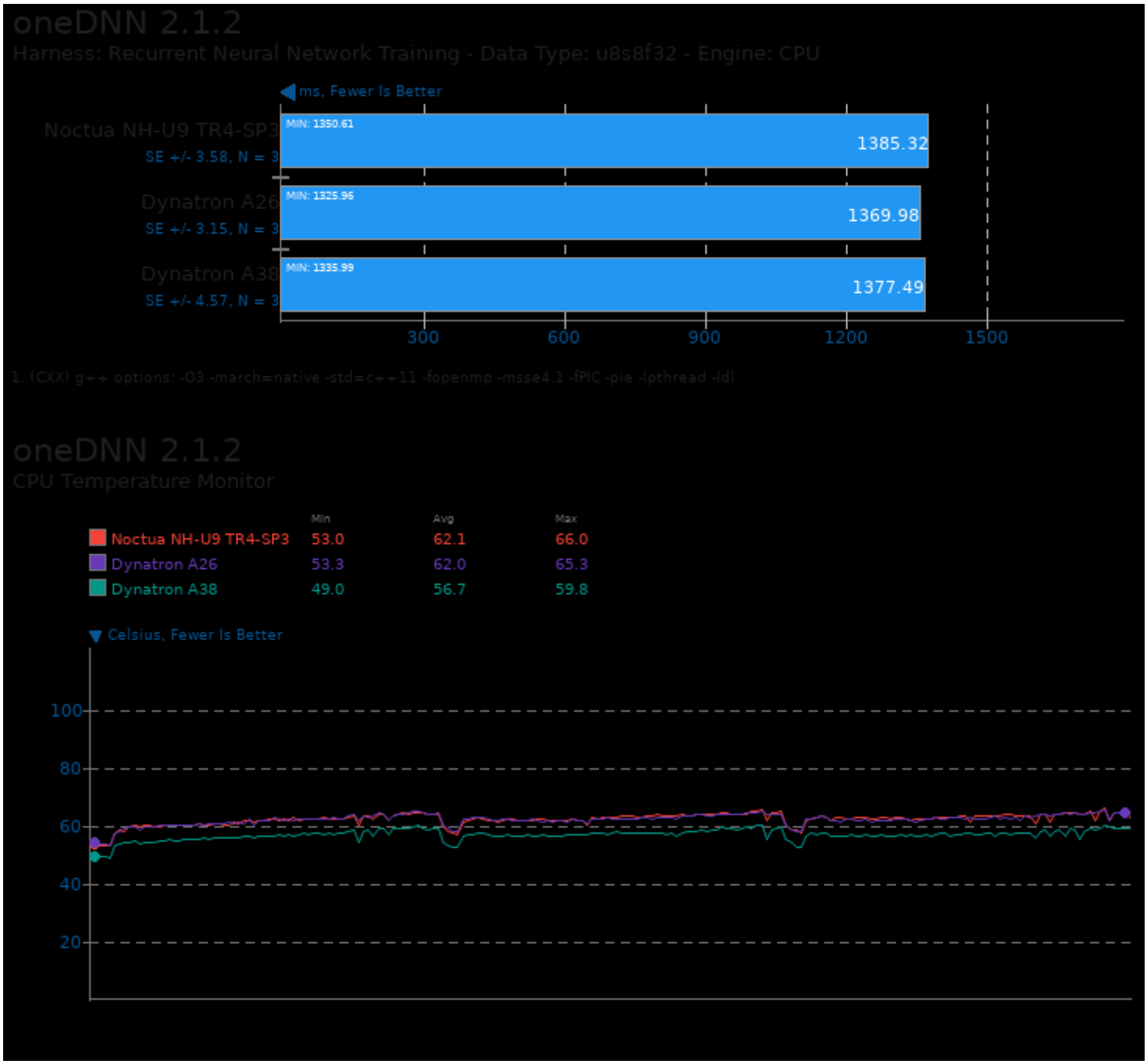
AMD EPYC 7763 Cooling Performance



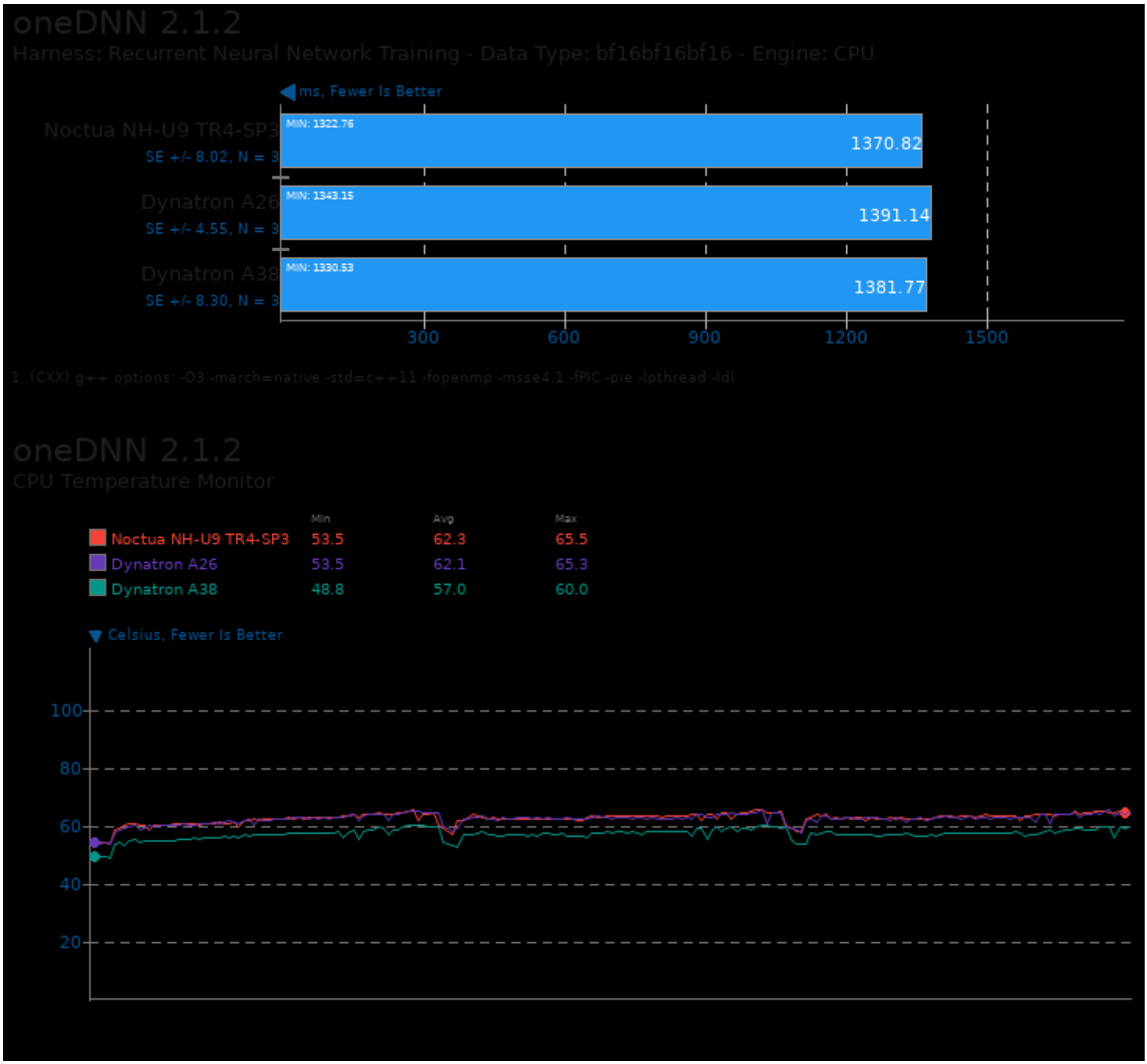
AMD EPYC 7763 Cooling Performance



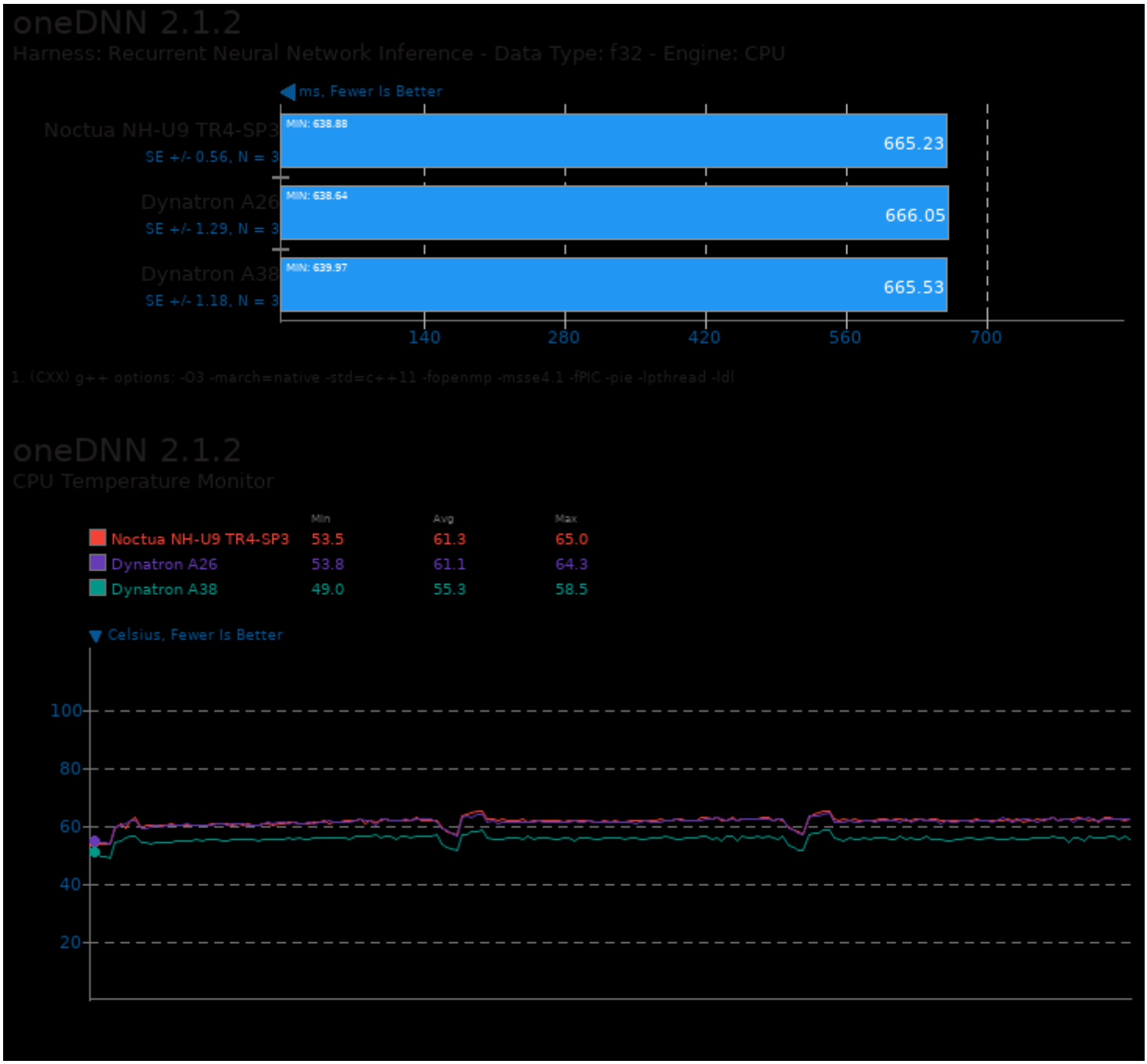
AMD EPYC 7763 Cooling Performance



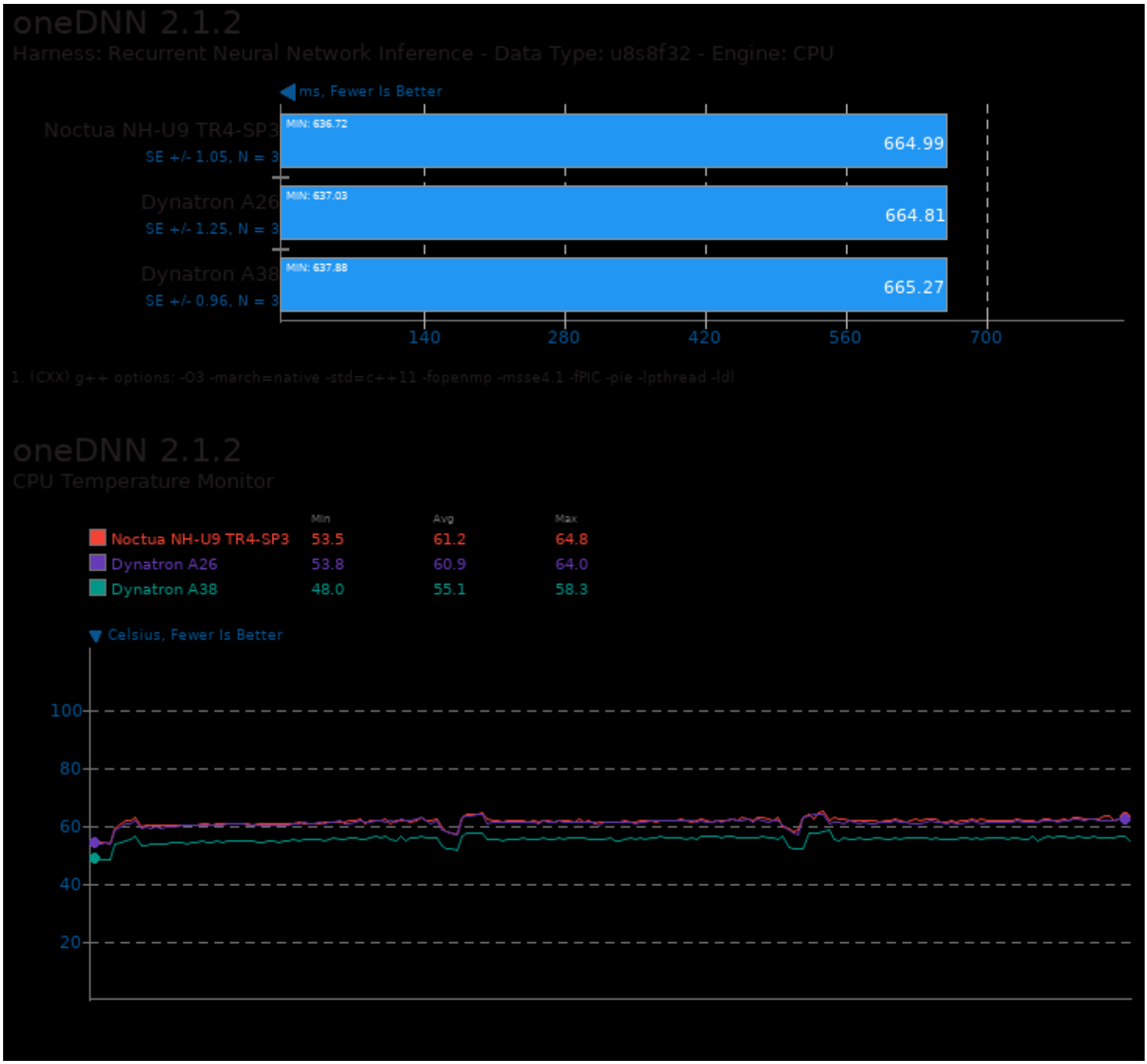
AMD EPYC 7763 Cooling Performance



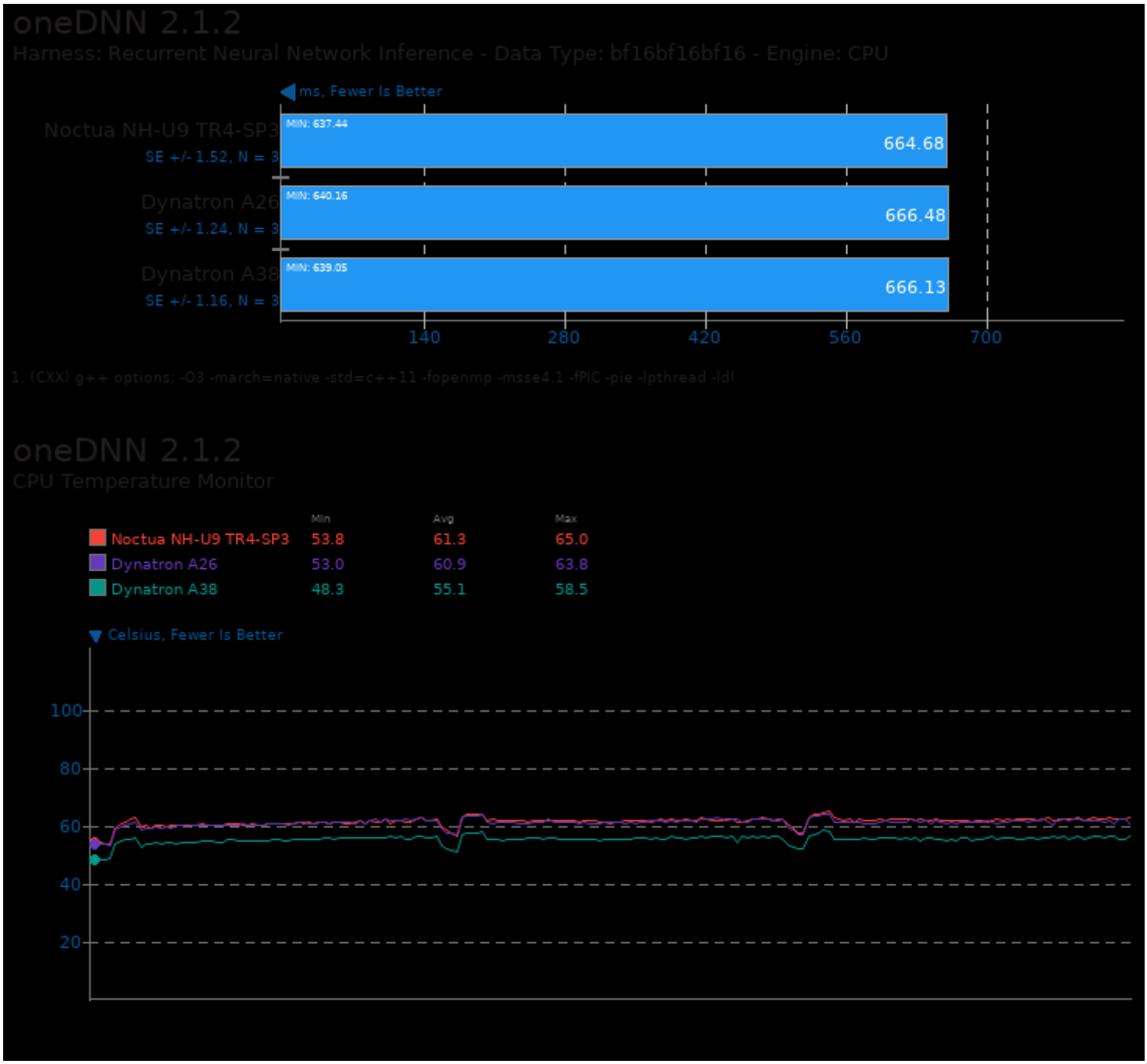
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



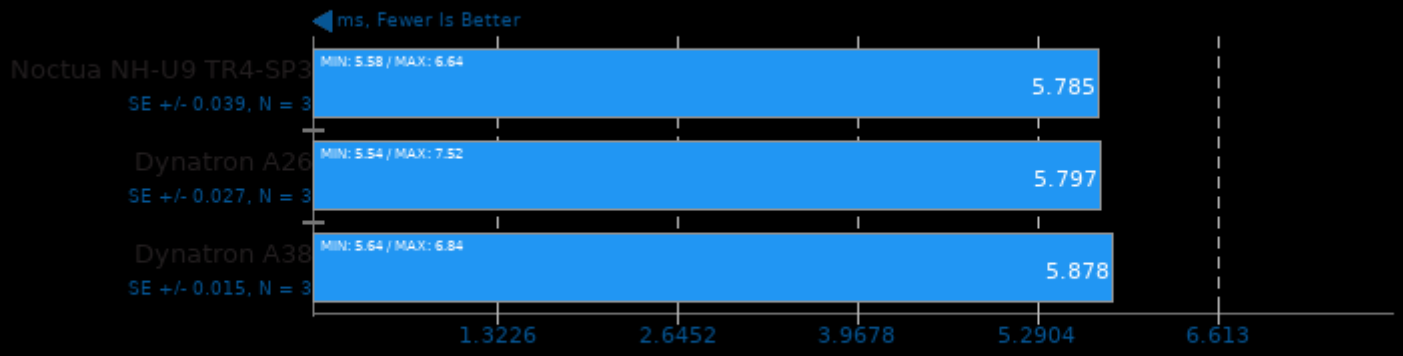
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance

Mobile Neural Network 1.1.3

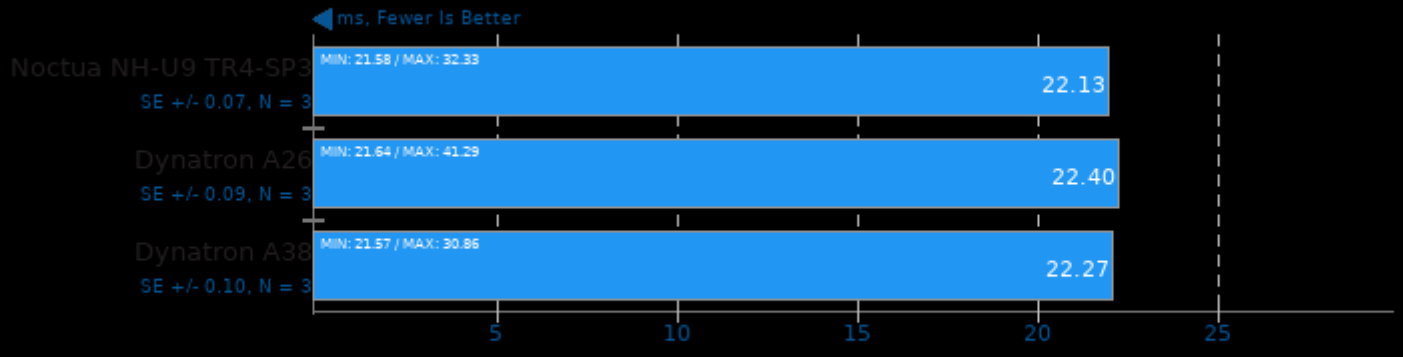
Model: SqueezeNetV1.0



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

Mobile Neural Network 1.1.3

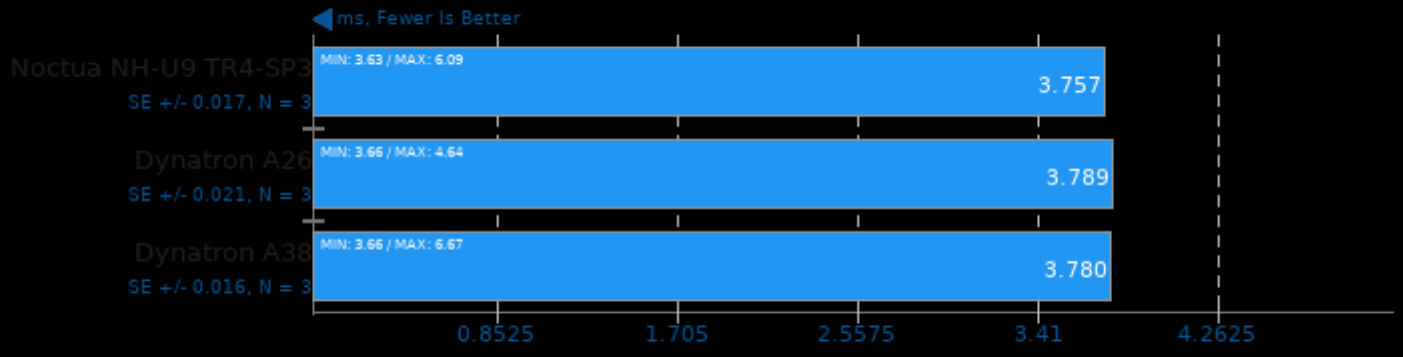
Model: resnet-v2-50



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

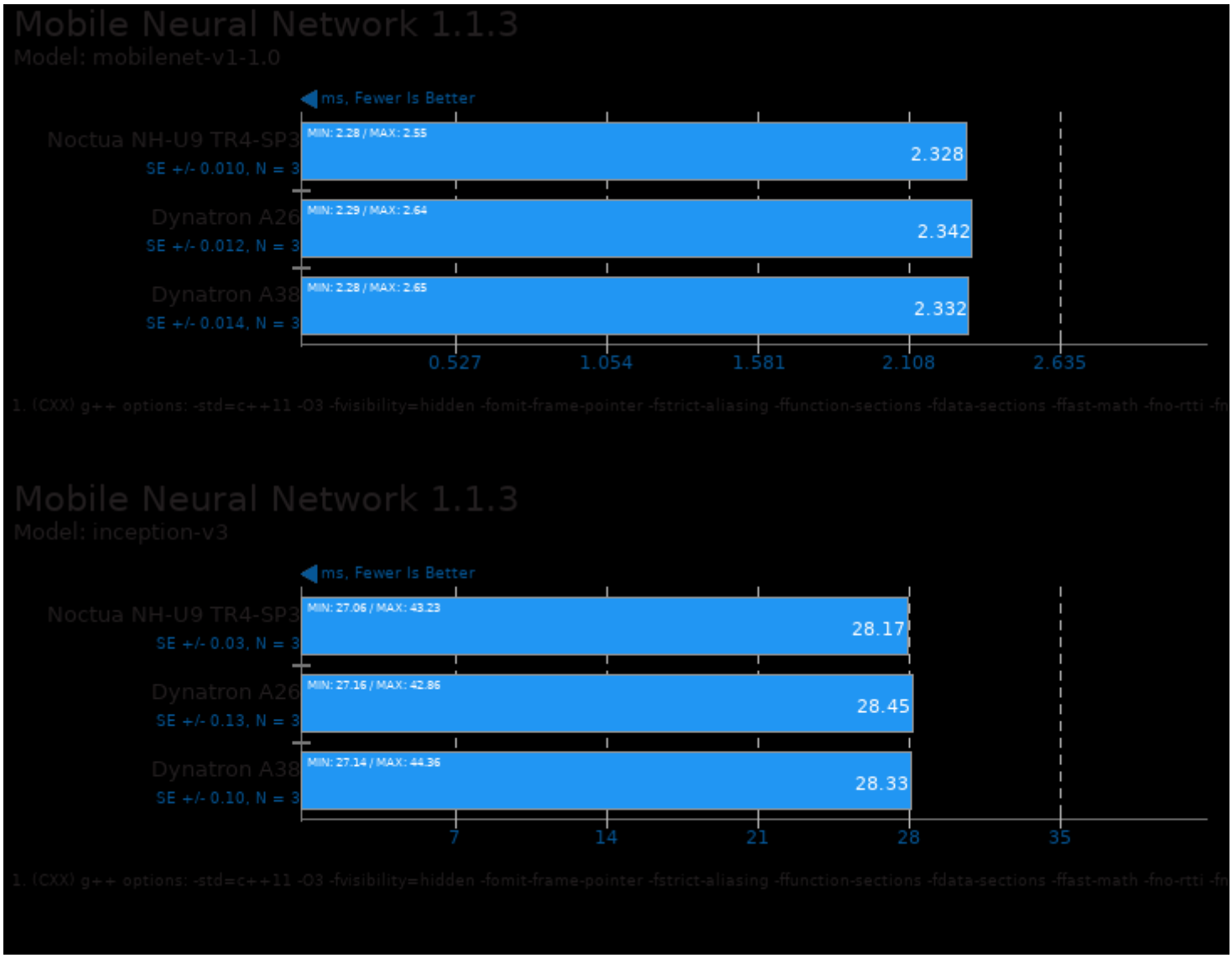
Mobile Neural Network 1.1.3

Model: MobileNetV2_224

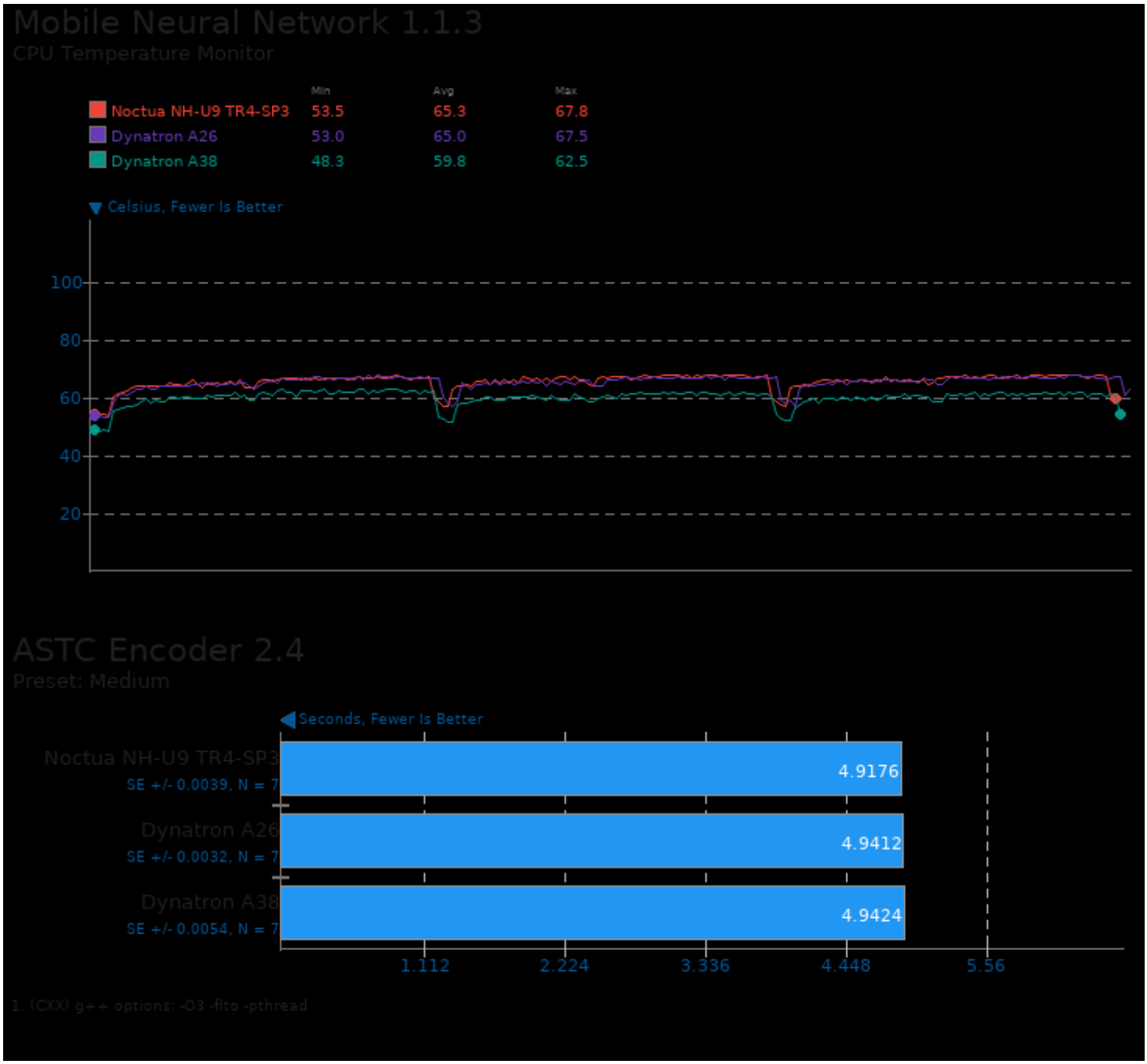


1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -f

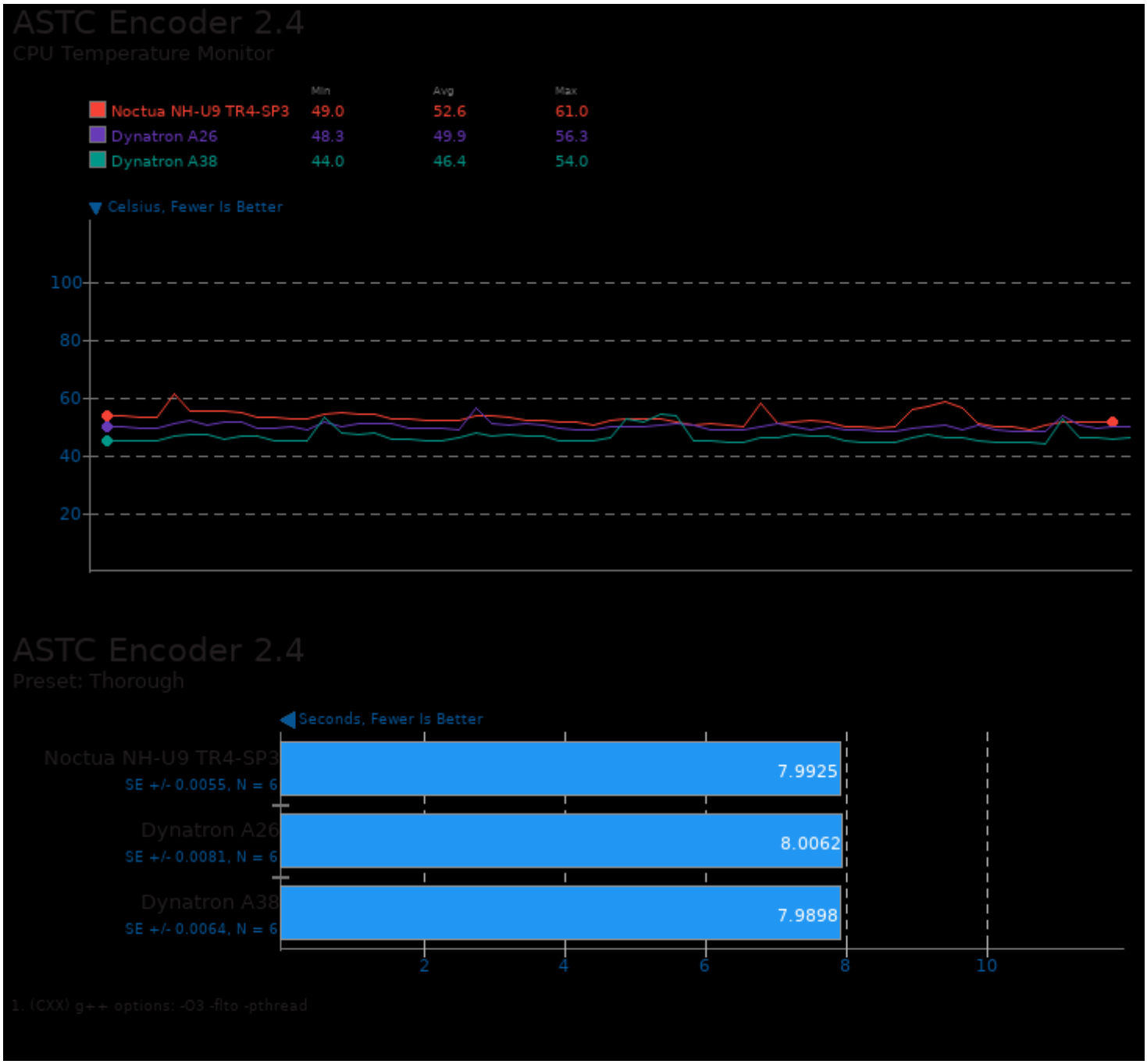
AMD EPYC 7763 Cooling Performance



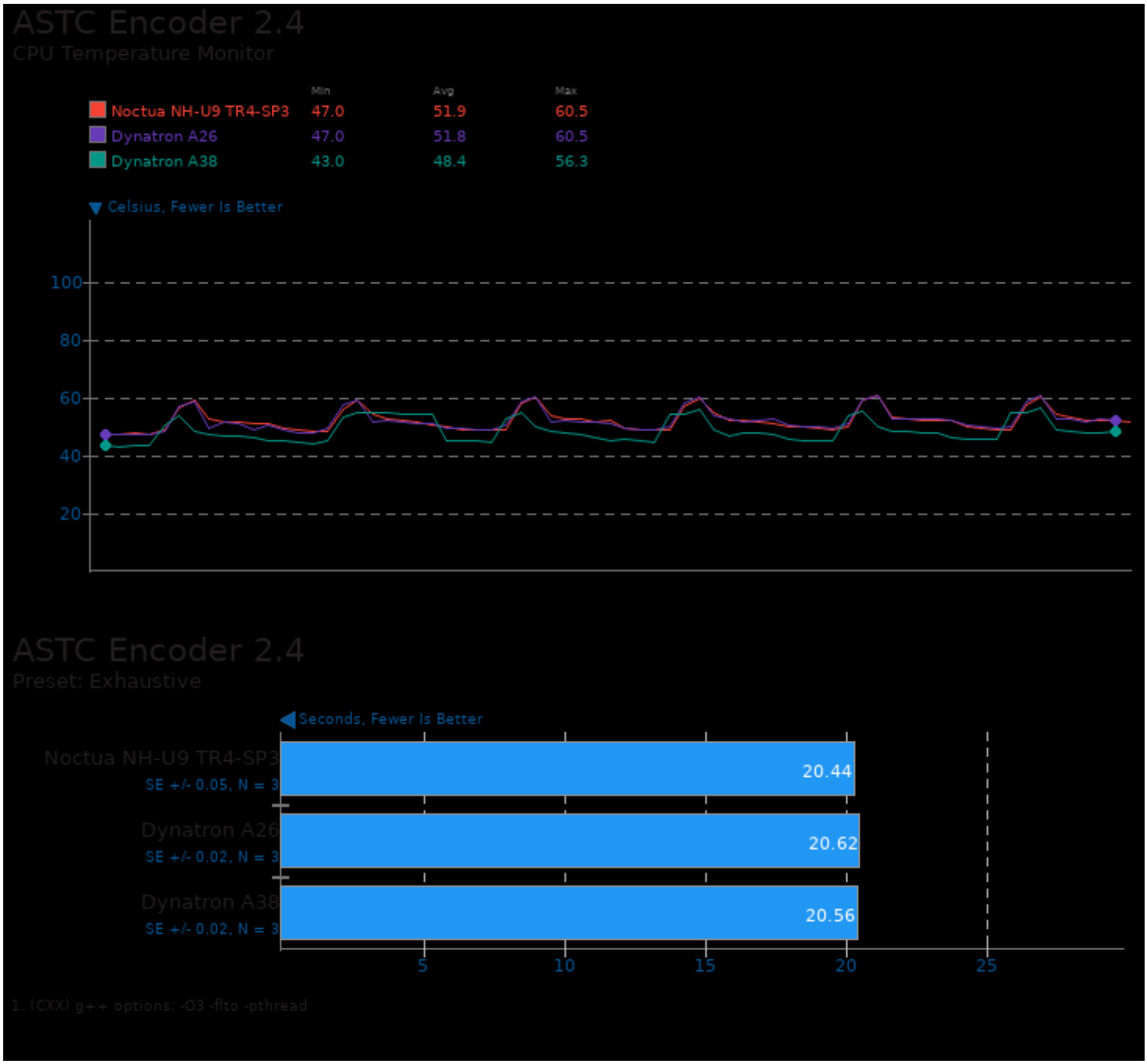
AMD EPYC 7763 Cooling Performance



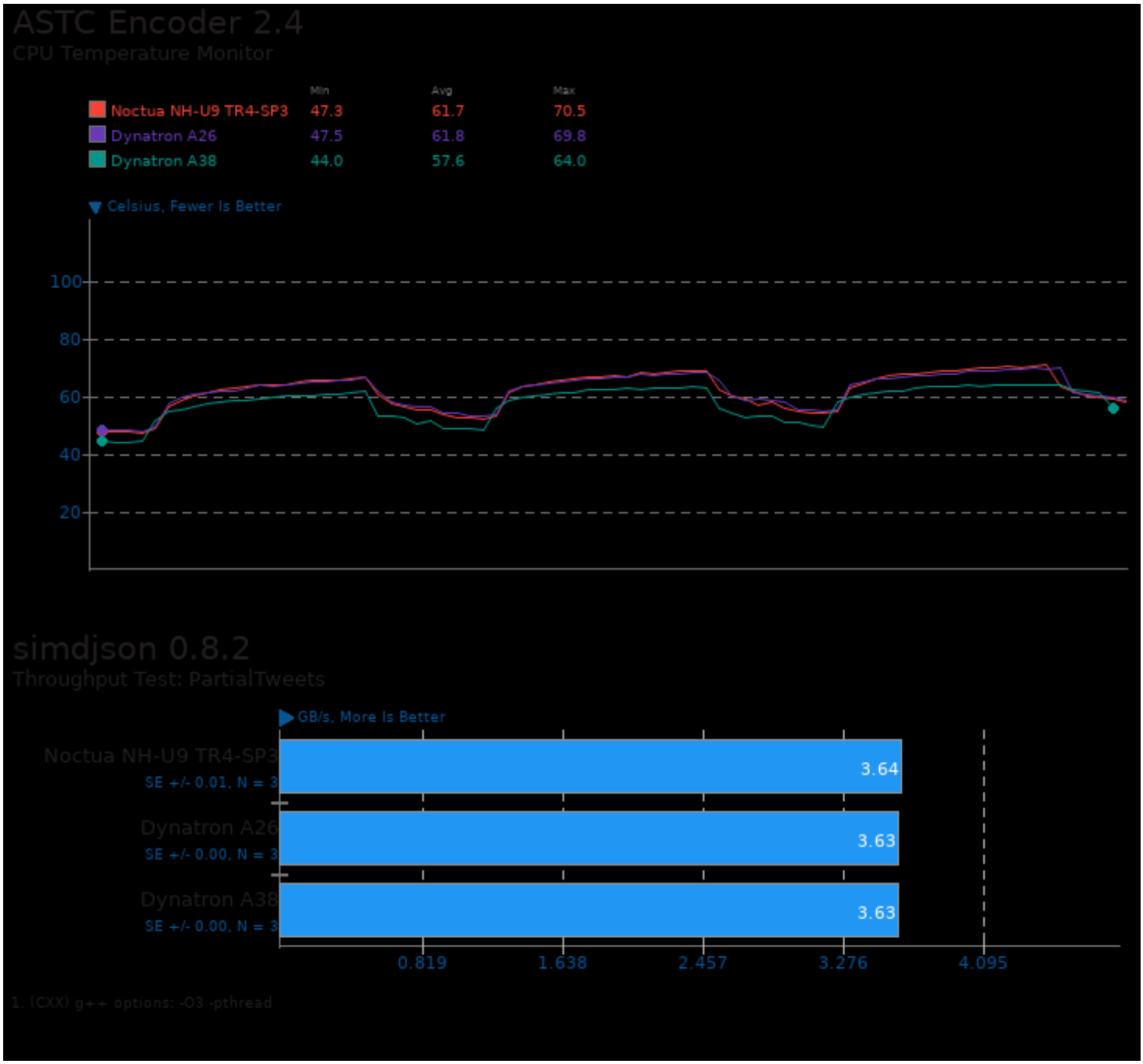
AMD EPYC 7763 Cooling Performance



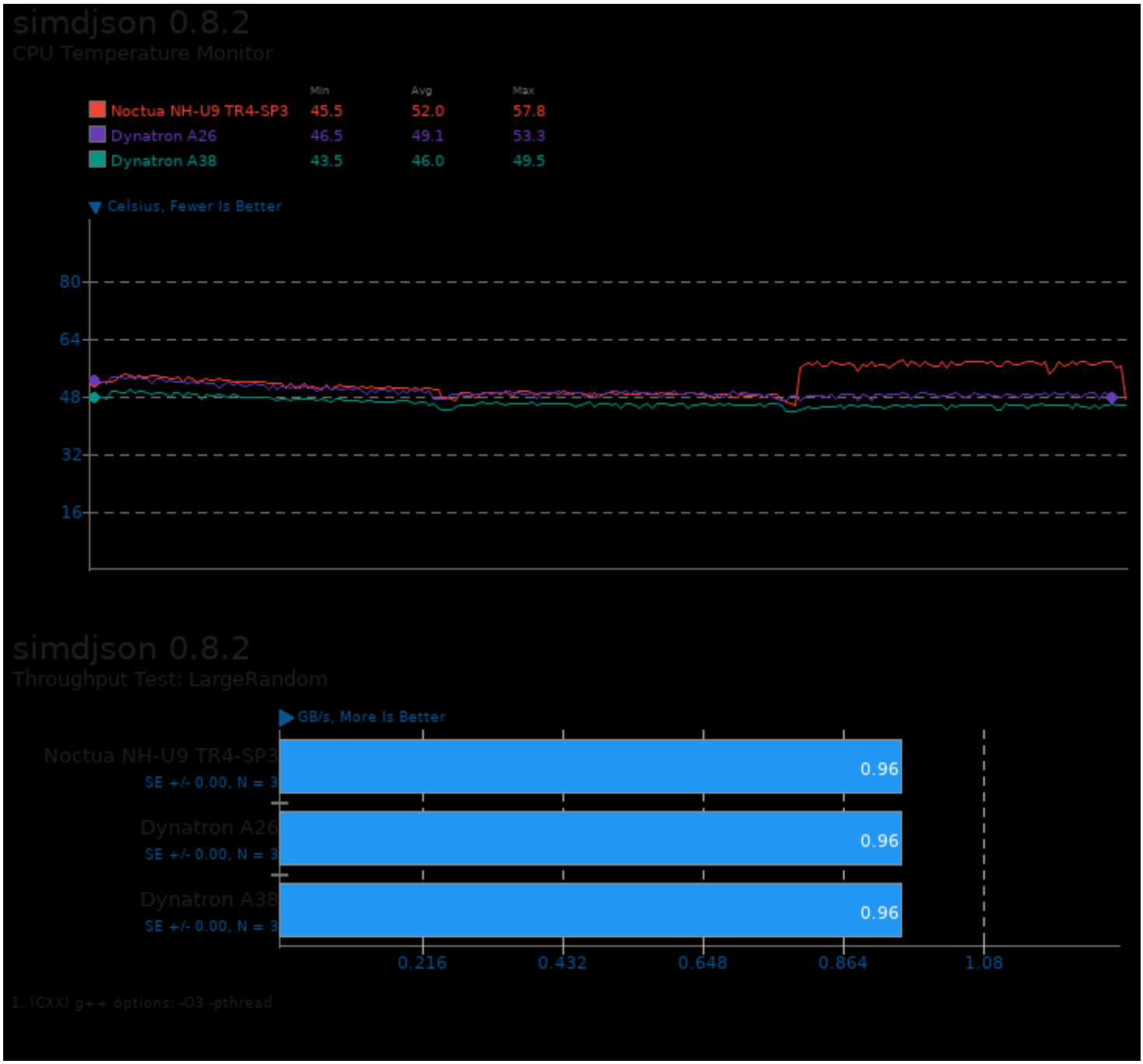
AMD EPYC 7763 Cooling Performance



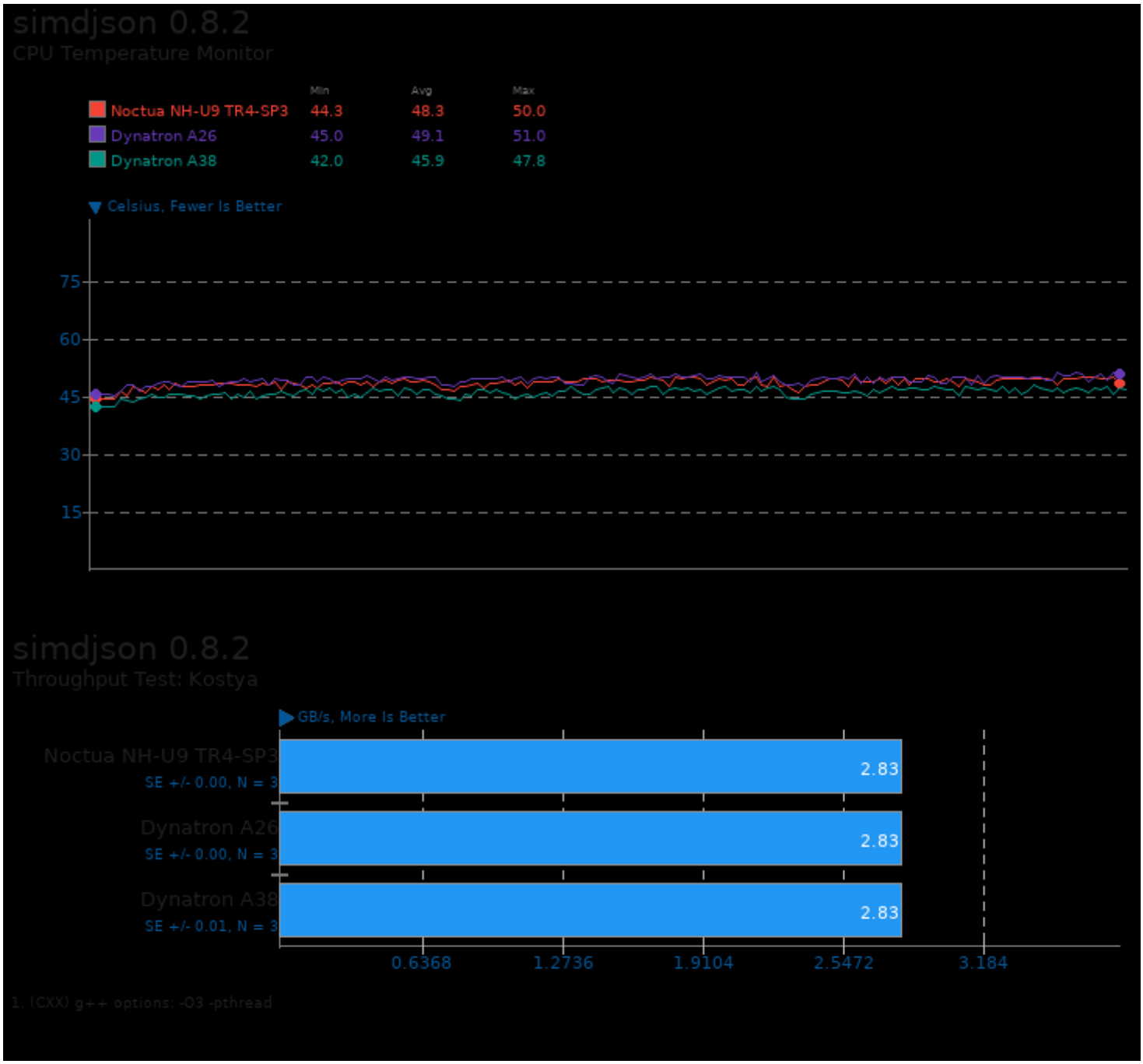
AMD EPYC 7763 Cooling Performance



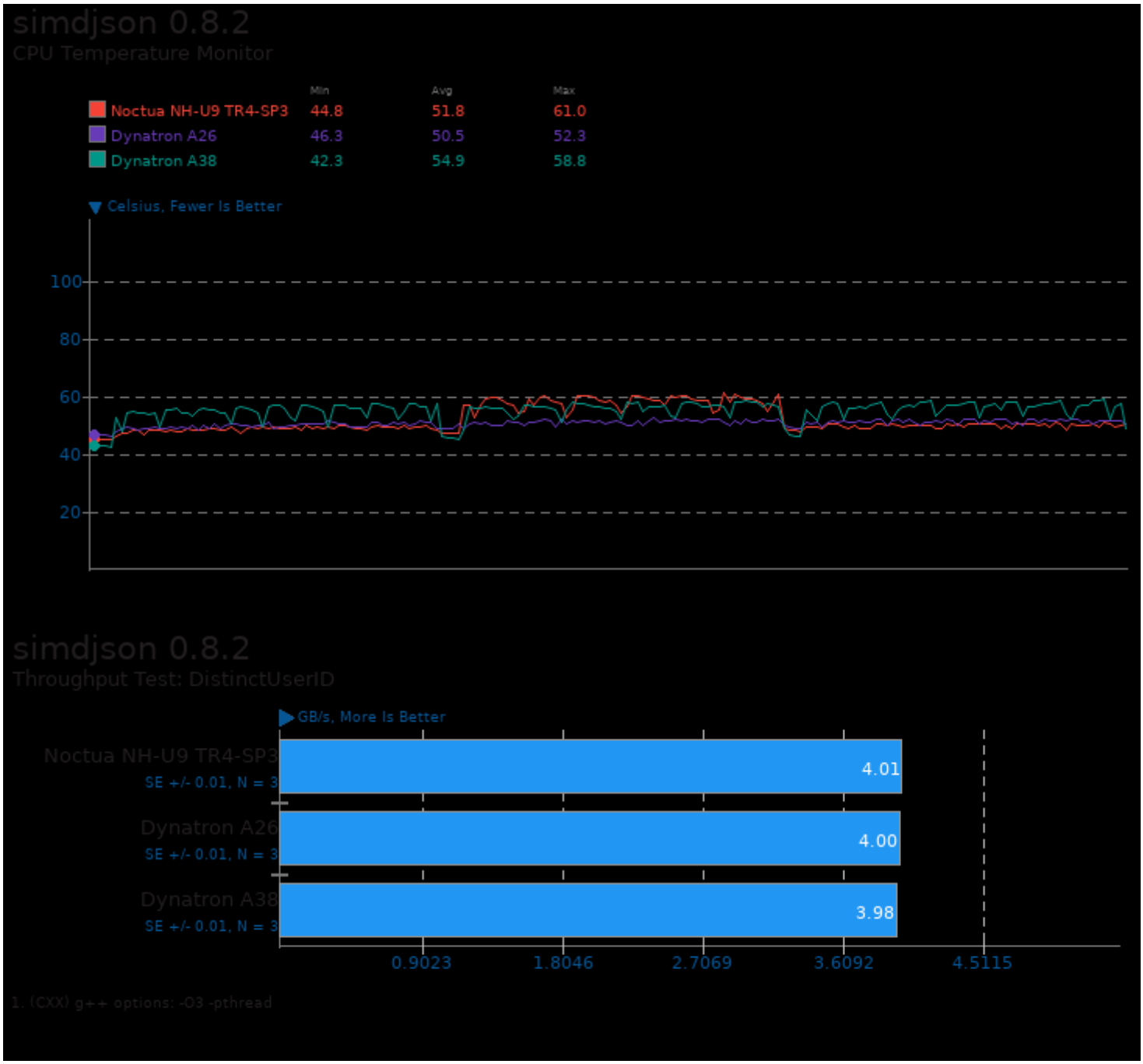
AMD EPYC 7763 Cooling Performance



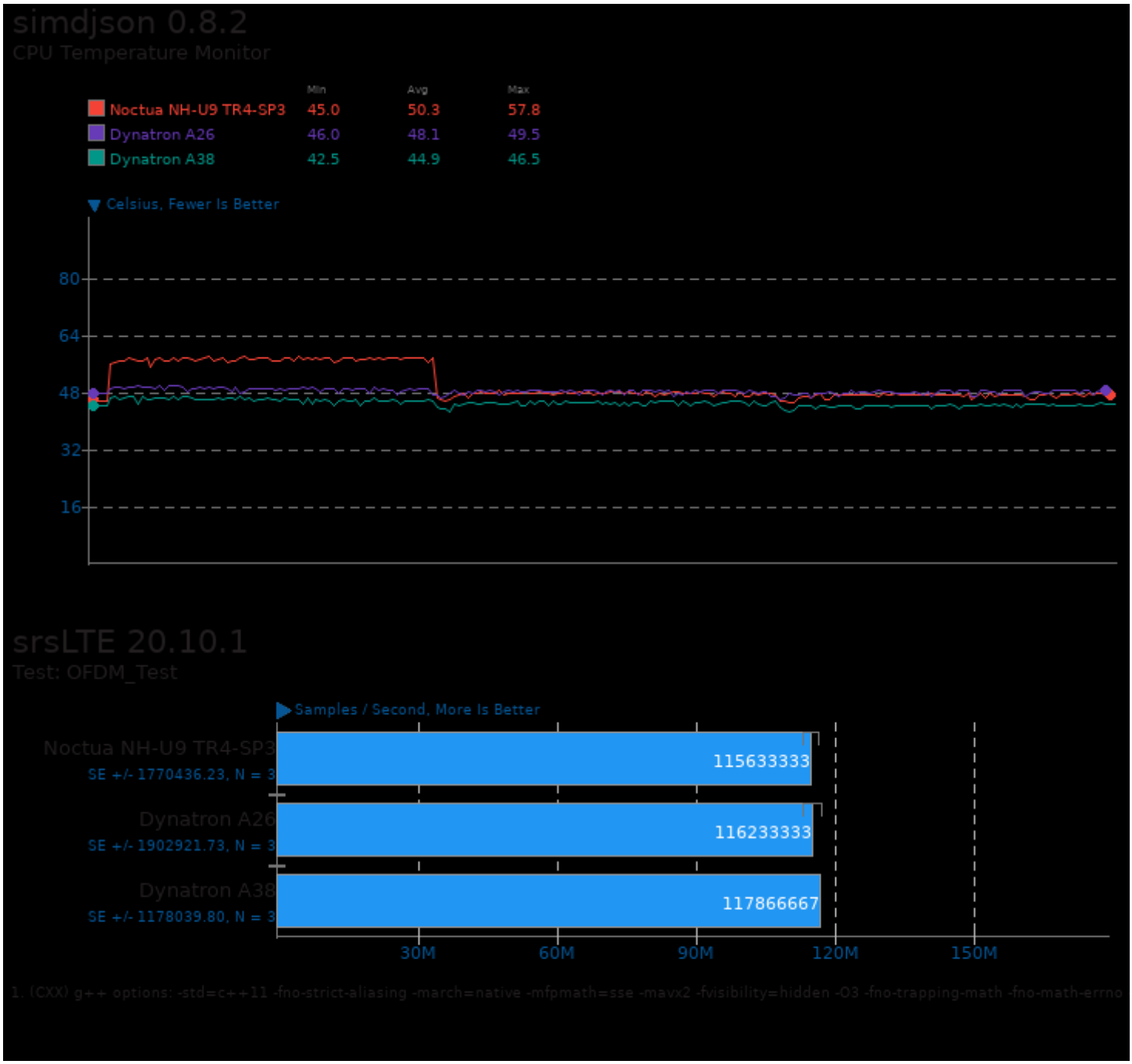
AMD EPYC 7763 Cooling Performance



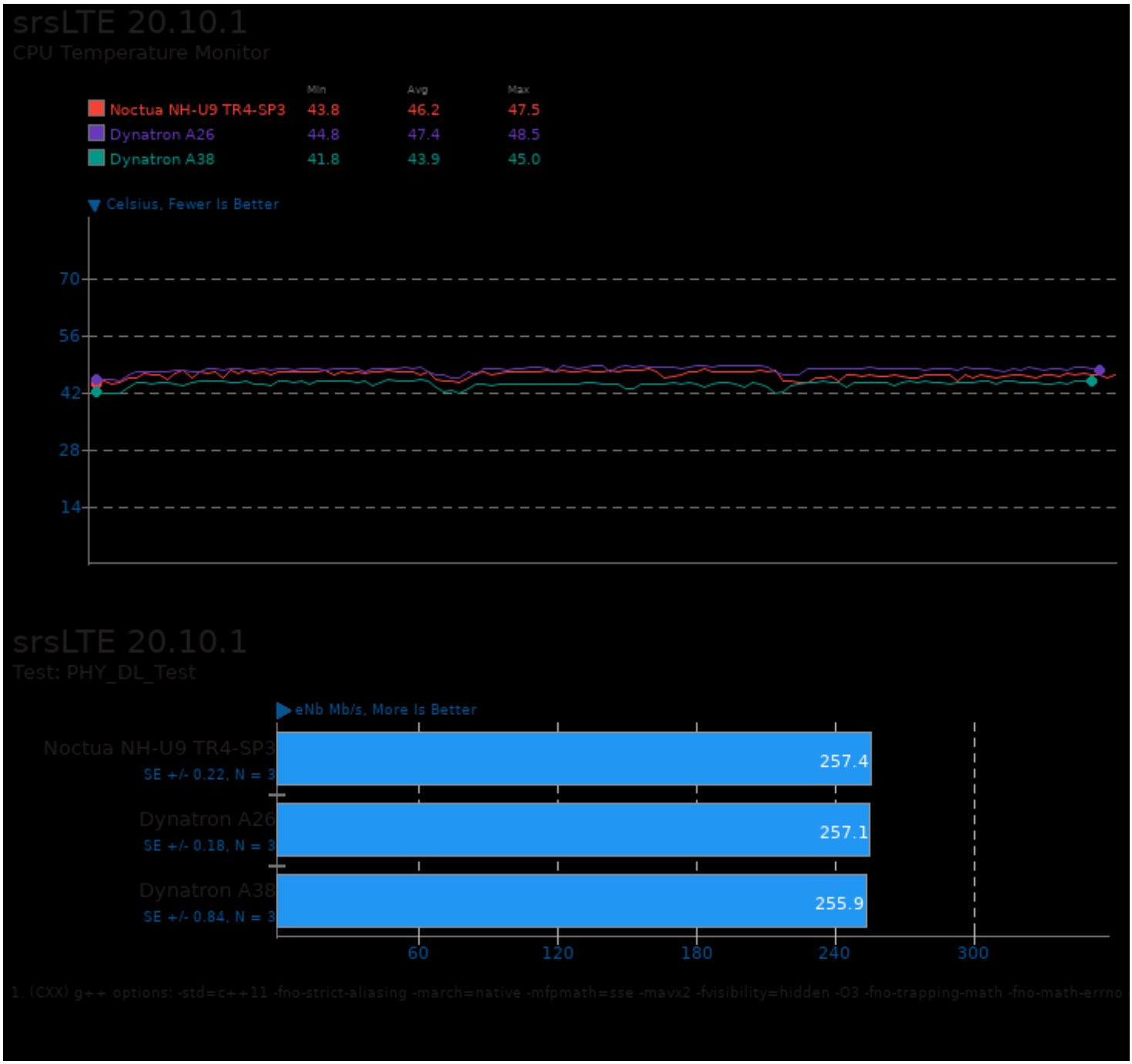
AMD EPYC 7763 Cooling Performance



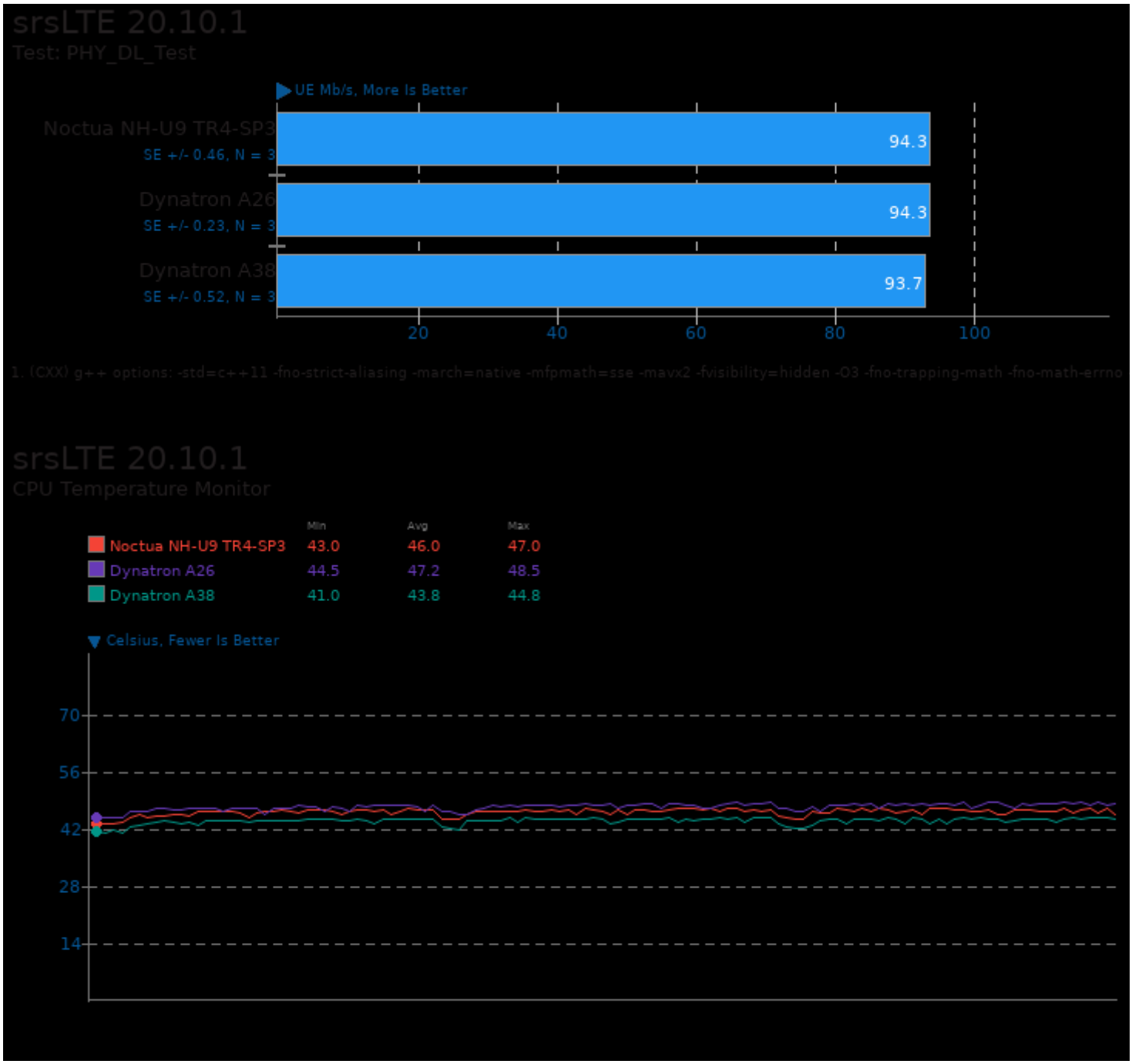
AMD EPYC 7763 Cooling Performance



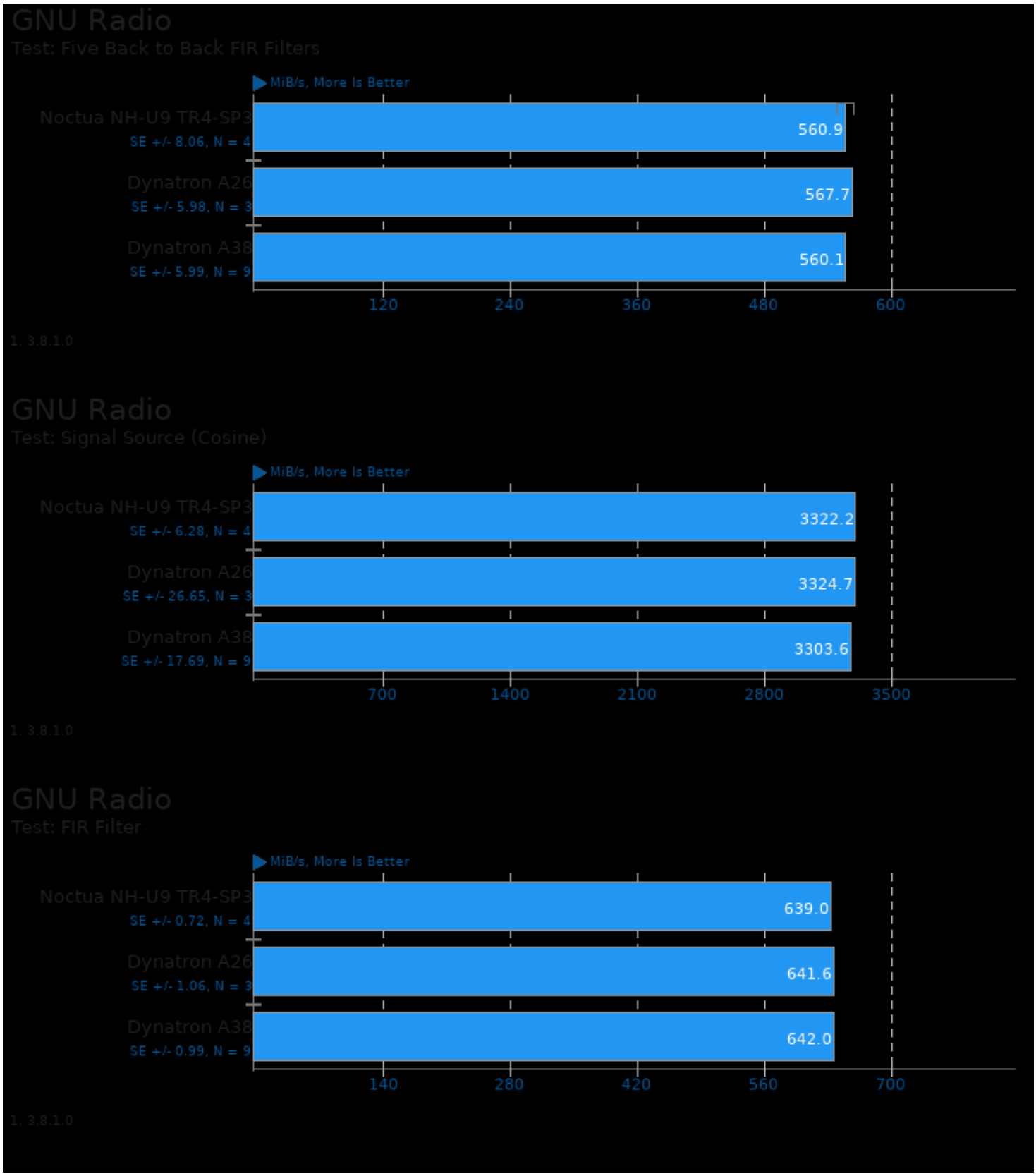
AMD EPYC 7763 Cooling Performance



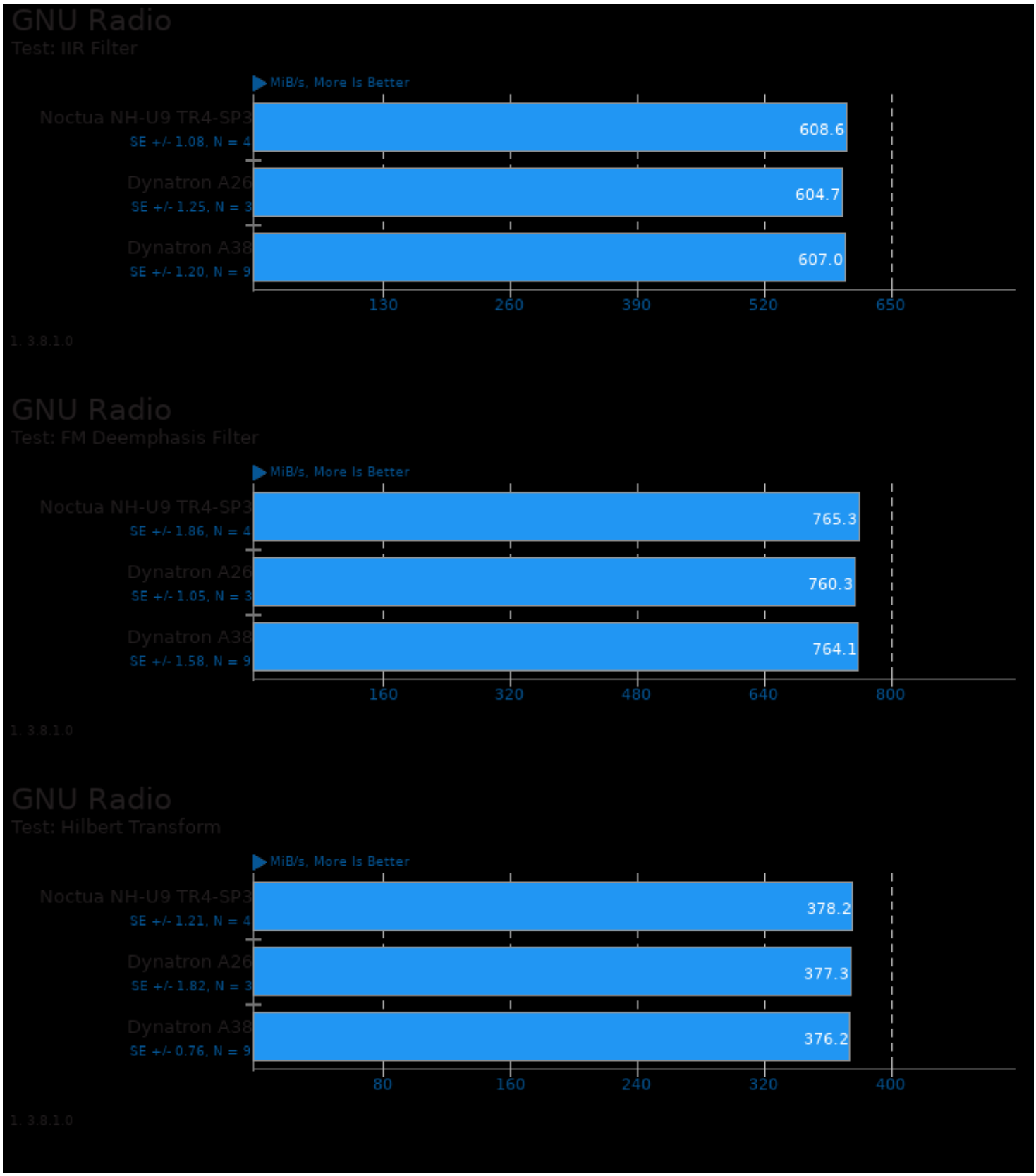
AMD EPYC 7763 Cooling Performance



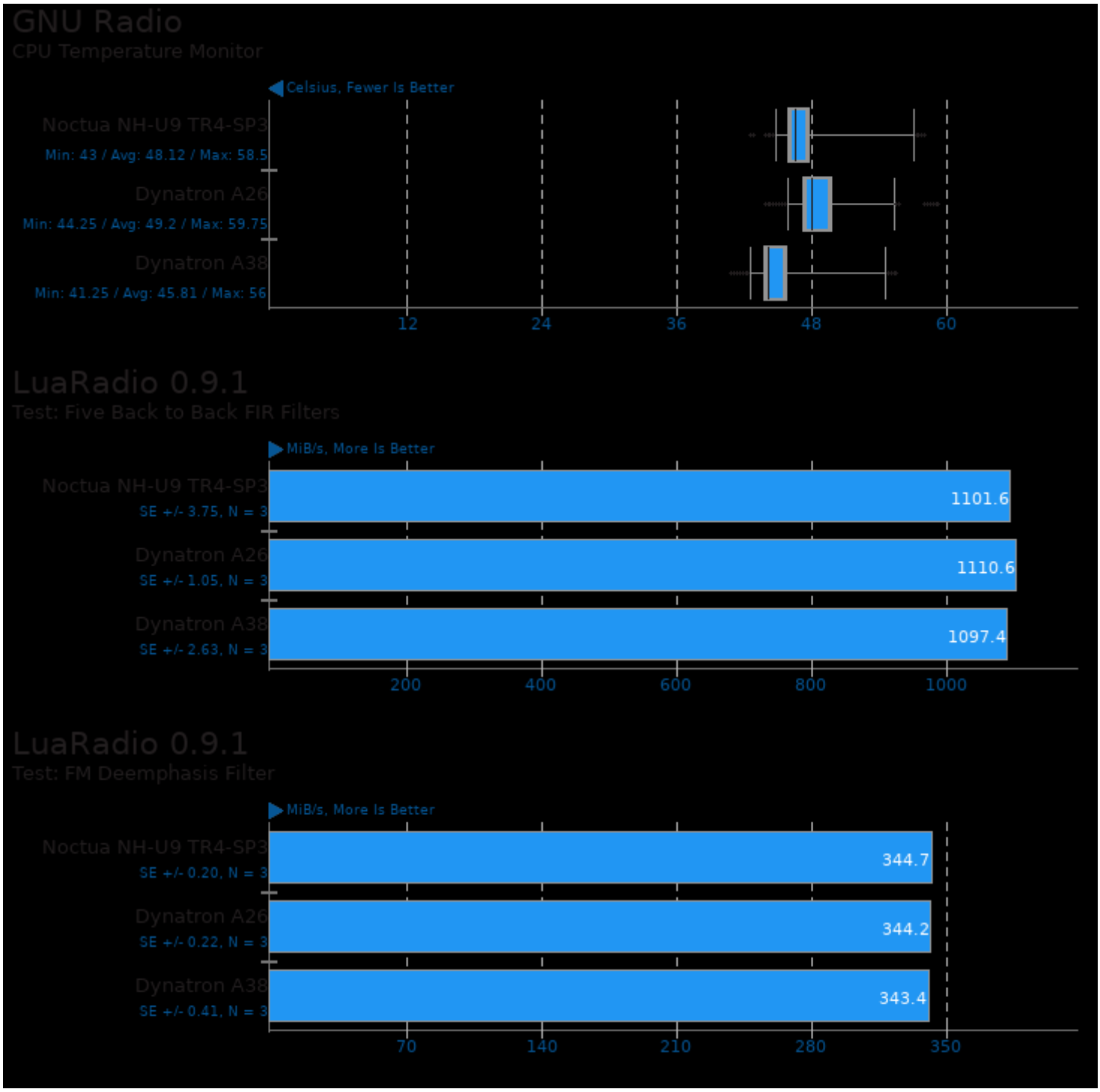
AMD EPYC 7763 Cooling Performance



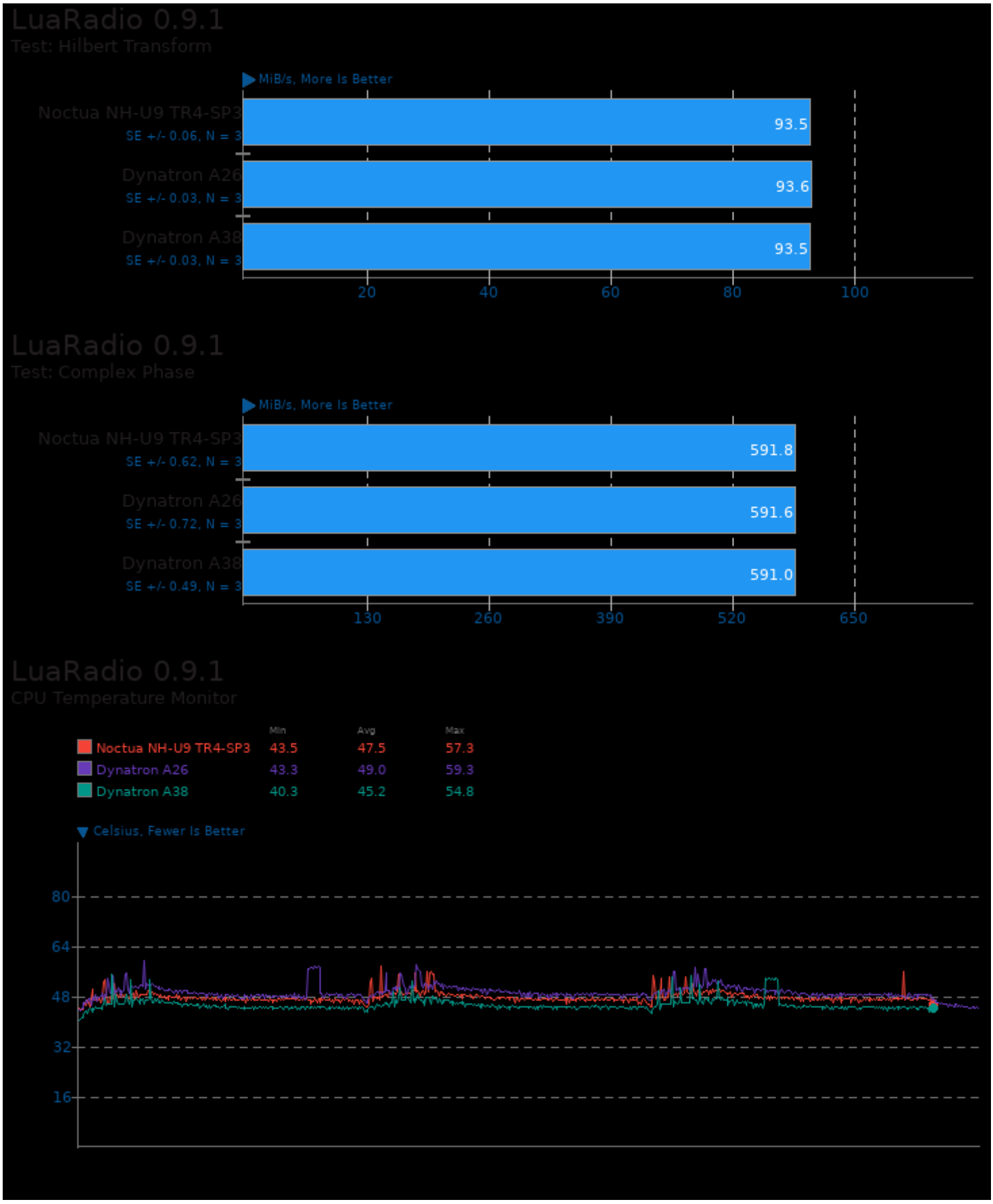
AMD EPYC 7763 Cooling Performance



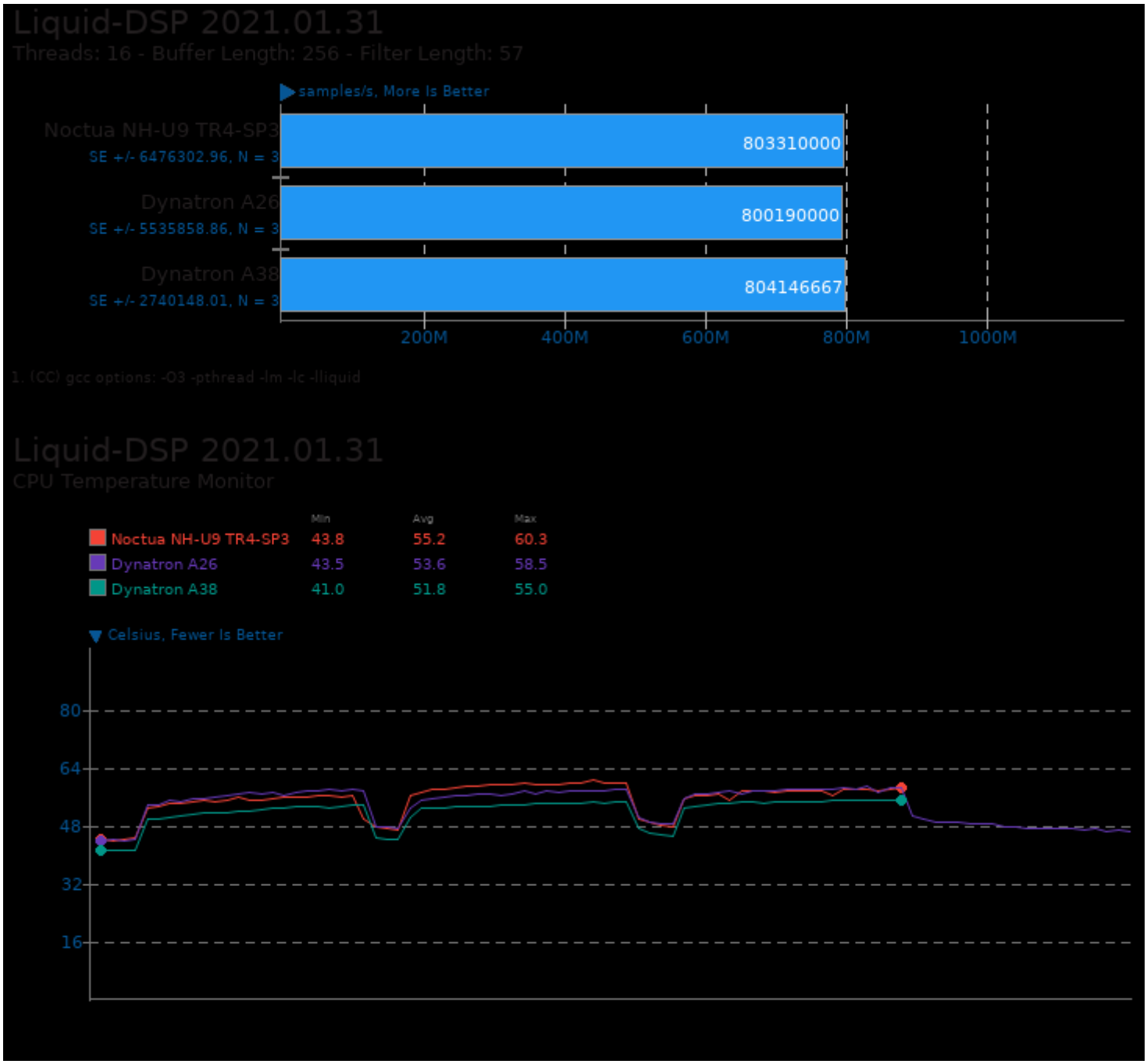
AMD EPYC 7763 Cooling Performance



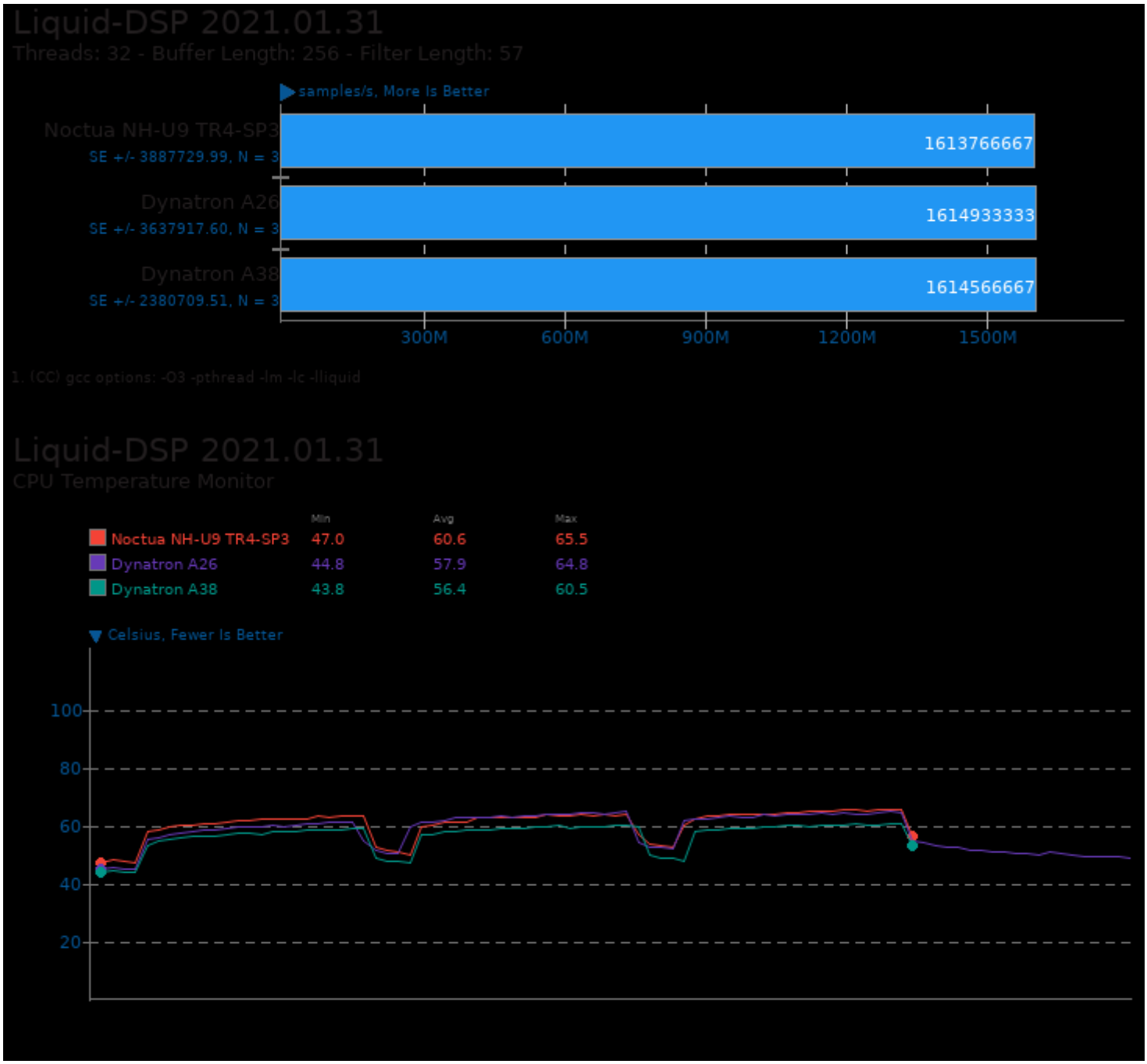
AMD EPYC 7763 Cooling Performance



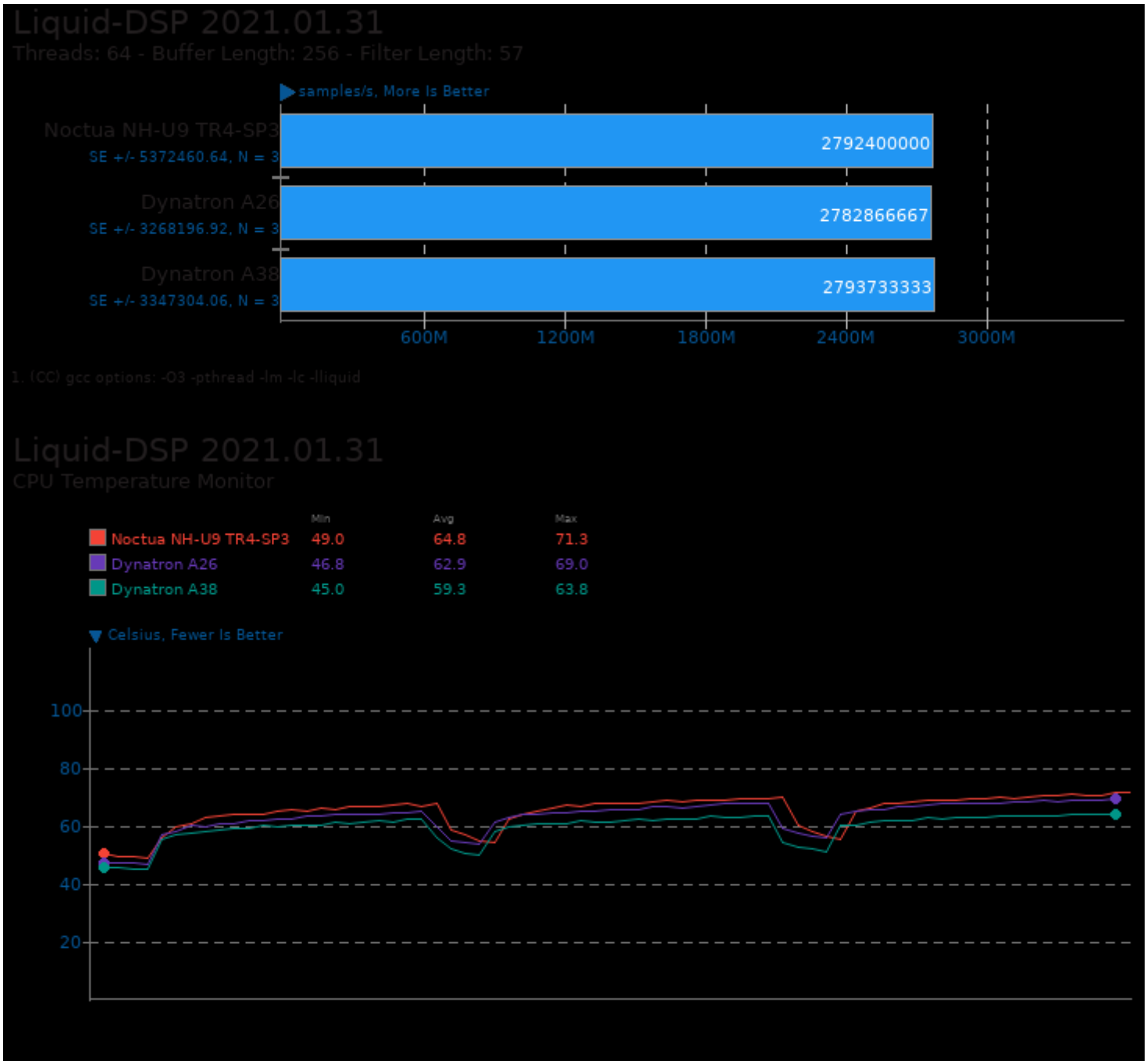
AMD EPYC 7763 Cooling Performance



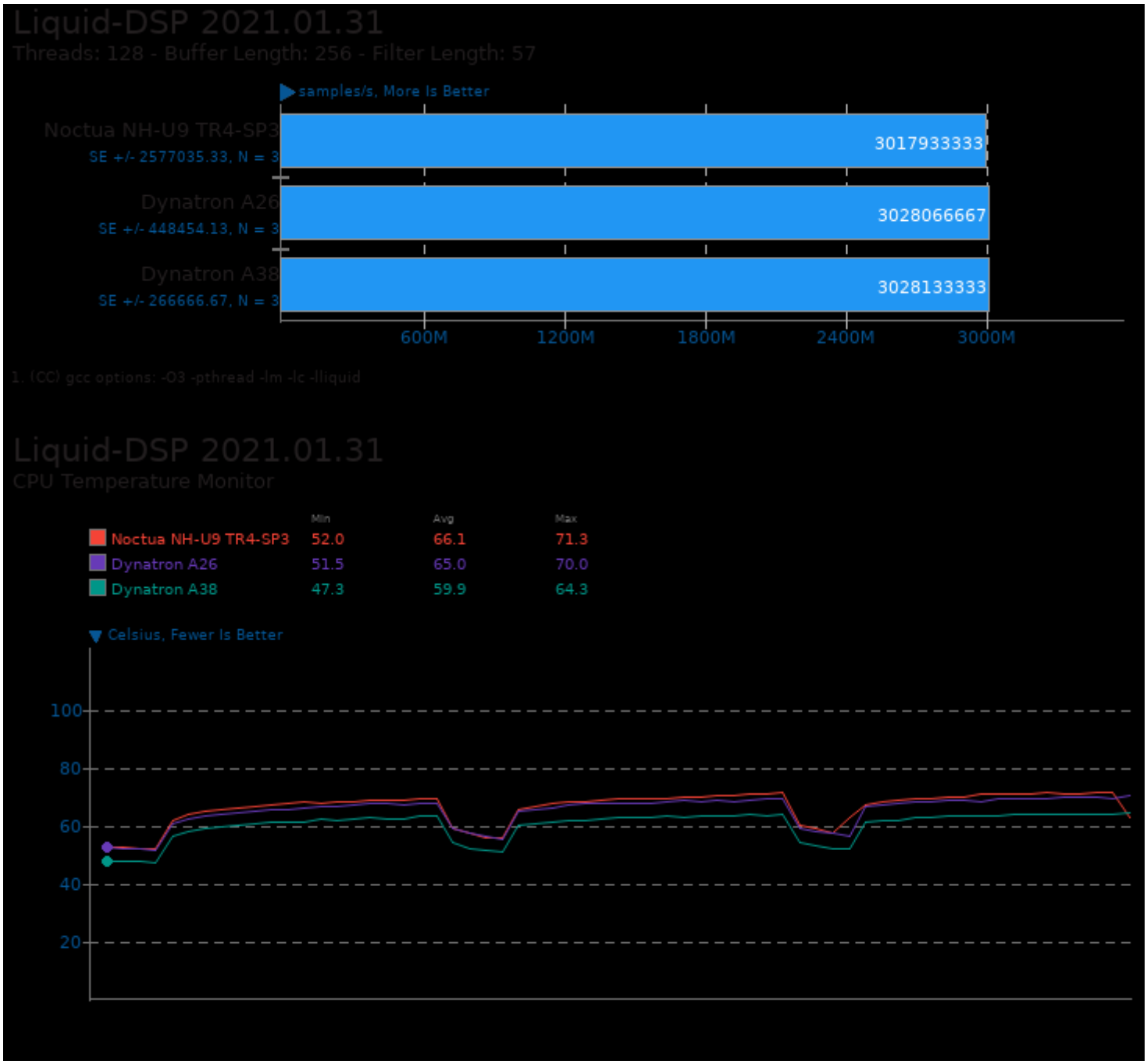
AMD EPYC 7763 Cooling Performance



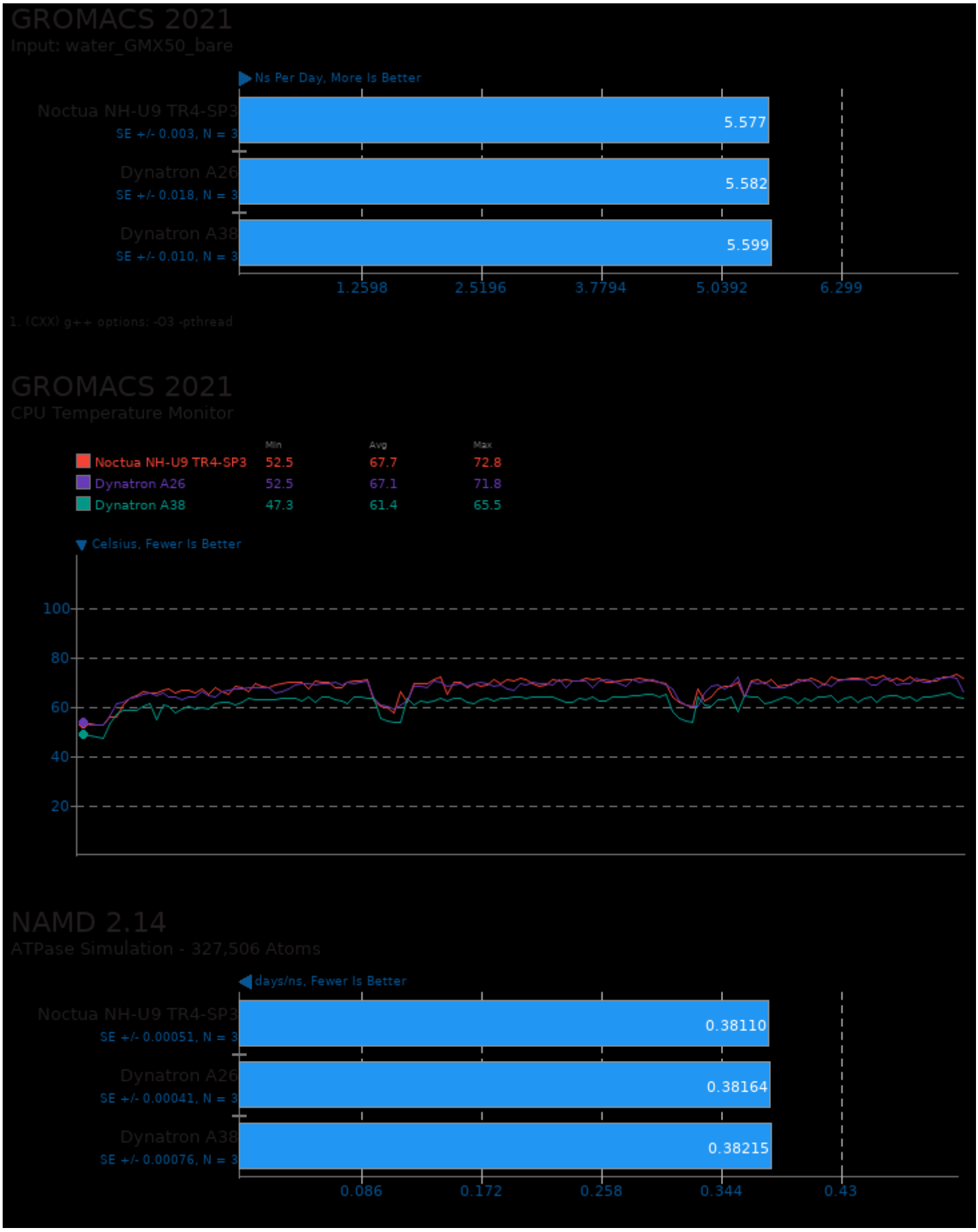
AMD EPYC 7763 Cooling Performance



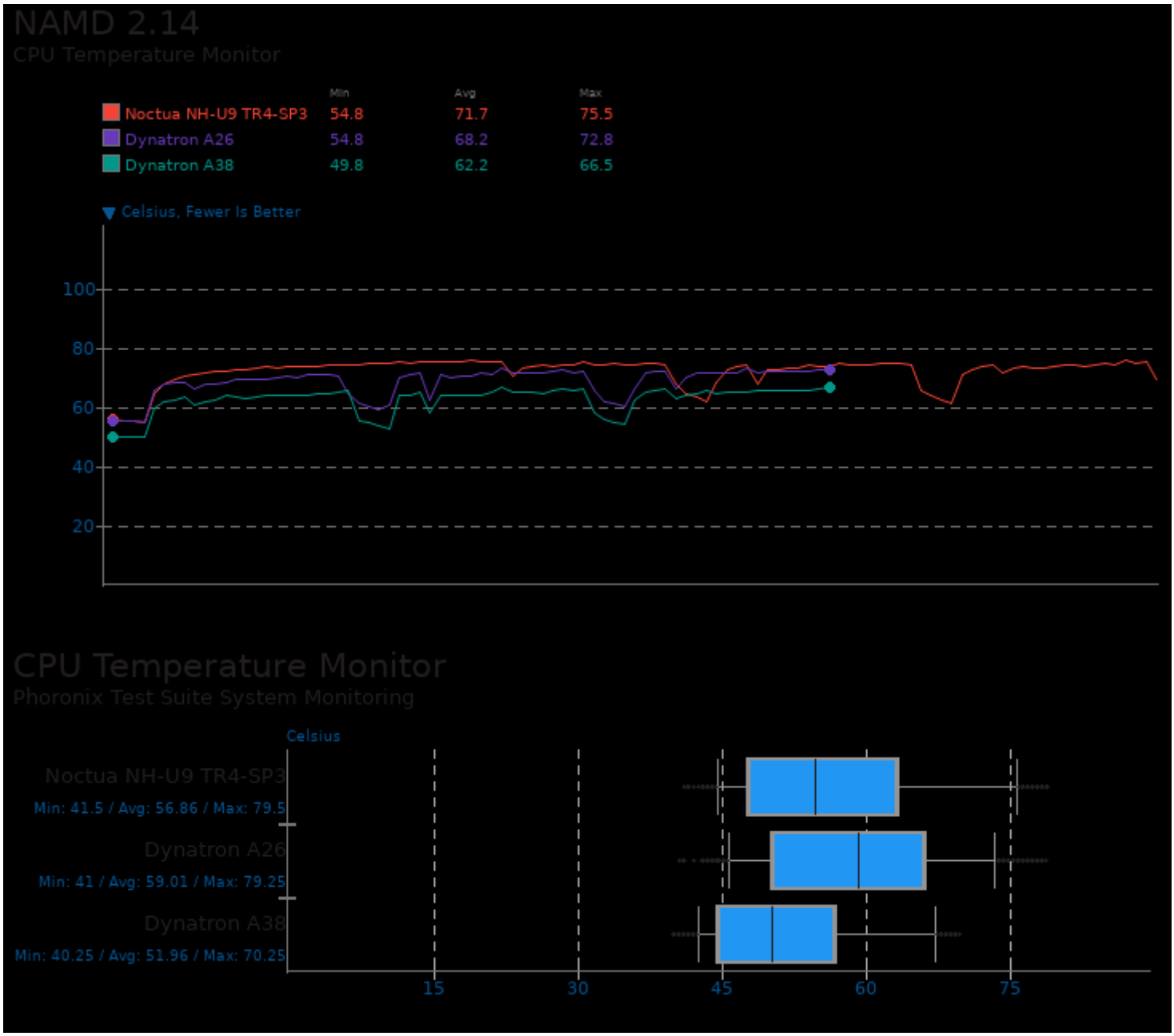
AMD EPYC 7763 Cooling Performance



AMD EPYC 7763 Cooling Performance



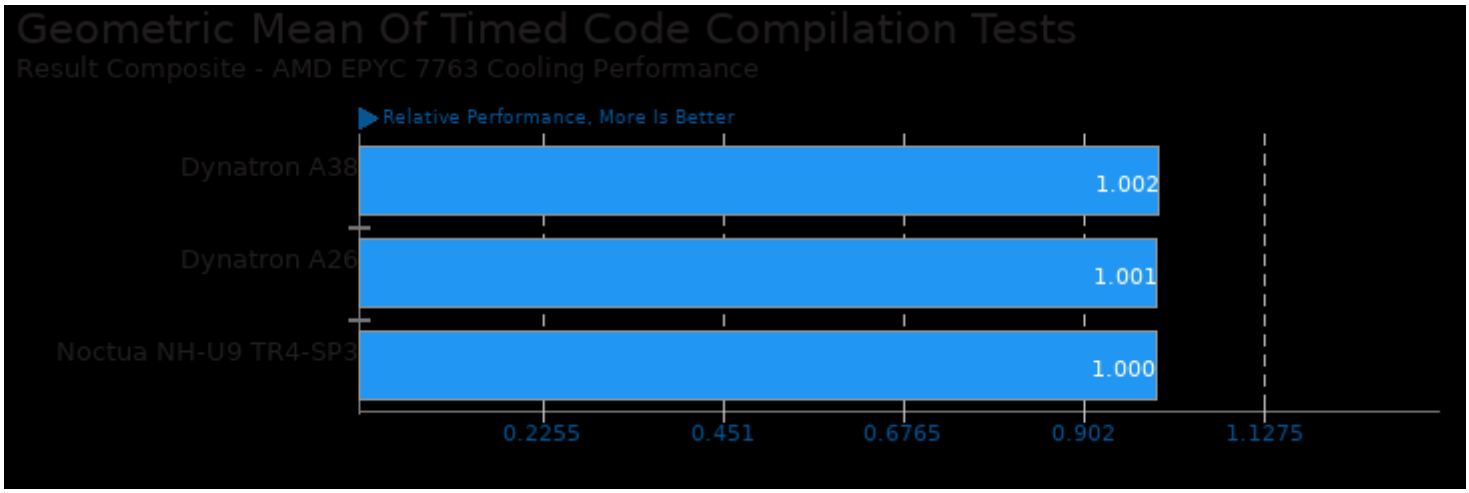
AMD EPYC 7763 Cooling Performance



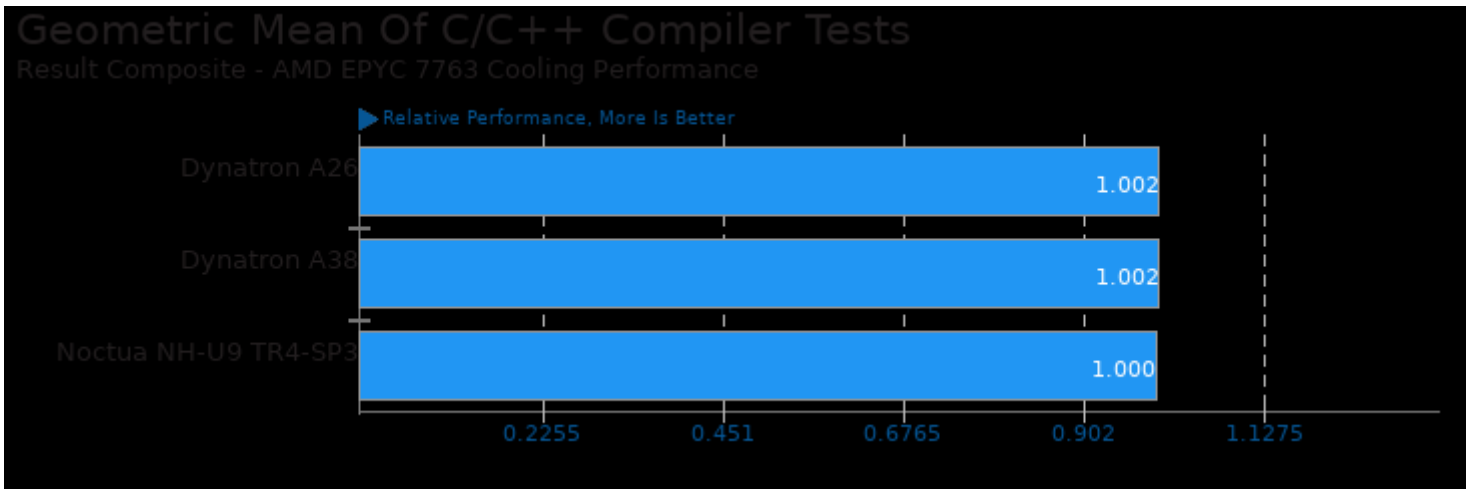
AMD EPYC 7763 Cooling Performance

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

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

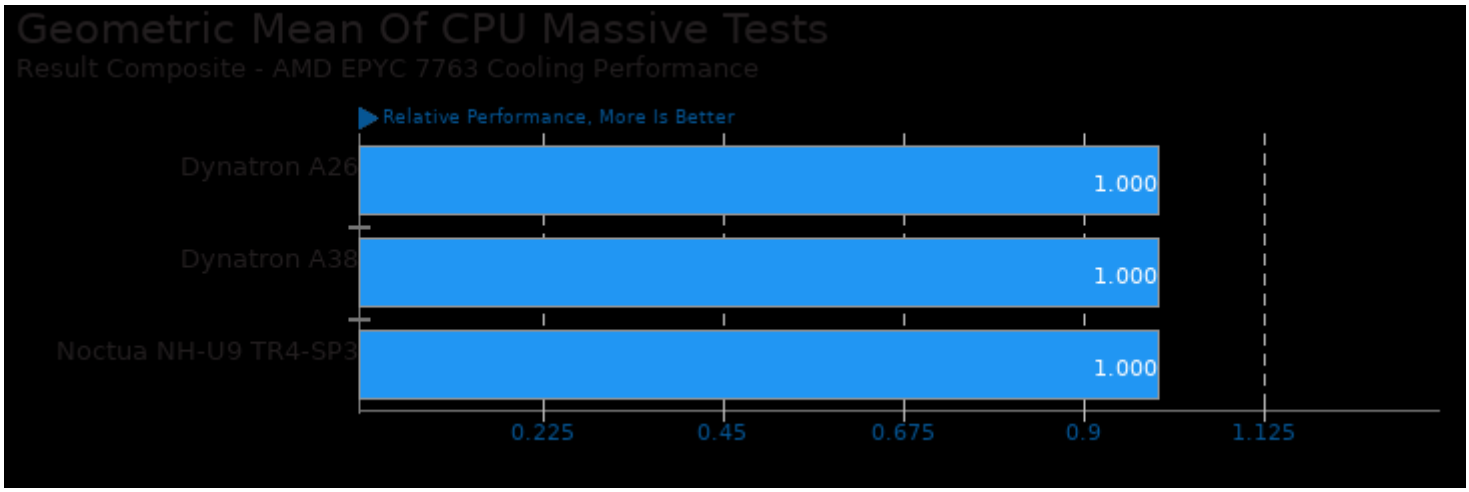


Geometric mean based upon tests: pts/build-apache, pts/build-linux-kernel, pts/build-gdb, pts/build-erlang, pts/build-nodejs and pts/build-mesa

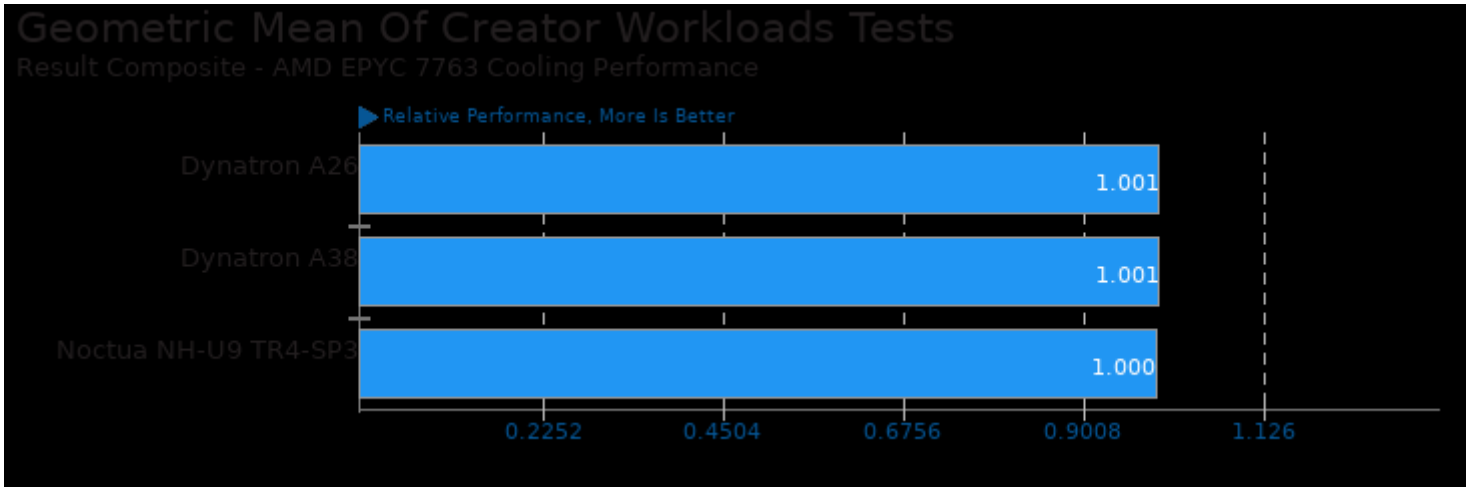


Geometric mean based upon tests: pts/stockfish, pts/aom-av1, pts/svt-av1, pts/svt-vp9, pts/gromacs, pts/build-gdb and pts/build-apache

AMD EPYC 7763 Cooling Performance



Geometric mean based upon tests: pts/build-apache, pts/build-linux-kernel, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/onednn, pts/namd, pts/stockfish, pts/v-ray and pts/blender

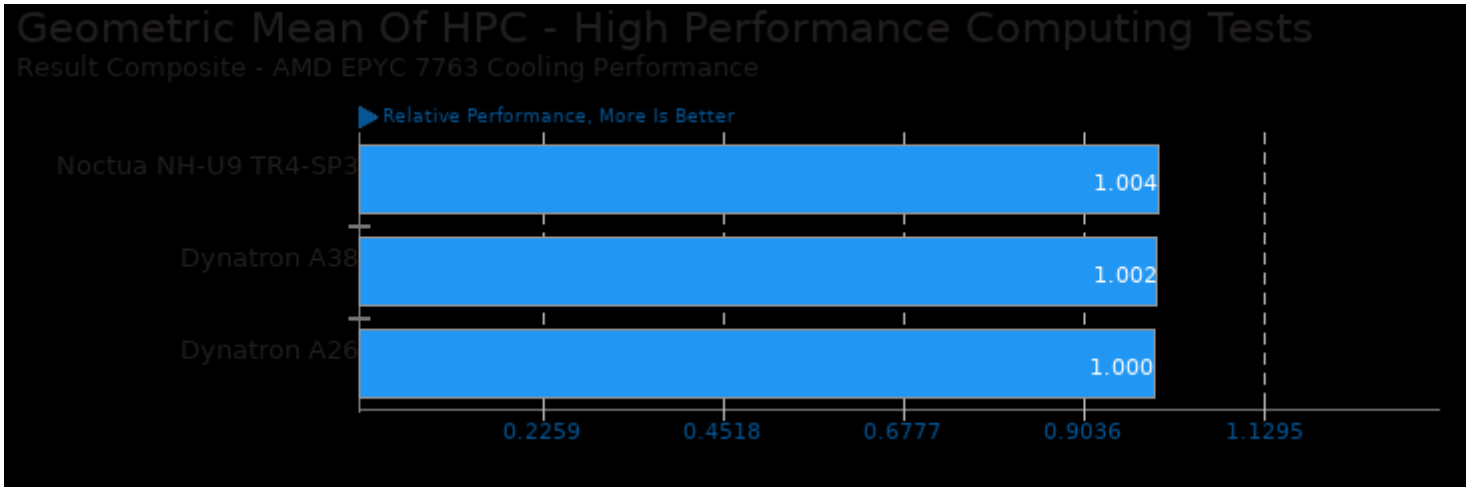


Geometric mean based upon tests: pts/blender, pts/v-ray, pts/indigobench, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/onednn, pts/astcenc and system/openscad

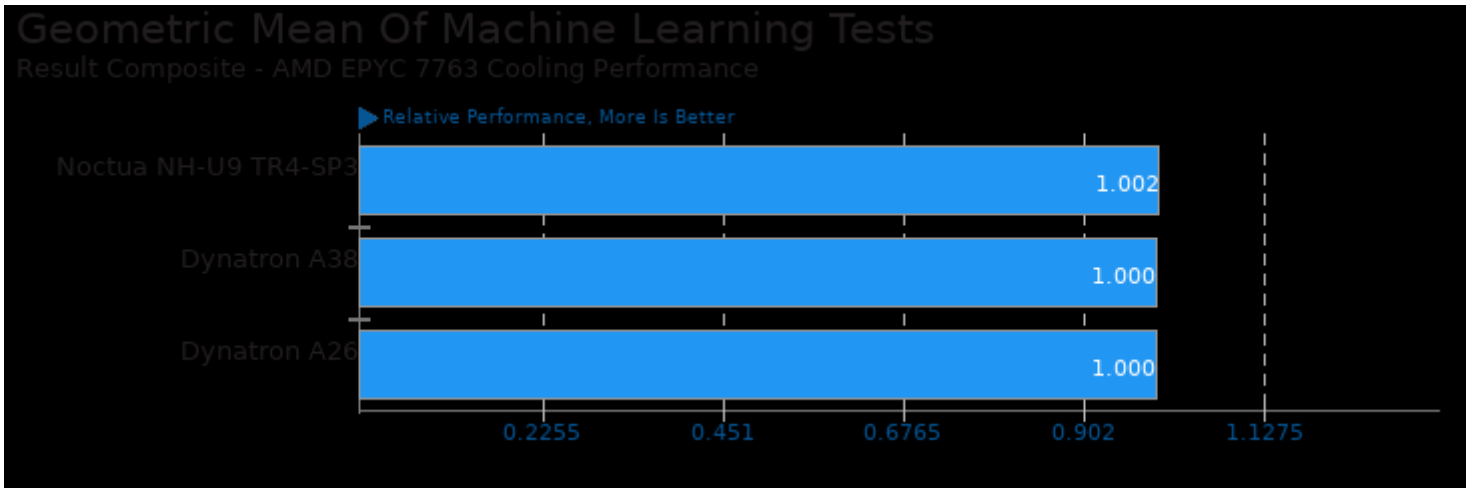
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/aom-av1 and pts/svt-av1

AMD EPYC 7763 Cooling Performance

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

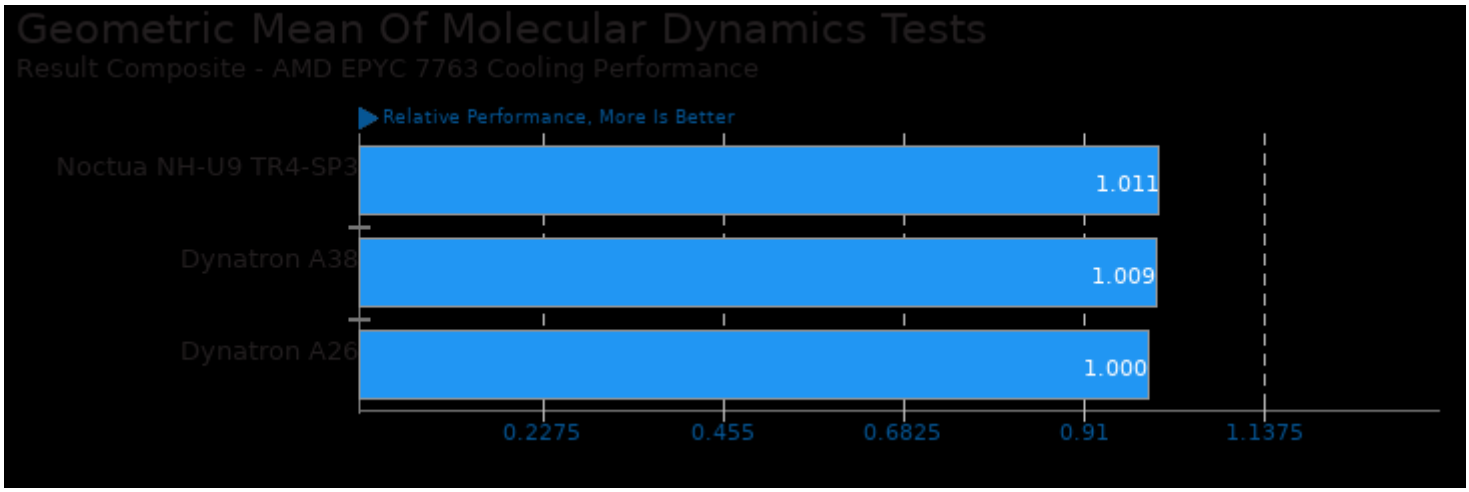


Geometric mean based upon tests: pts/namd, pts/gromacs, pts/incompact3d, pts/mnn and pts/onednn

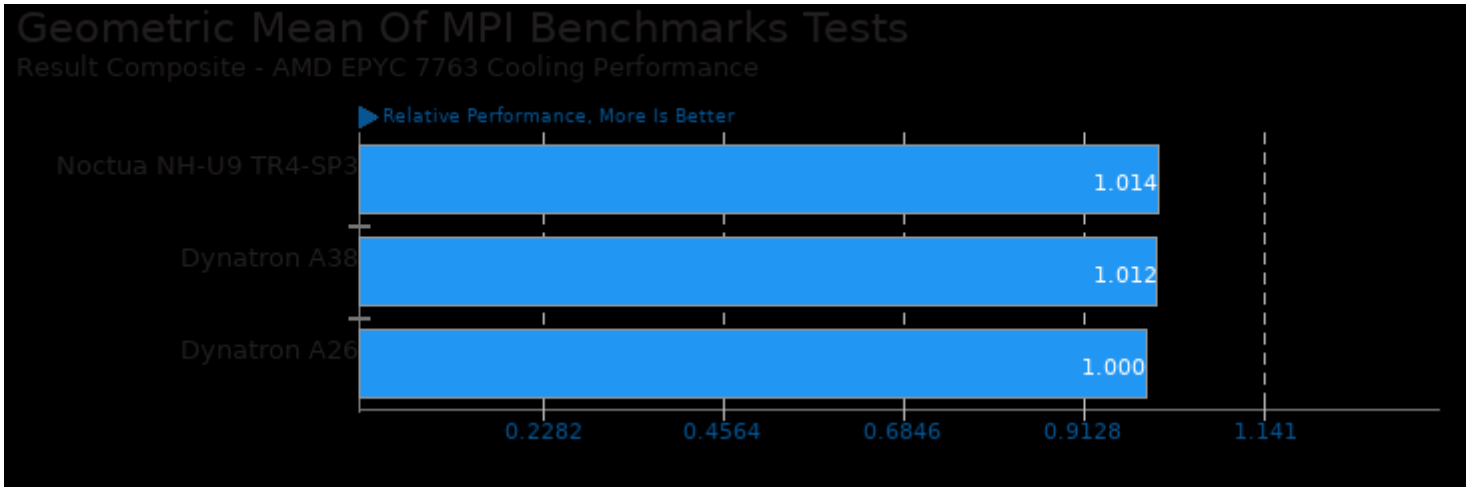


Geometric mean based upon tests: pts/mnn and pts/onednn

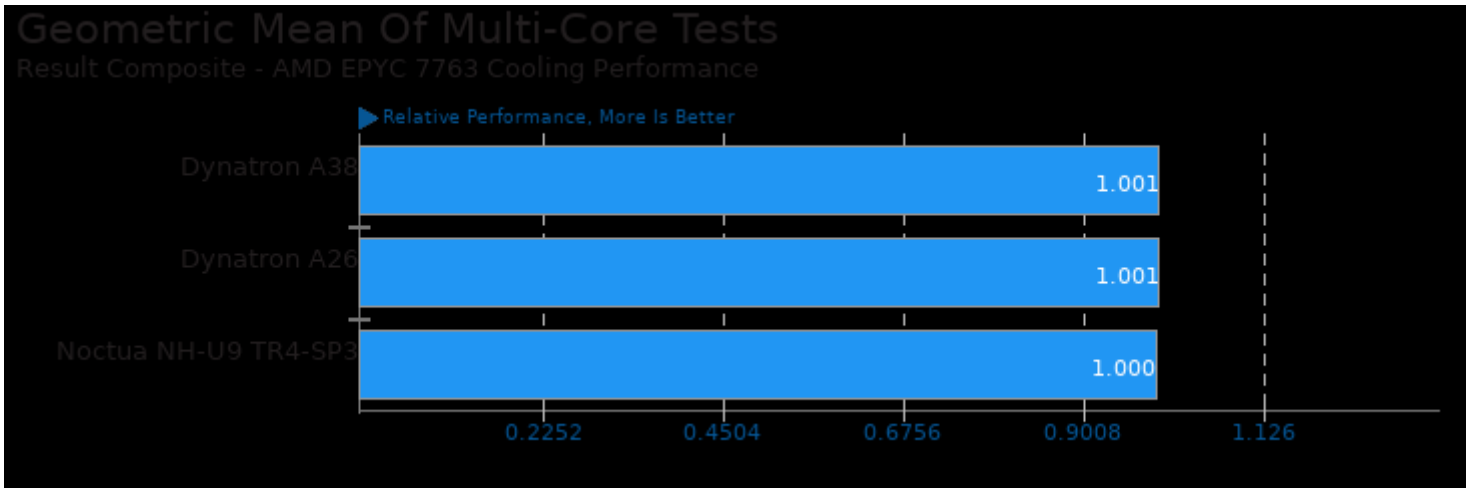
AMD EPYC 7763 Cooling Performance



Geometric mean based upon tests: pts/namd, pts/gromacs and pts/incompact3d

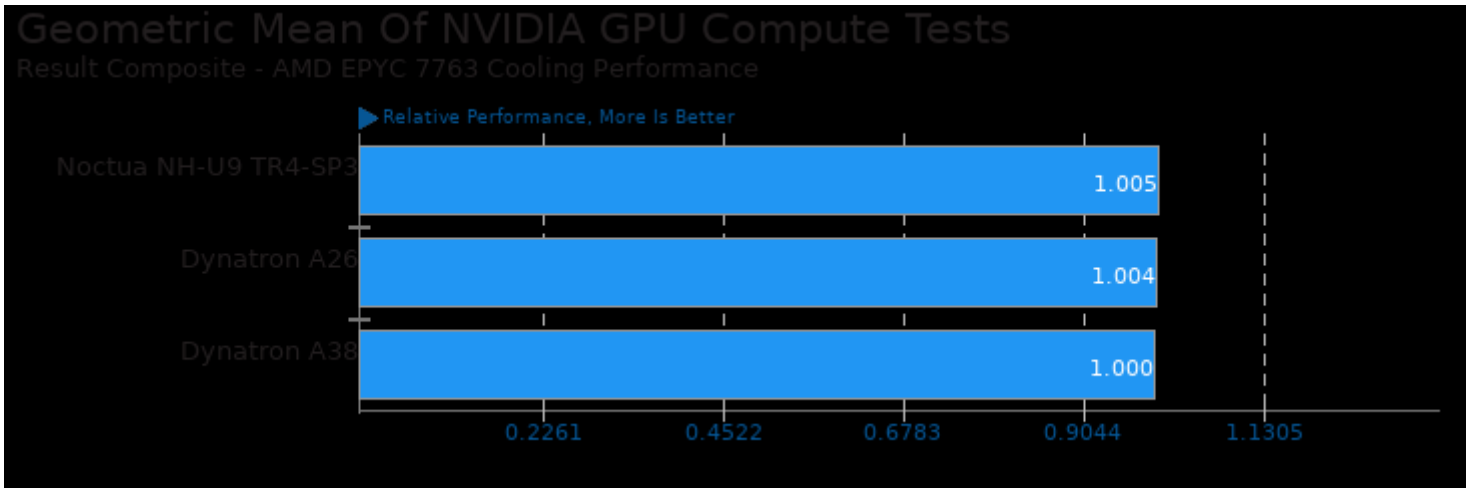


Geometric mean based upon tests: pts/incompact3d and pts/gromacs

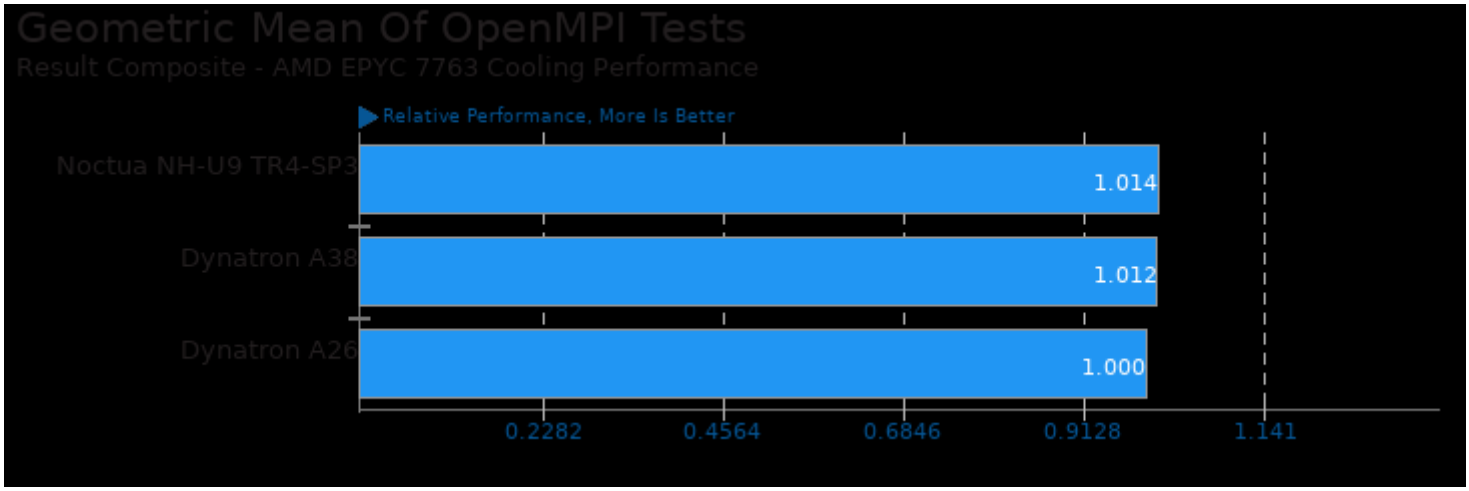


Geometric mean based upon tests: pts/blender, pts/stockfish, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/namd, pts/onednn, pts/gromacs, pts/build-apache, pts/build-linux-kernel, pts/build-gdb, pts/build-erlang, pts/build-nodejs, pts/build-mesa, pts/v-ray and pts/indigobench

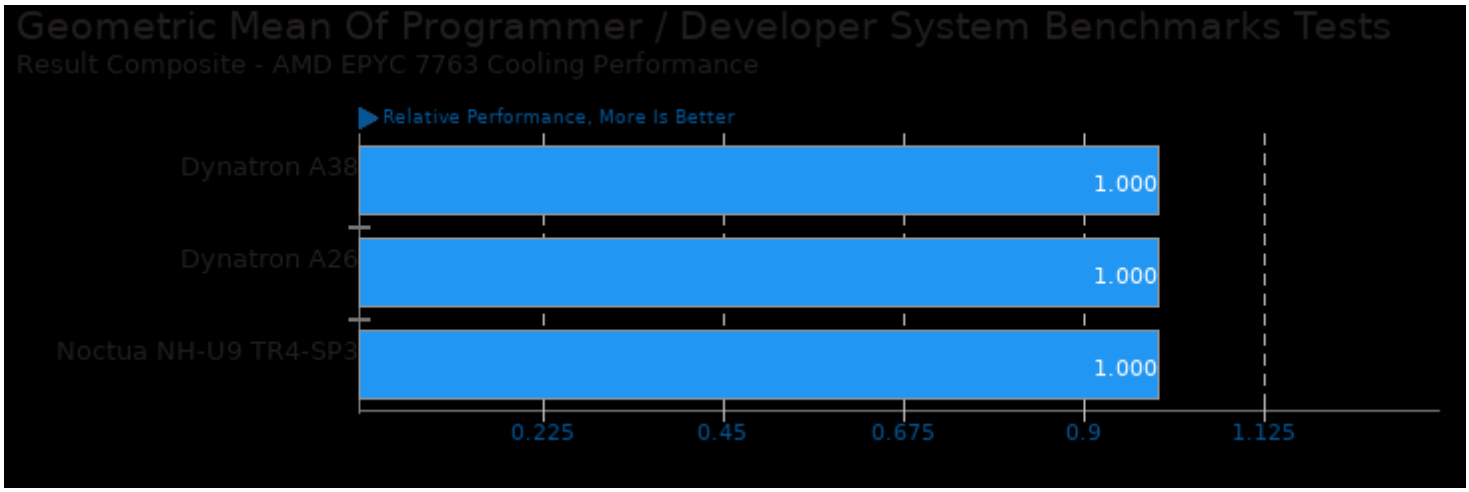
AMD EPYC 7763 Cooling Performance



Geometric mean based upon tests: pts/gromacs, pts/viennacl, pts/indigobench, pts/v-ray and pts/blender



Geometric mean based upon tests: pts/incompact3d and pts/gromacs

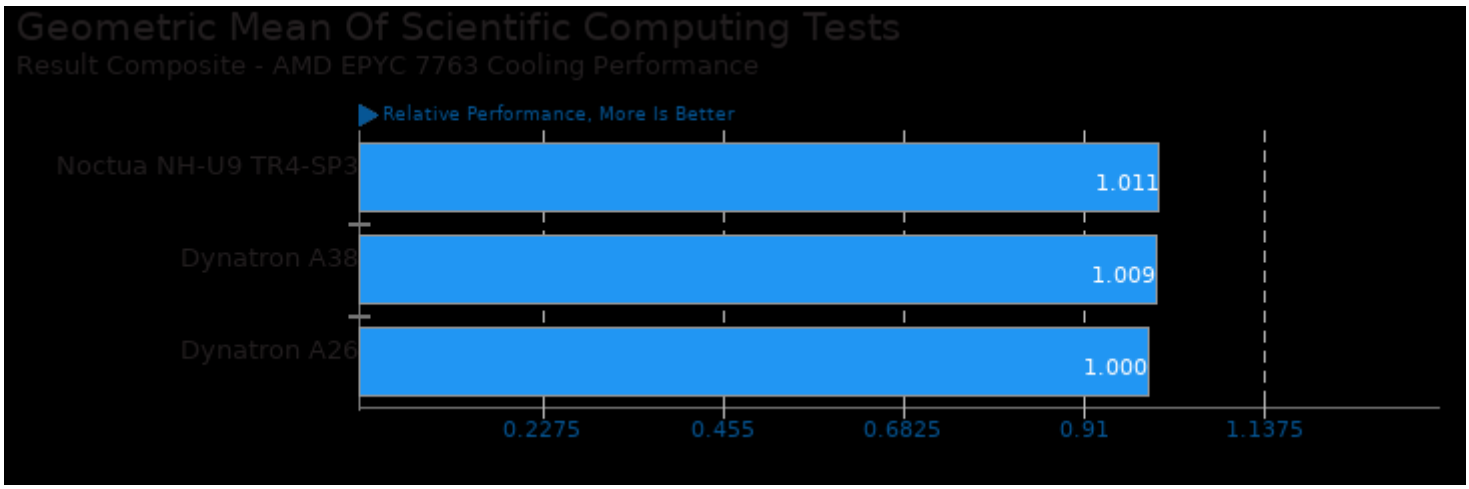


Geometric mean based upon tests: pts/simdjson, pts/build-apache, pts/build-linux-kernel, pts/build-gdb, pts/build-erlang, pts/build-nodejs and pts/build-mesa

AMD EPYC 7763 Cooling Performance

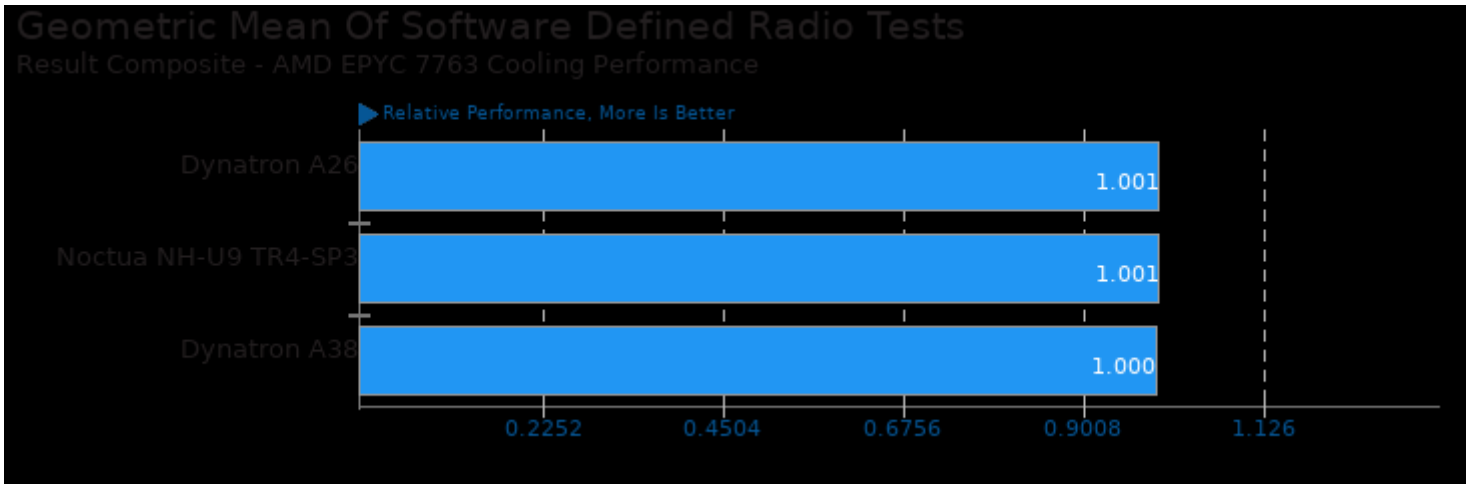
Geometric mean based upon tests: pts/build-mesa, pts/build-nodejs and system/gnuradio

Geometric mean based upon tests: pts/blender, pts/v-ray and pts/indigobench

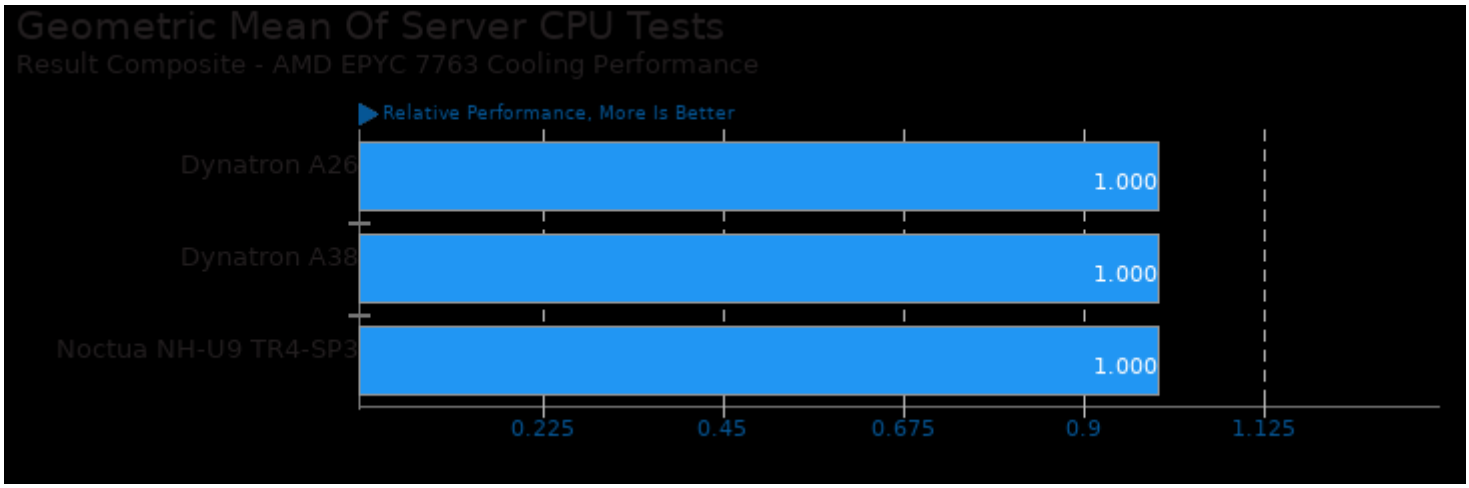


Geometric mean based upon tests: pts/namd, pts/gromacs and pts/incompact3d

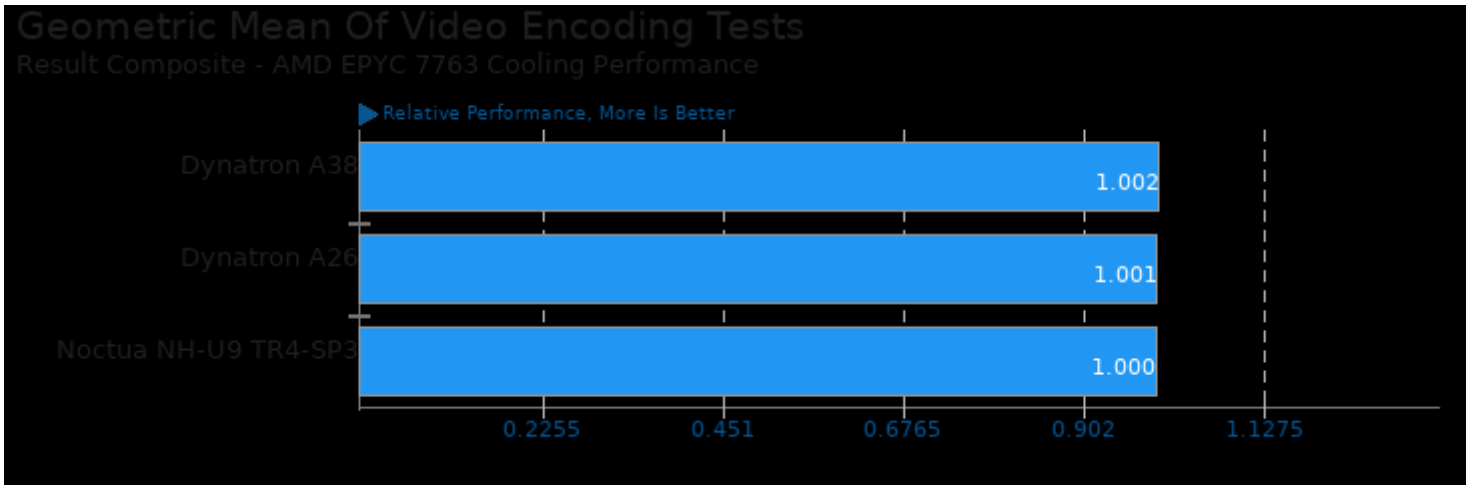
AMD EPYC 7763 Cooling Performance



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



Geometric mean based upon tests: pts/namd, pts/onednn, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/stockfish, pts/build-linux-kernel and pts/blender



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 05:05.