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2970WX July

AMD Ryzen Threadripper 2970WX 24-Core testing with a Gigabyte X399 AORUS Gaming 7 (F12h BIOS) and Sapphire AMD Radeon RX 550 640SP / 560/560X 4GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

2 had the most wins, coming in first place for 26% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.024x the speed of the slowest (1). 5 was 0.995x the speed of 3, 4 was 0.997x the speed of 5, 2 was 0.999x the speed of 4, 1 was 0.985x the speed of 2.

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

NCNN (Target: CPU - Model: resnet18) at 1.796x
Facebook RocksDB (Test: Random Fill Sync) at 1.638x
Apache Cassandra (Test: Reads) at 1.505x
NCNN (Target: CPU - Model: alexnet) at 1.432x
NCNN (Target: CPU - Model: resnet50) at 1.368x
Mobile Neural Network (Model: squeezenetv1.1) at 1.284x
NCNN (Target: CPU - Model: vgg16) at 1.228x
Mobile Neural Network (Model: mobilenetV3) at 1.225x
Natron (Input: Spaceship) at 1.214x

Renaissance (Test: Apache Spark PageRank) at 1.214x.

Test Systems:

1

2

3

4

5

Processor: AMD Ryzen Threadripper 2970WX 24-Core @ 3.00GHz (24 Cores / 48 Threads), Motherboard: Gigabyte X399 AORUS Gaming 7 (F12h BIOS), Chipset: AMD 17h, Memory: 16GB, Disk: 120GB Corsair Force MP500, Graphics: Sapphire AMD Radeon RX 550 640SP / 560/560X 4GB (1300/1750MHz), Audio: Realtek ALC1220, Monitor: VA2431, Network: Qualcomm Atheros Killer E2500 + 2 x QLogic cLOM8214 1/10GbE + Intel 8265 / 8275

OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc6daily20200926-generic (x86_64) 20200925, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.2.6 (LLVM 11.0.0), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-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: 0x800820d
Graphics Notes: GLAMOR
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-Ubuntu-0ubuntu2.20.04)
Python Notes: Python 3.8.10
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 STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3	4	5
GravityMark - 1920 x 1080 - Vulkan (FPS)	33.2	33.2	33.2	33.2	33.2
C-Blosc - blosclz (MB/s)	15951	**15733**	15896	**16025**	15931
Normalized	99.53%	98.18%	99.19%	100%	99.41%
Renaissance - Scala Dotty (ms)	**1133**	1112	1038	968.0	**965.4**
Normalized	85.21%	86.86%	92.98%	99.73%	100%
Renaissance - Rand Forest (ms)	**920.0**	892.7	902.9	911.1	**891.3**
Normalized	96.88%	99.84%	98.72%	97.83%	100%

Renaissance - ALS Movie Lens (ms)	9837	9878	10001	9815	9857
Normalized	99.78%	99.36%	98.14%	100%	99.57%
Renaissance - Apache Spark ALS (ms)	2360	2280	2305	2202	2221
Normalized	93.33%	96.6%	95.53%	100%	99.17%
Renaissance - Apache Spark Bayes (ms)	1209	1184	1181	1162	1232
Normalized	96.11%	98.13%	98.41%	100%	94.33%
Renaissance - Savina Reactors.IO (ms)	12293	12327	11693	12668	11704
Normalized	95.13%	94.86%	100%	92.31%	99.91%
Renaissance - A.S.P (ms)	5089	5444	5041	4486	5102
Normalized	88.15%	82.4%	88.98%	100%	87.92%
Renaissance - F.H.R (ms)	4099	3907	4056	4041	4007
Normalized	95.3%	100%	96.33%	96.69%	97.5%
Renaissance - I.M.D.S (ms)	6179	6440	6178	6142	6457
Normalized	99.41%	95.38%	99.41%	100%	95.12%
Renaissance - A.U.C.T (ms)	21704	21813	21476	22068	21887
Normalized	98.95%	98.45%	100%	97.32%	98.13%
Renaissance - G.A.U.J.F (ms)	2666	2700	2680	2620	2660
Normalized	98.28%	97.02%	97.77%	100%	98.5%
YafaRay - T.T.F.S.S (sec)	96.086	98.403	98.825	98.453	96.467
Normalized	100%	97.65%	97.23%	97.6%	99.61%
Mobile Neural Network - mobilenetV3 (ms)	5.165	4.324	5.225	4.359	4.266
Normalized	82.59%	98.66%	81.65%	97.87%	100%
Mobile Neural Network - squeezenetv1.1 (ms)	9.868	8.954	8.024	10.299	9.974
Normalized	81.31%	89.61%	100%	77.91%	80.45%
Mobile Neural Network - resnet-v2-50 (ms)	44.868	50.67	46.243	46.475	46.217
Normalized	100%	88.55%	97.03%	96.54%	97.08%
Mobile Neural Network - SqueezeNetV1.0 (ms)	12.281	11.024	11.363	12.684	12.806
Normalized	89.76%	100%	97.02%	86.91%	86.08%
Mobile Neural Network - MobileNetV2_224 (ms)	7.707	8.046	7.615	7.59	7.292
Normalized	94.62%	90.63%	95.76%	96.07%	100%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	5.114	4.948	5.109	5.011	4.996
Normalized	96.75%	100%	96.85%	98.74%	99.04%
Mobile Neural Network - inception-v3 (ms)	59.53	61.552	59.596	59.249	57.156
Normalized	96.01%	92.86%	95.91%	96.47%	100%
NCNN - CPU - mobilenet (ms)	29.59	31.08	28.71	28.82	28.75
Normalized	97.03%	92.37%	100%	99.62%	99.86%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	13.38	13.53	13.02	13.28	13.5
Normalized	97.31%	96.23%	100%	98.04%	96.44%

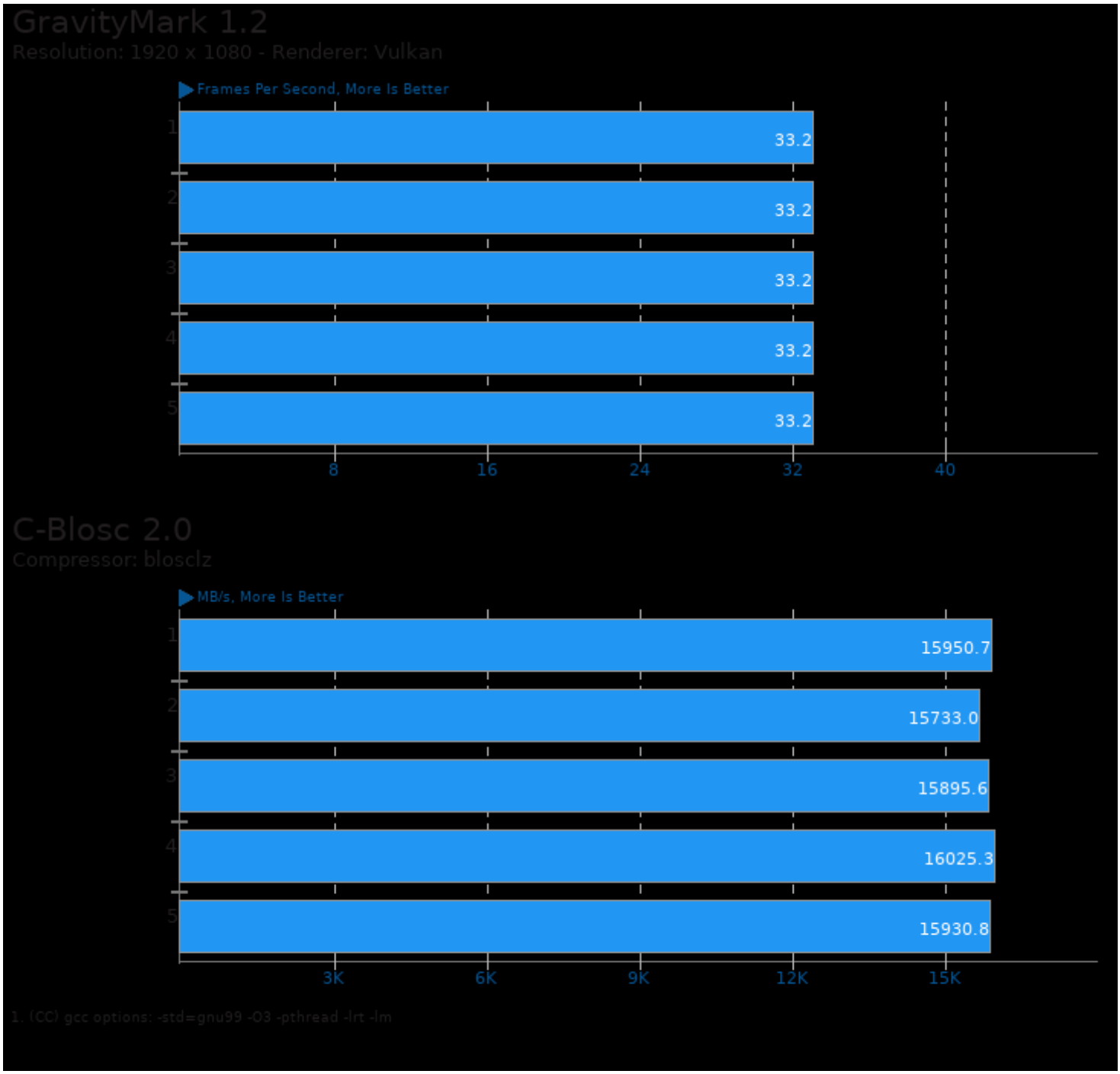
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	13.01	13.65	12.74	12.59	13.56
Normalized	96.77%	92.23%	98.82%	100%	92.85%
NCNN - CPU - shufflenet-v2 (ms)	14	12.78	13.56	13.81	13.53
Normalized	91.29%	100%	94.25%	92.54%	94.46%
NCNN - CPU - mnasnet (ms)	12.19	12.86	11.84	12.29	11.71
Normalized	96.06%	91.06%	98.9%	95.28%	100%
NCNN - CPU - efficientnet-b0	17.03	16.06	17.12	16.68	16.52
Normalized	94.3%	100%	93.81%	96.28%	97.22%
NCNN - CPU - blazeface (ms)	5.79	5.33	5.58	5.61	5.53
Normalized	92.06%	100%	95.52%	95.01%	96.38%
NCNN - CPU - googlenet (ms)	35.87	30.9	31.94	33.67	31.59
Normalized	86.14%	100%	96.74%	91.77%	97.82%
NCNN - CPU - vgg16 (ms)	97.15	87.61	80.57	98.93	83.42
Normalized	82.93%	91.96%	100%	81.44%	96.58%
NCNN - CPU - resnet18 (ms)	44.83	56.06	47.96	51.53	31.22
Normalized	69.64%	55.69%	65.1%	60.59%	100%
NCNN - CPU - alexnet (ms)	24.56	26.93	22.99	27.83	32.93
Normalized	93.61%	85.37%	100%	82.61%	69.81%
NCNN - CPU - resnet50 (ms)	68.54	53.95	50.1	54.6	67.92
Normalized	73.1%	92.86%	100%	91.76%	73.76%
NCNN - CPU - yolov4-tiny (ms)	52	47.08	49.51	49.12	48.67
Normalized	90.54%	100%	95.09%	95.85%	96.73%
NCNN - CPU - squeezenet_ssd (ms)	42.91	36.43	38.83	41.15	41.54
Normalized	84.9%	100%	93.82%	88.53%	87.7%
NCNN - CPU - regnety_400m	38.7	36.84	36.1	36.25	36.55
Normalized	93.28%	97.99%	100%	99.59%	98.77%
NCNN - Vulkan GPU - mobilenet (ms)	13.12	12.92	13.17	12.98	12.97
Normalized	98.48%	100%	98.1%	99.54%	99.61%
NCNN - Vulkan GPU-v2-v2 - mobilenet-v2 (ms)	5.56	5.6	5.61	5.5	5.46
Normalized	98.2%	97.5%	97.33%	99.27%	100%
NCNN - Vulkan GPU-v3-v3 - mobilenet-v3 (ms)	7.35	7.43	7.59	7.39	7.35
Normalized	100%	98.92%	96.84%	99.46%	100%
NCNN - Vulkan GPU - shufflenet-v2 (ms)	4.97	4.97	4.97	4.93	4.99
Normalized	99.2%	99.2%	99.2%	100%	98.8%
NCNN - Vulkan GPU - mnasnet (ms)	5.85	5.83	5.91	5.88	5.86
Normalized	99.66%	100%	98.65%	99.15%	99.49%
NCNN - Vulkan GPU - efficientnet-b0 (ms)	15.48	15.27	15.26	15.21	15.3
Normalized	98.26%	99.61%	99.67%	100%	99.41%
NCNN - Vulkan GPU - blazeface (ms)	3.11	3.1	2.97	3.03	3.44
Normalized	95.5%	95.81%	100%	98.02%	86.34%
NCNN - Vulkan GPU - googlenet (ms)	11.31	11.34	11.58	11.38	11.28
Normalized	99.73%	99.47%	97.41%	99.12%	100%

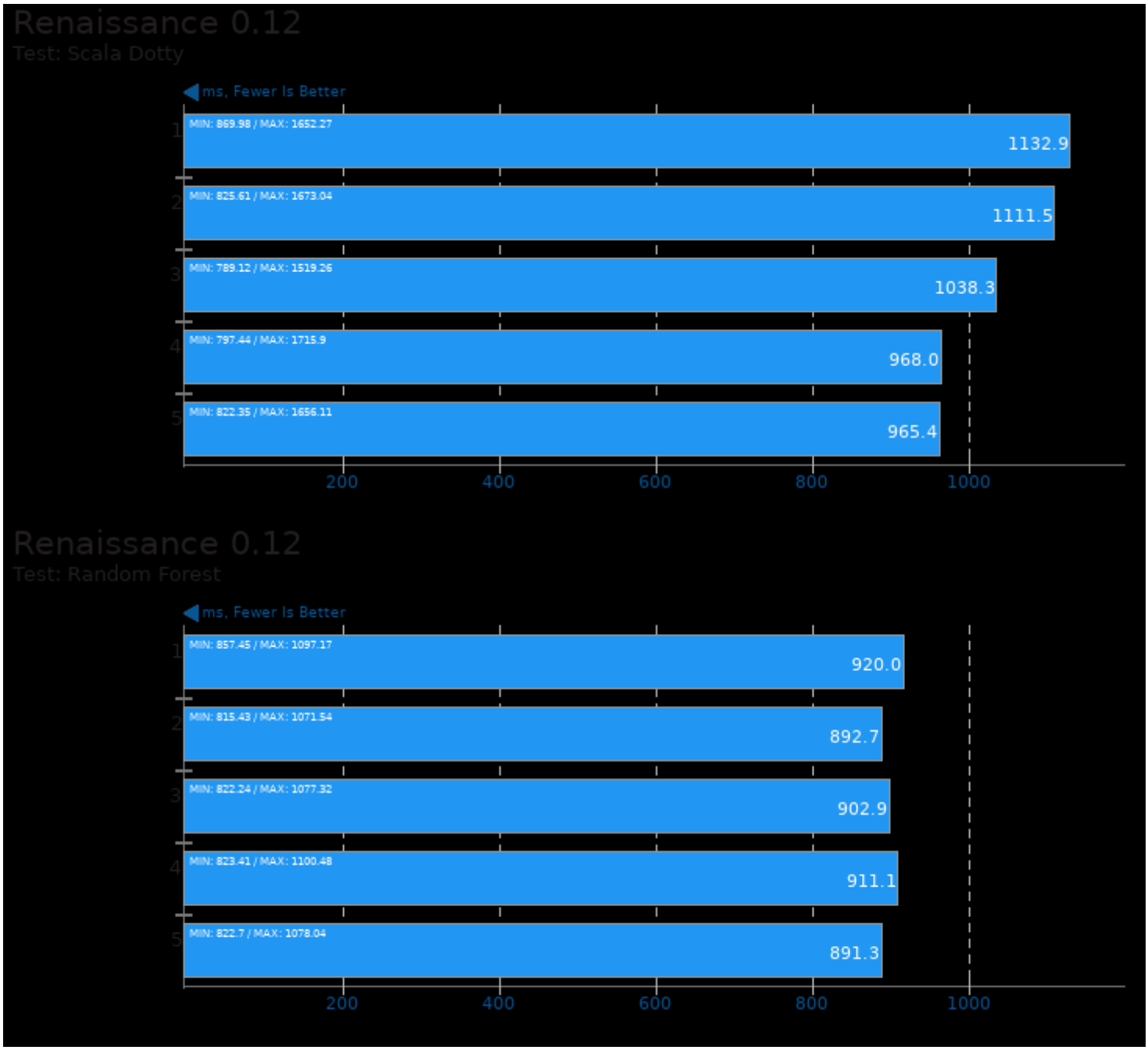
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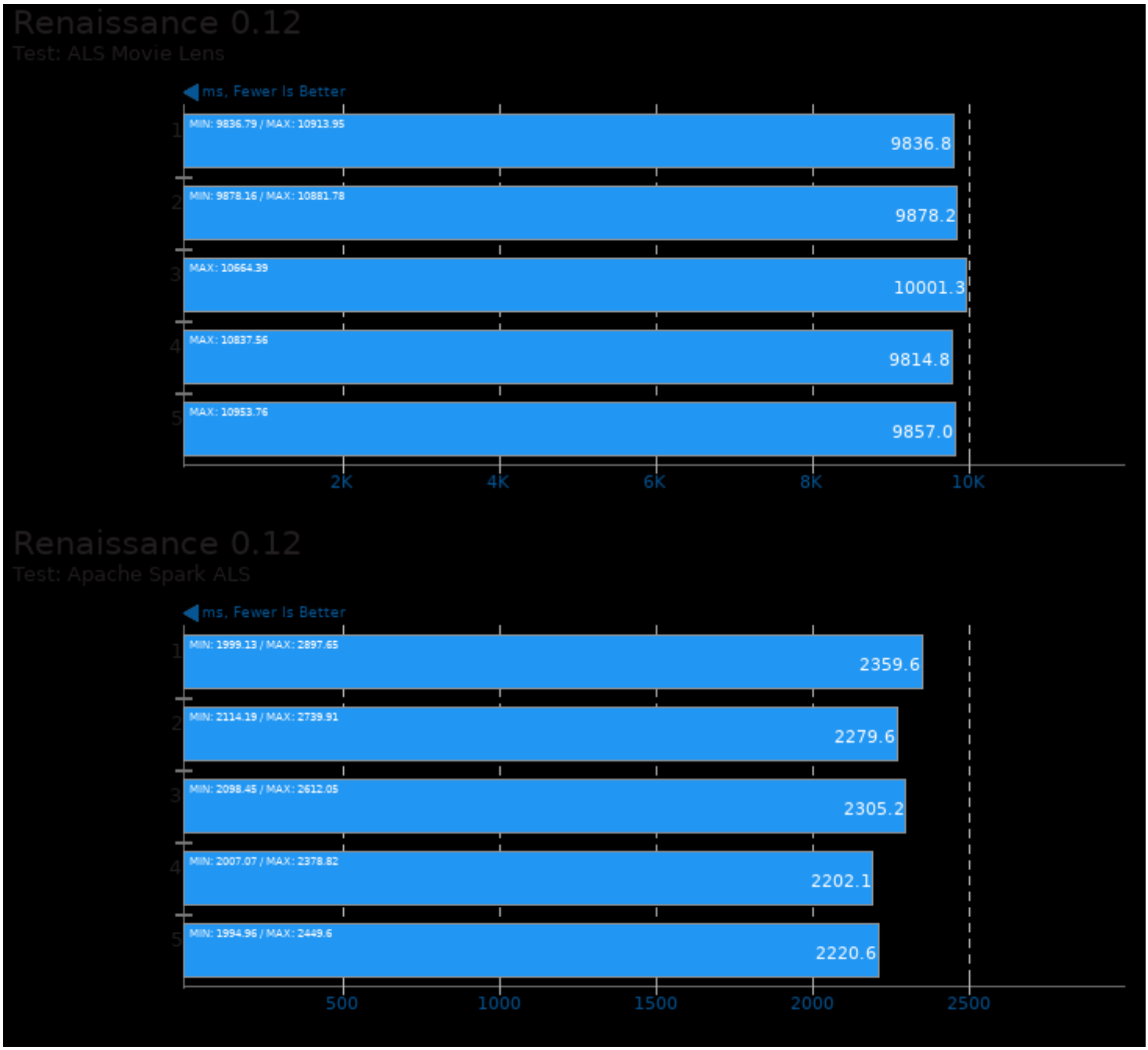
NCNN - Vulkan GPU - vgg16 (ms)	28.93	29.1	28.8	29.06	28.9
Normalized	99.55%	98.97%	100%	99.11%	99.65%
NCNN - Vulkan GPU - resnet18 (ms)	7.05	7.11	6.99	6.92	7.06
Normalized	98.16%	97.33%	99%	100%	98.02%
NCNN - Vulkan GPU - alexnet	10.29	10.43	10.39	10.33	10.38
Normalized	100%	98.66%	99.04%	99.61%	99.13%
NCNN - Vulkan GPU - resnet50 (ms)	15.32	15.16	15.32	15.2	15.23
Normalized	98.96%	100%	98.96%	99.74%	99.54%
NCNN - Vulkan GPU - yolov4-tiny (ms)	20	20.24	20	19.98	20.01
Normalized	99.9%	98.72%	99.9%	100%	99.85%
NCNN - Vulkan GPU - squeezenet_ssd (ms)	13.47	13.18	14.09	13.19	13.25
Normalized	97.85%	100%	93.54%	99.92%	99.47%
NCNN - Vulkan GPU - regnety_400m (ms)	10.19	10.37	10.12	10.34	10.15
Normalized	99.31%	97.59%	100%	97.87%	99.7%
TNN - CPU - DenseNet (ms)	3035	3024	3026	3035	3036
Normalized	99.64%	100%	99.93%	99.63%	99.61%
TNN - CPU - MobileNet v2 (ms)	306.266	305.278	306.189	305.568	304.27
Normalized	99.35%	99.67%	99.37%	99.58%	100%
TNN - CPU - SqueezeNet v2 (ms)	72.115	72.513	71.38	71.217	72.72
Normalized	98.75%	98.21%	99.77%	100%	97.93%
TNN - CPU - SqueezeNet v1.1 (ms)	256.355	256.485	256.321	256.303	260.288
Normalized	99.98%	99.93%	99.99%	100%	98.47%
Apache Cassandra - Reads	91943	105525	138409	102666	106201
Normalized	66.43%	76.24%	100%	74.18%	76.73%
Apache Cassandra - Writes	137190	130153	131113	131846	130920
Normalized	100%	94.87%	95.57%	96.1%	95.43%
Apache Cassandra - Mixed 1:1 (Op/s)	107795	98990	105033	109065	105682
Normalized	98.84%	90.76%	96.3%	100%	96.9%
Apache Cassandra - Mixed 1:3 (Op/s)	97181	105086	112837	96271	111614
Normalized	86.13%	93.13%	100%	85.32%	98.92%
Facebook RocksDB - Rand Fill (Op/s)	559506	629001	558560	563861	524031
Normalized	88.95%	100%	88.8%	89.64%	83.31%
Facebook RocksDB - Rand Read (Op/s)	105202520	106197835	107926092	110355654	108371044
Normalized	95.33%	96.23%	97.8%	100%	98.2%
Facebook RocksDB - Update Rand (Op/s)	516006	518649	497709	498715	515847
Normalized	99.49%	100%	95.96%	96.16%	99.46%
Facebook RocksDB - Seq Fill (Op/s)	629253	593316	654095	586679	662215
Normalized	95.02%	89.6%	98.77%	88.59%	100%

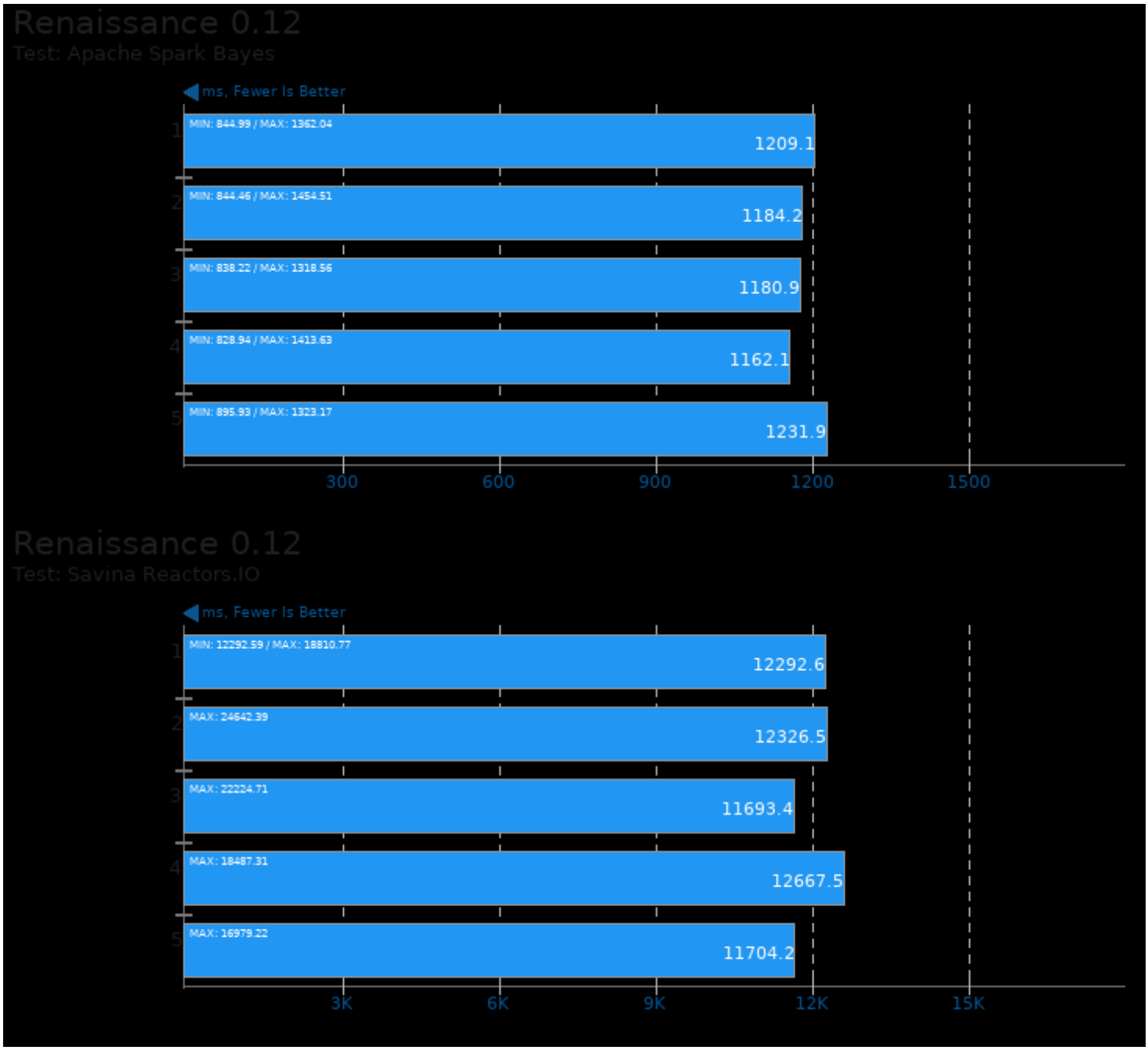
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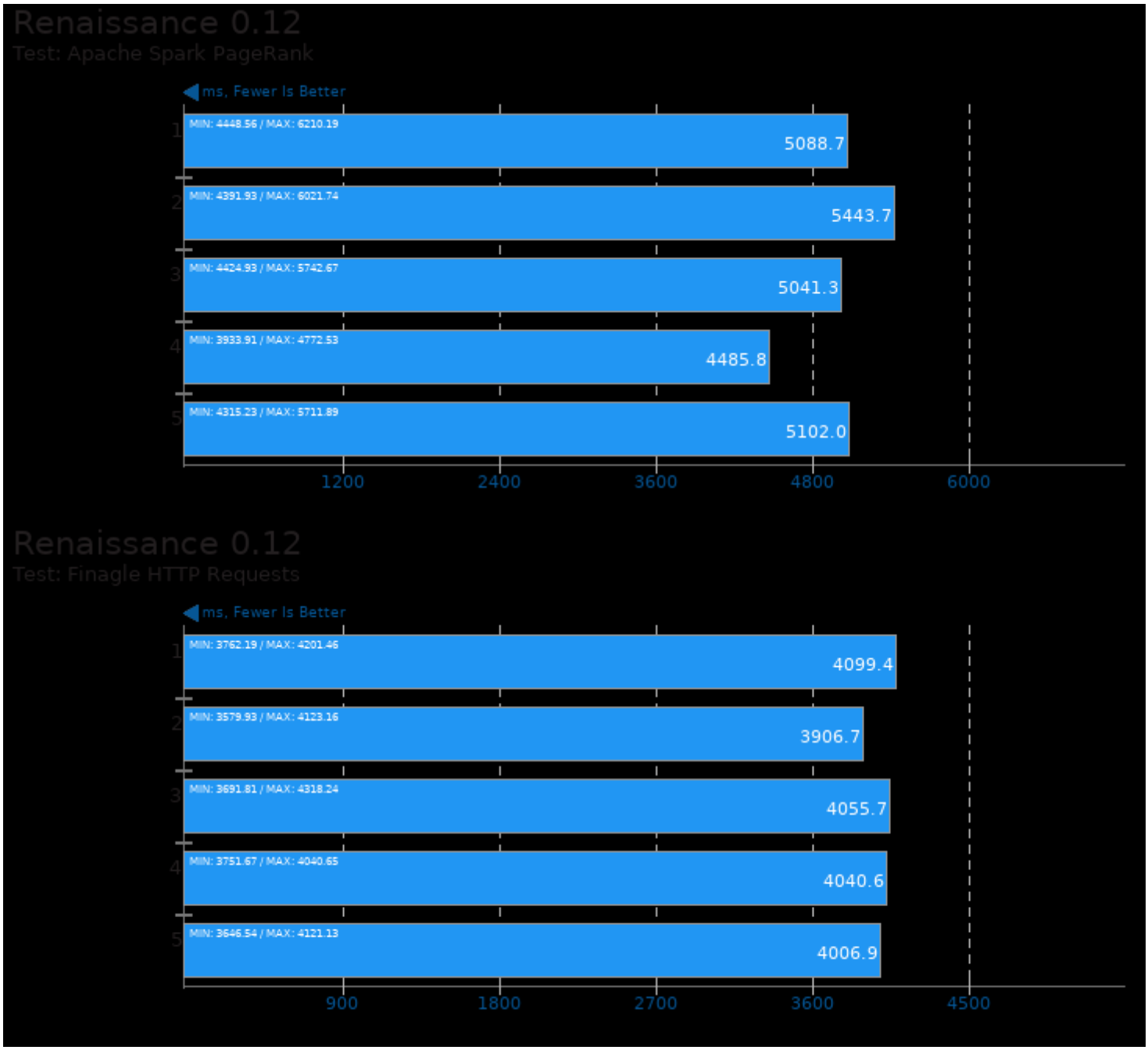
Facebook RocksDB - Rand Fill Sync (Op/s)	16365	17701	**12380**	**20282**	19465
Normalized	80.69%	87.27%	61.04%	100%	95.97%
Facebook RocksDB - Read While Writing (Op/s)	3684442	**3795875**	**3593614**	3656007	3634278
Normalized	97.06%	100%	94.67%	96.32%	95.74%
Facebook RocksDB - R.R.W.R (Op/s)	**1929291**	**2007692**	1985772	1986790	1986640
Normalized	96.09%	100%	98.91%	98.96%	98.95%
Natron - Spaceship (FPS)	**3.4**	3.2	3.3	3.2	**2.8**
Normalized	100%	94.12%	97.06%	94.12%	82.35%

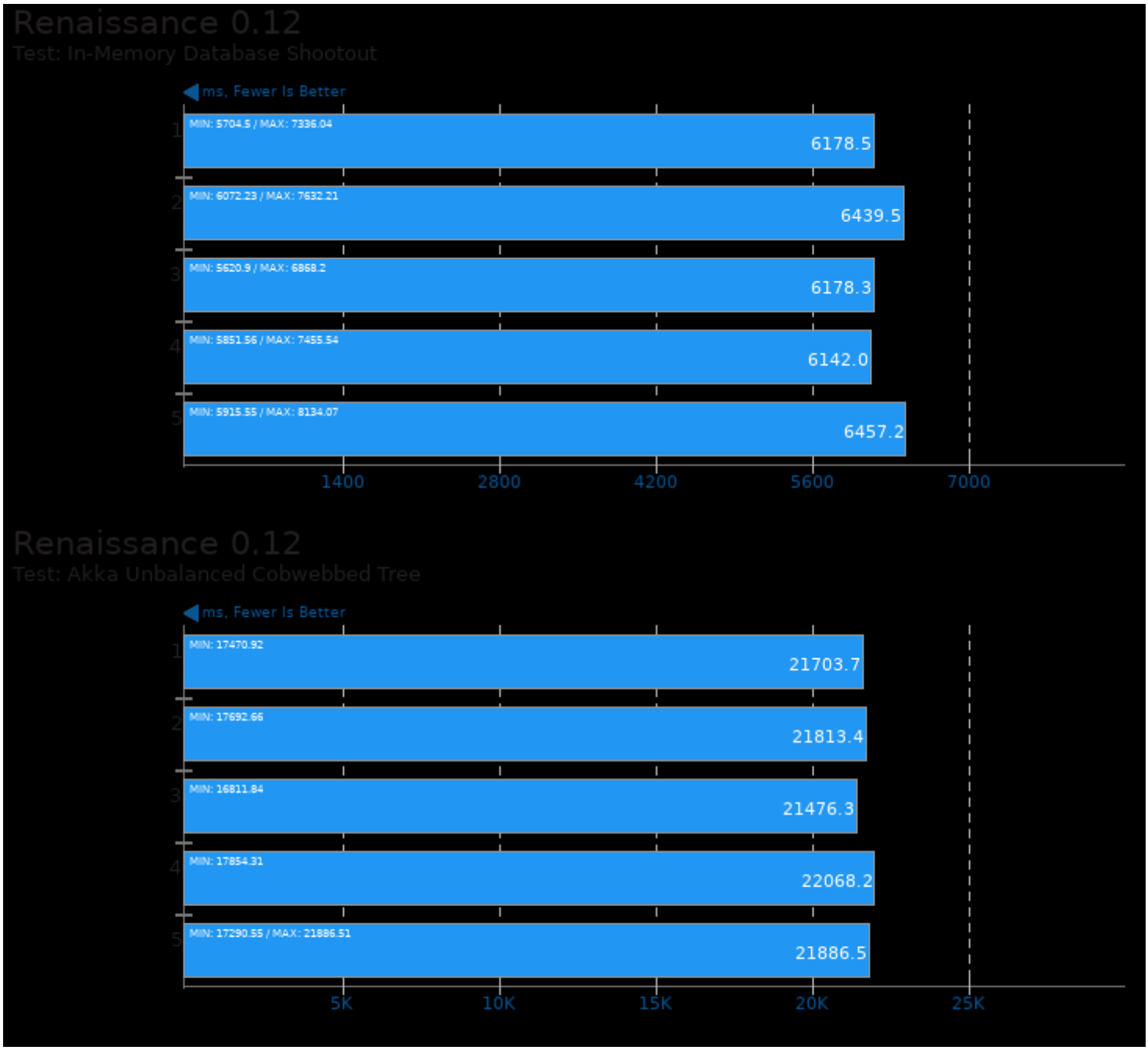

GravityMark 1.2
Resolution: 1920 x 1080 - Renderer: Vulkan
Frames Per Second, More Is Better
1
33.2
2
33.2
3
33.2
4
33.2
5
33.2
8
16
24
32
40
C-Blosc 2.0
Compressor: blosclz
MB/s, More Is Better
1
15950.7
2
15733.0
3
15895.6
4
16025.3
5
15930.8
3K
6K
9K
12K
15K
1. (CC) gcc options: -std=gnu99 -O3 -pthread -lrt -lm


Renaissance 0.12
Test: Scala Dotty
ms, Fewer Is Better
1
MIN: 869.98 / MAX: 1652.27
1132.9
2
MIN: 825.61 / MAX: 1673.04
1111.5
3
MIN: 789.12 / MAX: 1519.26
1038.3
4
MIN: 797.44 / MAX: 1715.9
968.0
5
MIN: 822.35 / MAX: 1656.11
965.4
200
400
600
800
1000
Renaissance 0.12
Test: Random Forest
ms, Fewer Is Better
1
MIN: 857.45 / MAX: 1097.17
920.0
2
MIN: 815.43 / MAX: 1071.54
892.7
3
MIN: 822.24 / MAX: 1077.32
902.9
4
MIN: 823.41 / MAX: 1100.48
911.1
5
MIN: 822.7 / MAX: 1078.04
891.3
200
400
600
800
1000


Renaissance 0.12
Test: ALS Movie Lens
ms, Fewer Is Better
1
MIN: 9836.79 / MAX: 10913.95
9836.8
2
MIN: 9878.16 / MAX: 10881.78
9878.2
3
MAX: 10664.39
10001.3
4
MAX: 10837.56
9814.8
5
MAX: 10953.76
9857.0
2K
4K
6K
8K
10K
Renaissance 0.12
Test: Apache Spark ALS
ms, Fewer Is Better
1
MIN: 1999.13 / MAX: 2897.65
2359.6
2
MIN: 2114.19 / MAX: 2739.91
2279.6
3
MIN: 2098.45 / MAX: 2612.05
2305.2
4
MIN: 2007.07 / MAX: 2378.82
2202.1
5
MIN: 1994.96 / MAX: 2449.6
2220.6
500
1000
1500
2000
2500

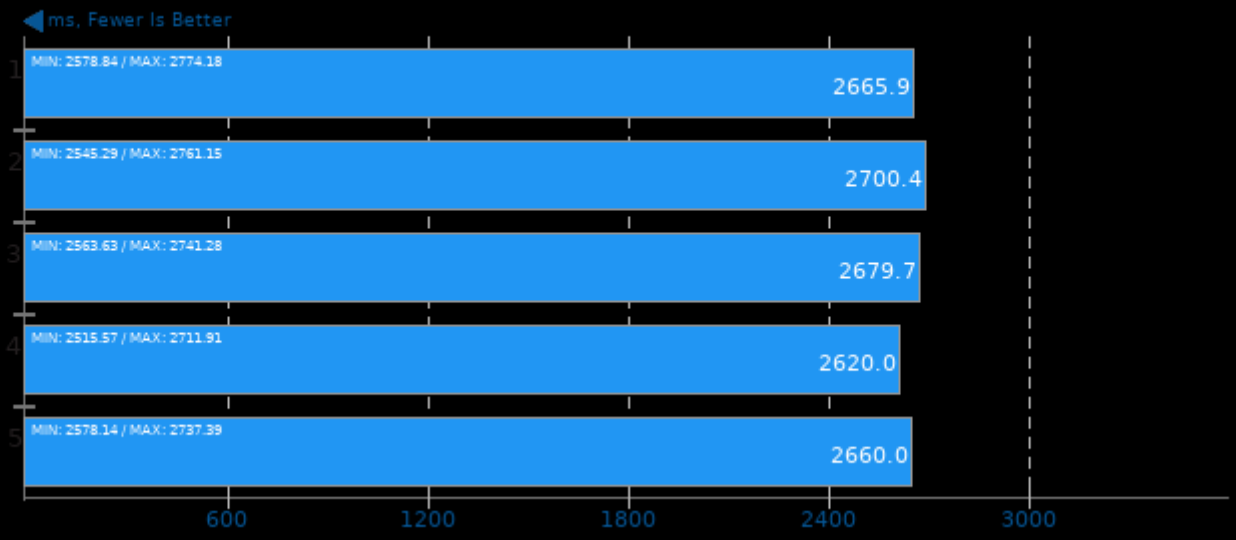

Renaissance 0.12
Test: Apache Spark Bayes
ms, Fewer Is Better
1
MIN: 844.99 / MAX: 1362.04
1209.1
2
MIN: 844.46 / MAX: 1454.51
1184.2
3
MIN: 838.22 / MAX: 1318.56
1180.9
4
MIN: 828.94 / MAX: 1413.63
1162.1
5
MIN: 895.93 / MAX: 1323.17
1231.9
300
600
900
1200
1500
Renaissance 0.12
Test: Savina Reactors.IO
ms, Fewer Is Better
1
MIN: 12292.59 / MAX: 18810.77
12292.6
2
MAX: 24642.39
12326.5
3
MAX: 22224.71
11693.4
4
MAX: 18487.31
12667.5
5
MAX: 16979.22
11704.2
3K
6K
9K
12K
15K


Renaissance 0.12
Test: Apache Spark PageRank
ms, Fewer Is Better
1
MIN: 4448.56 / MAX: 6210.19
5088.7
2
MIN: 4391.93 / MAX: 6021.74
5443.7
3
MIN: 4424.93 / MAX: 5742.67
5041.3
4
MIN: 3933.91 / MAX: 4772.53
4485.8
5
MIN: 4315.23 / MAX: 5711.89
5102.0
1200
2400
3600
4800
6000
Renaissance 0.12
Test: Finagle HTTP Requests
ms, Fewer Is Better
1
MIN: 3762.19 / MAX: 4201.46
4099.4
2
MIN: 3579.93 / MAX: 4123.16
3906.7
3
MIN: 3691.81 / MAX: 4318.24
4055.7
4
MIN: 3751.67 / MAX: 4040.65
4040.6
5
MIN: 3646.54 / MAX: 4121.13
4006.9
900
1800
2700
3600
4500


Renaissance 0.12
Test: In-Memory Database Shootout
ms, Fewer Is Better
1
MIN: 5704.5 / MAX: 7336.04
6178.5
2
MIN: 6072.23 / MAX: 7632.21
6439.5
3
MIN: 5620.9 / MAX: 6868.2
6178.3
4
MIN: 5851.56 / MAX: 7455.54
6142.0
5
MIN: 5915.55 / MAX: 8134.07
6457.2
1400
2800
4200
5600
7000
Renaissance 0.12
Test: Akka Unbalanced Cobwebbed Tree
ms, Fewer Is Better
1
MIN: 17470.92
21703.7
2
MIN: 17692.66
21813.4
3
MIN: 16811.84
21476.3
4
MIN: 17854.31
22068.2
5
MIN: 17290.55 / MAX: 21886.51
21886.5
5K
10K
15K
20K
25K

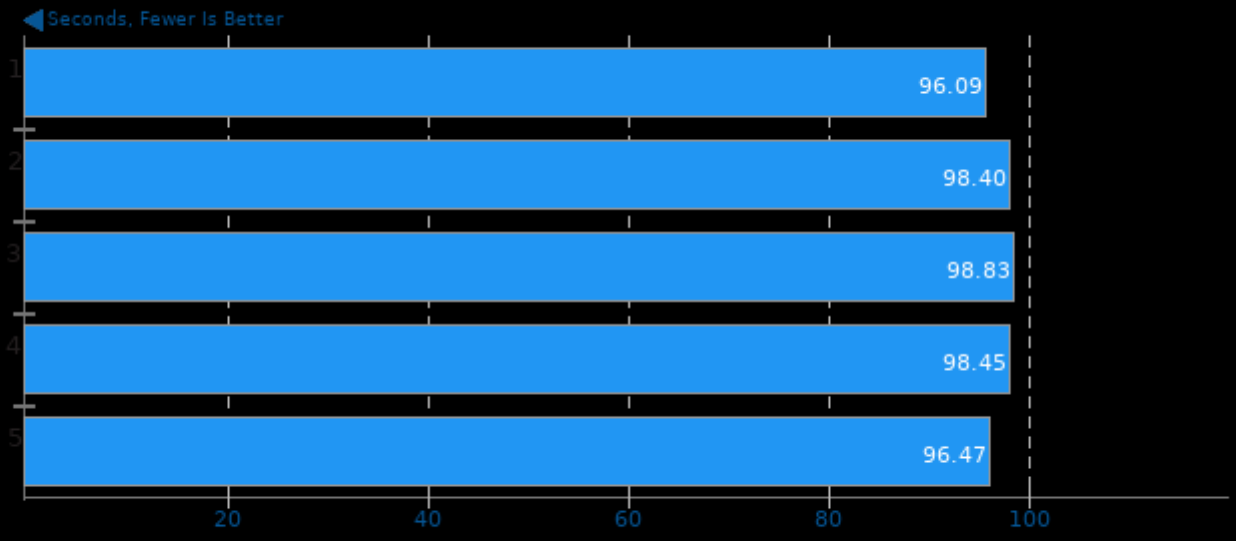
Renaissance 0.12

Test: Genetic Algorithm Using Jenetics + Futures

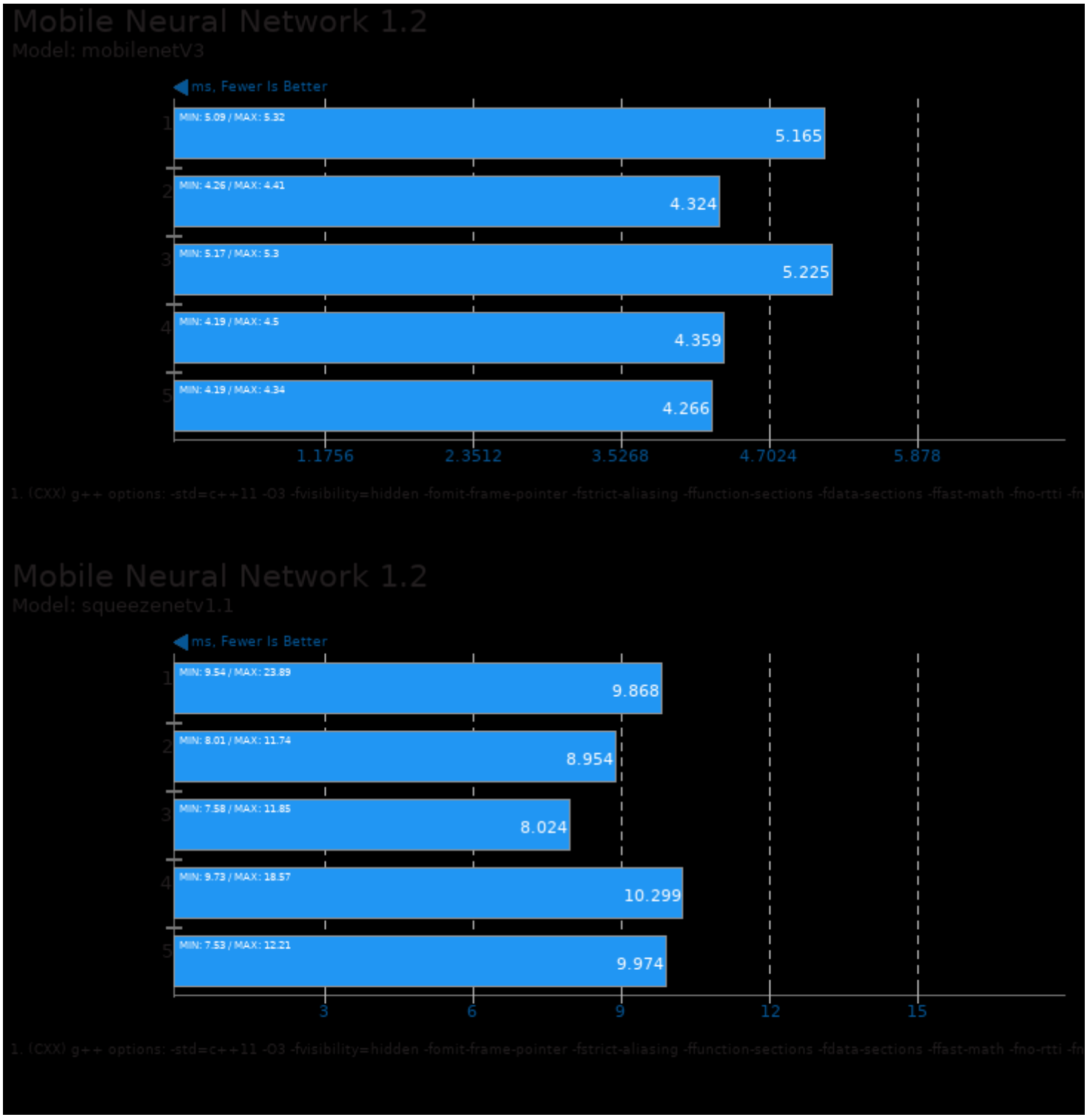


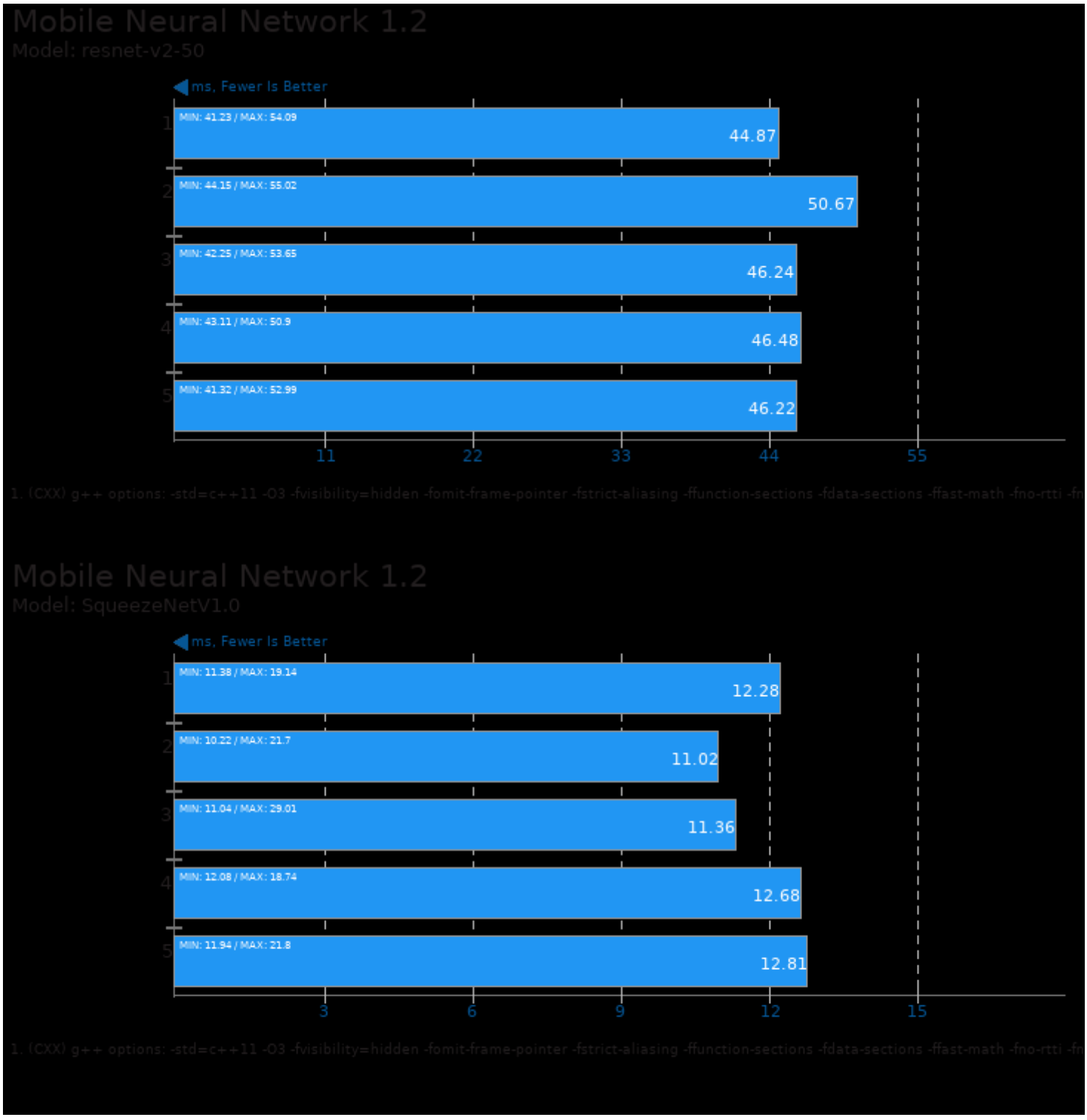
YafaRay 3.5.1

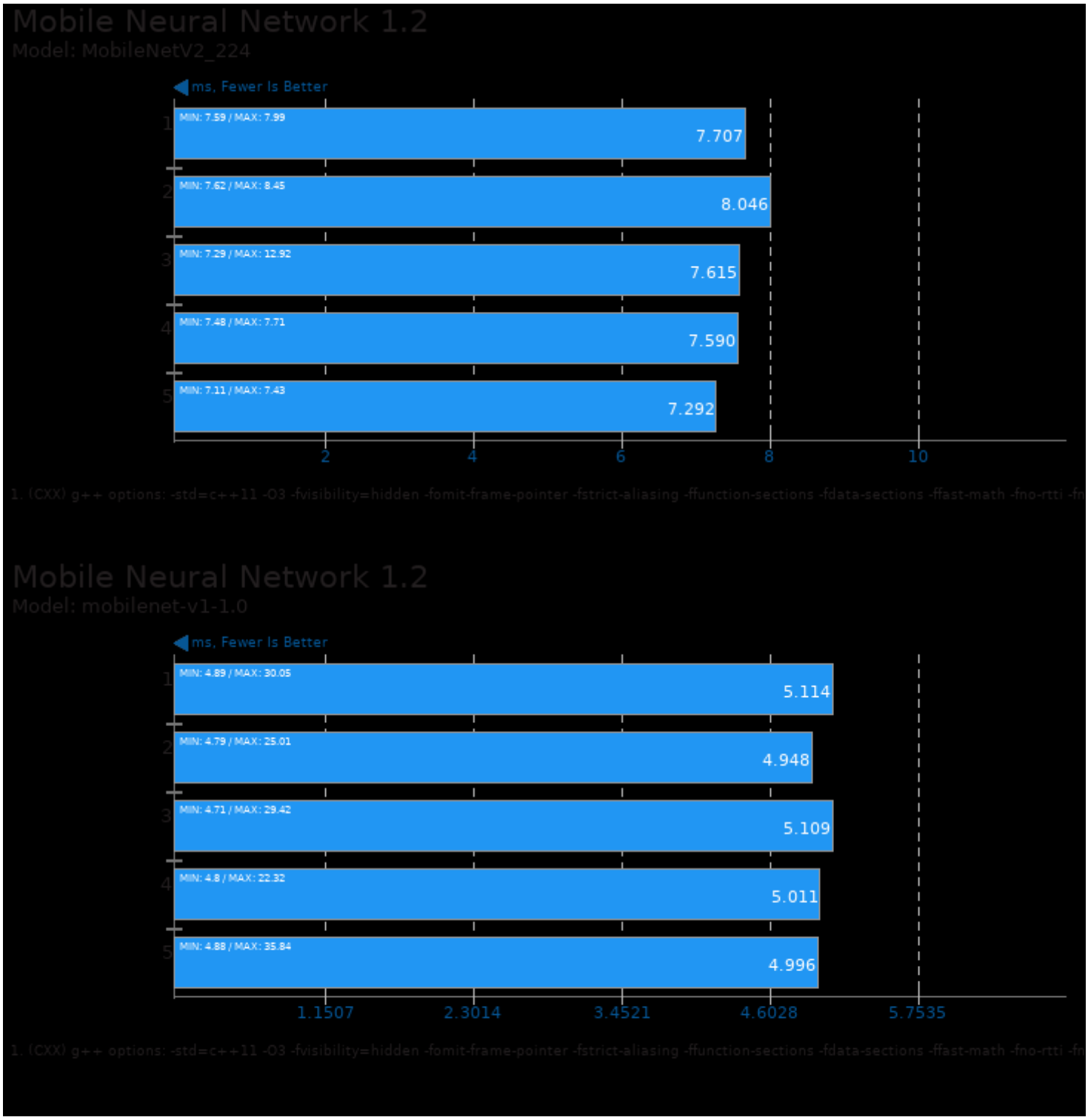
Total Time For Sample Scene

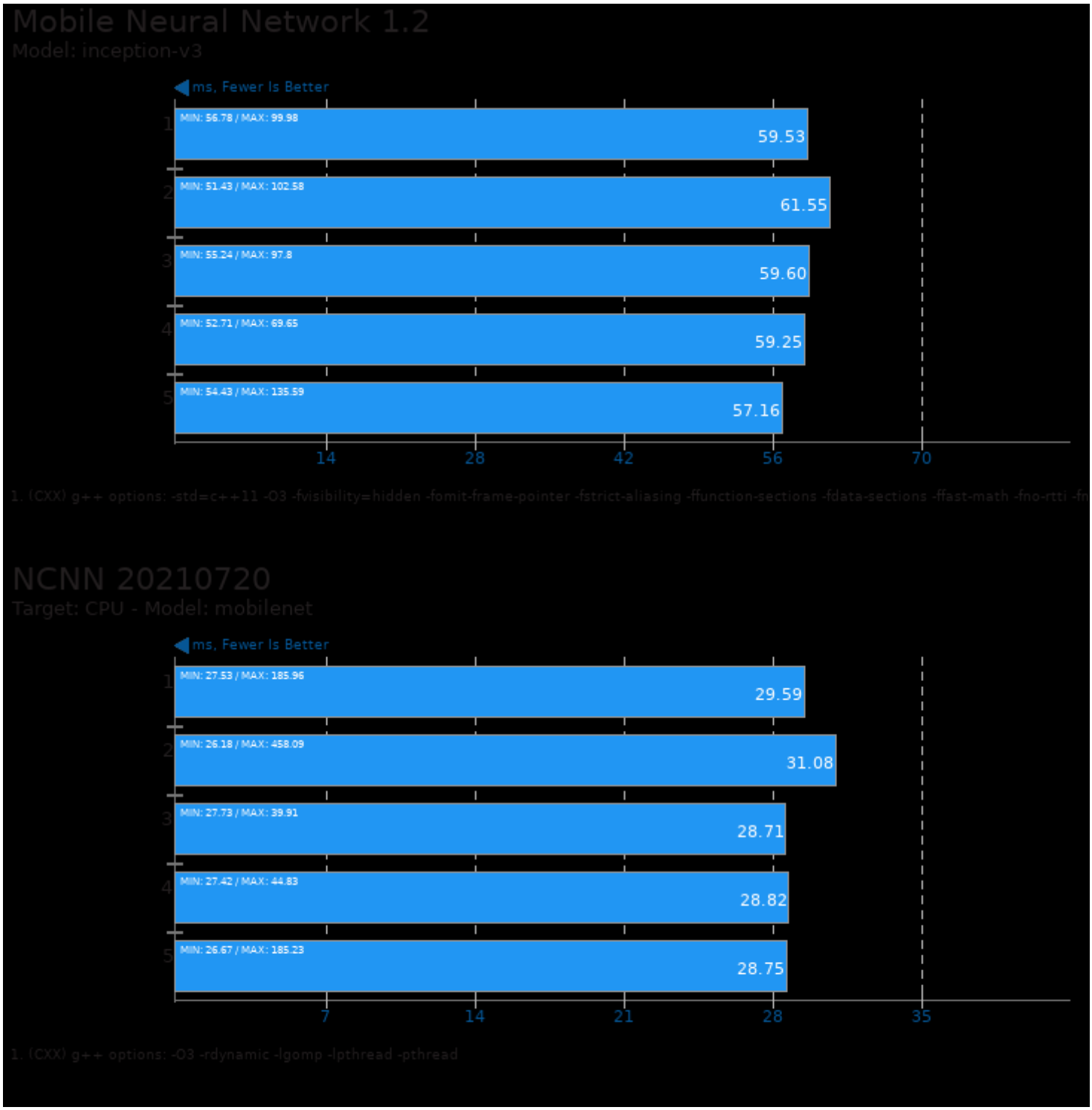


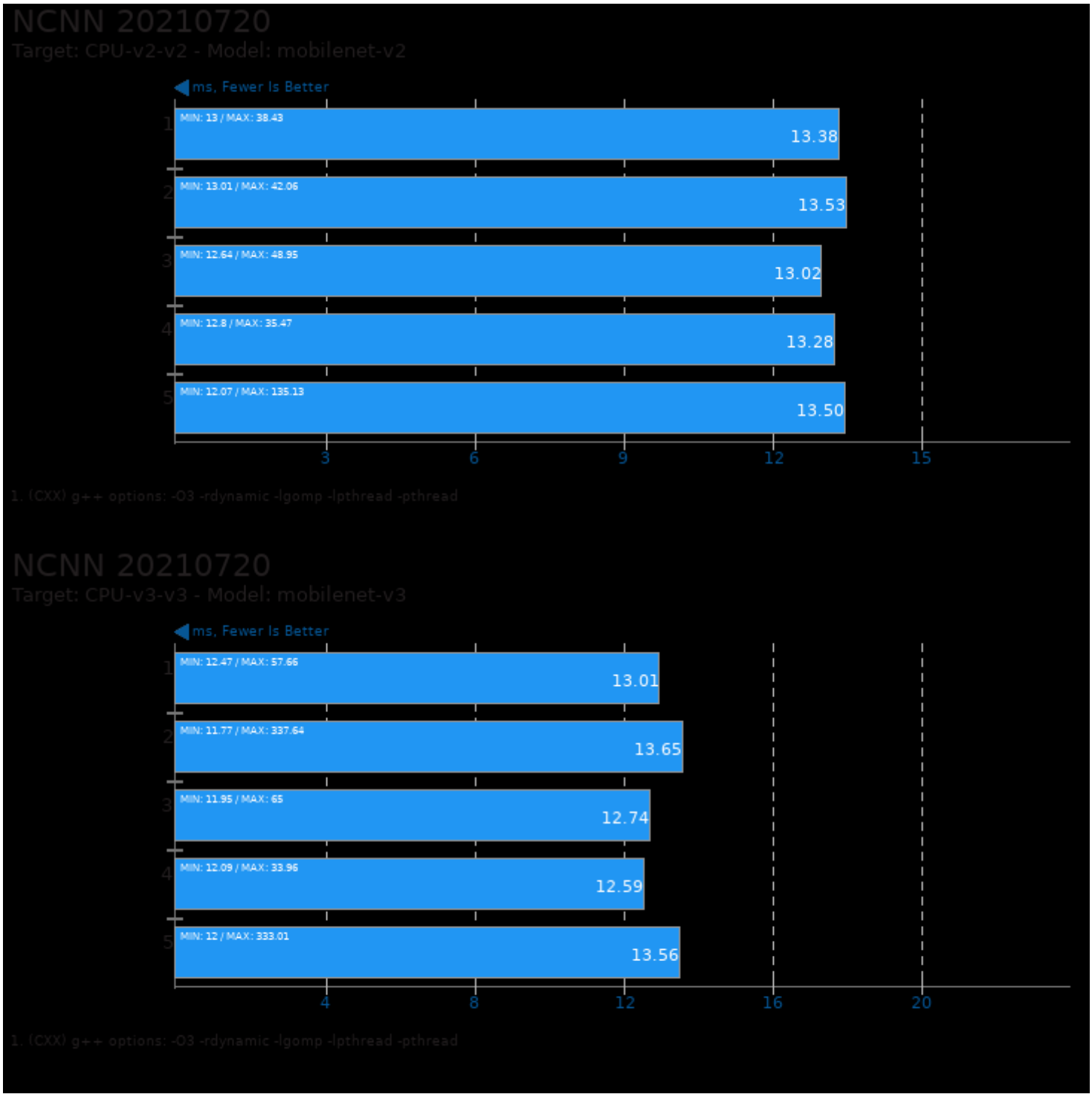
1. (CXX) g++ options: -std=c++11 -pthread -O3 -ffast-math -rdynamic -ldl -lImath -lIlmImf -lIex -lHalf -lz -lIlmThread -lxml2 -lfreetype

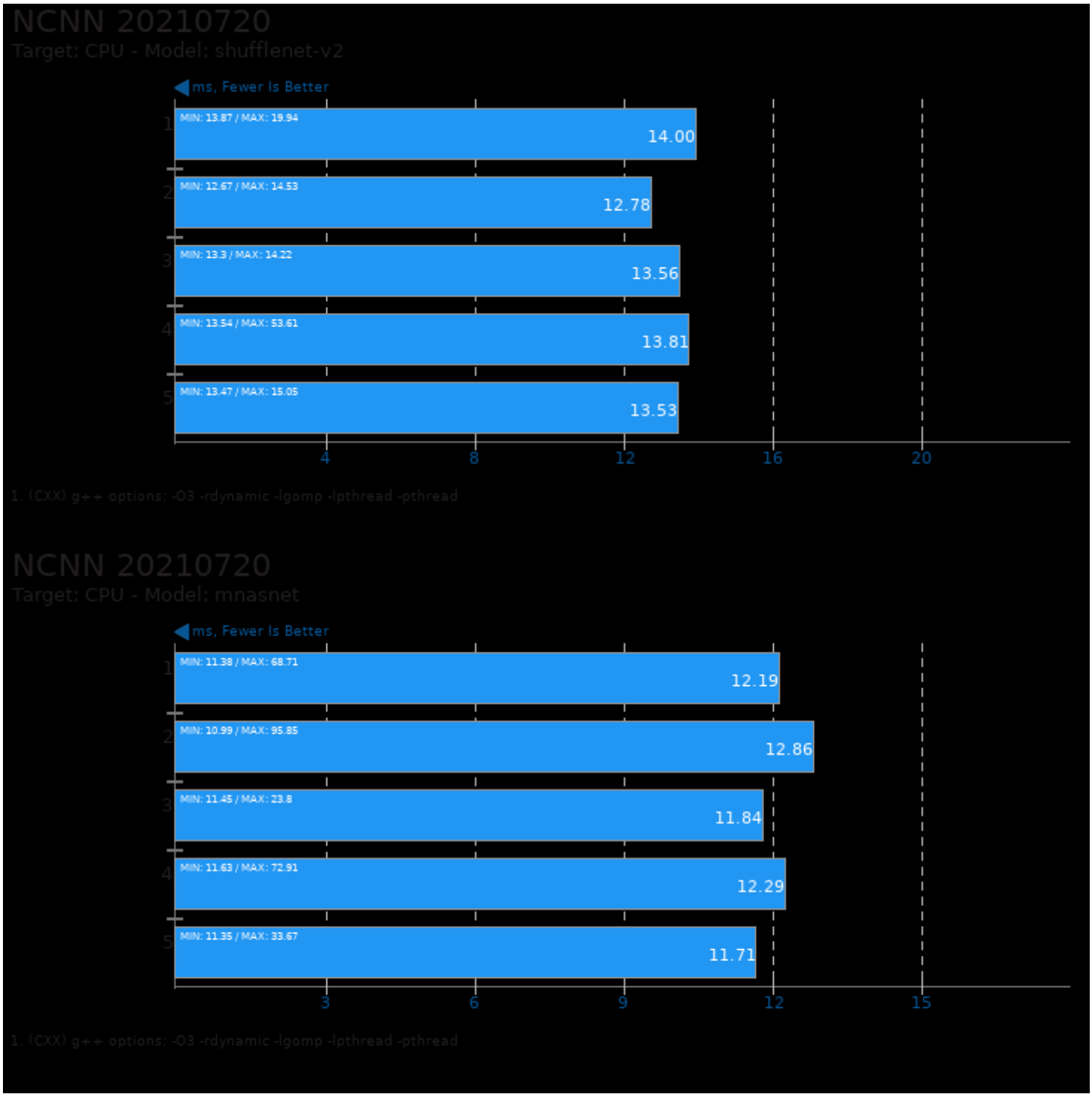

Mobile Neural Network 1.2
Model: mobilenetV3
ms, Fewer Is Better
1
MIN: 5.09 / MAX: 5.32
5.165
2
MIN: 4.26 / MAX: 4.41
4.324
3
MIN: 5.17 / MAX: 5.3
5.225
4
MIN: 4.19 / MAX: 4.5
4.359
5
MIN: 4.19 / MAX: 4.34
4.266
1.1756
2.3512
3.5268
4.7024
5.878
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.2
Model: squeezenetv1.1
ms, Fewer Is Better
1
MIN: 9.54 / MAX: 23.89
9.868
2
MIN: 8.01 / MAX: 11.74
8.954
3
MIN: 7.58 / MAX: 11.85
8.024
4
MIN: 9.73 / MAX: 18.57
10.299
5
MIN: 7.53 / MAX: 12.21
9.974
3
6
9
12
15
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

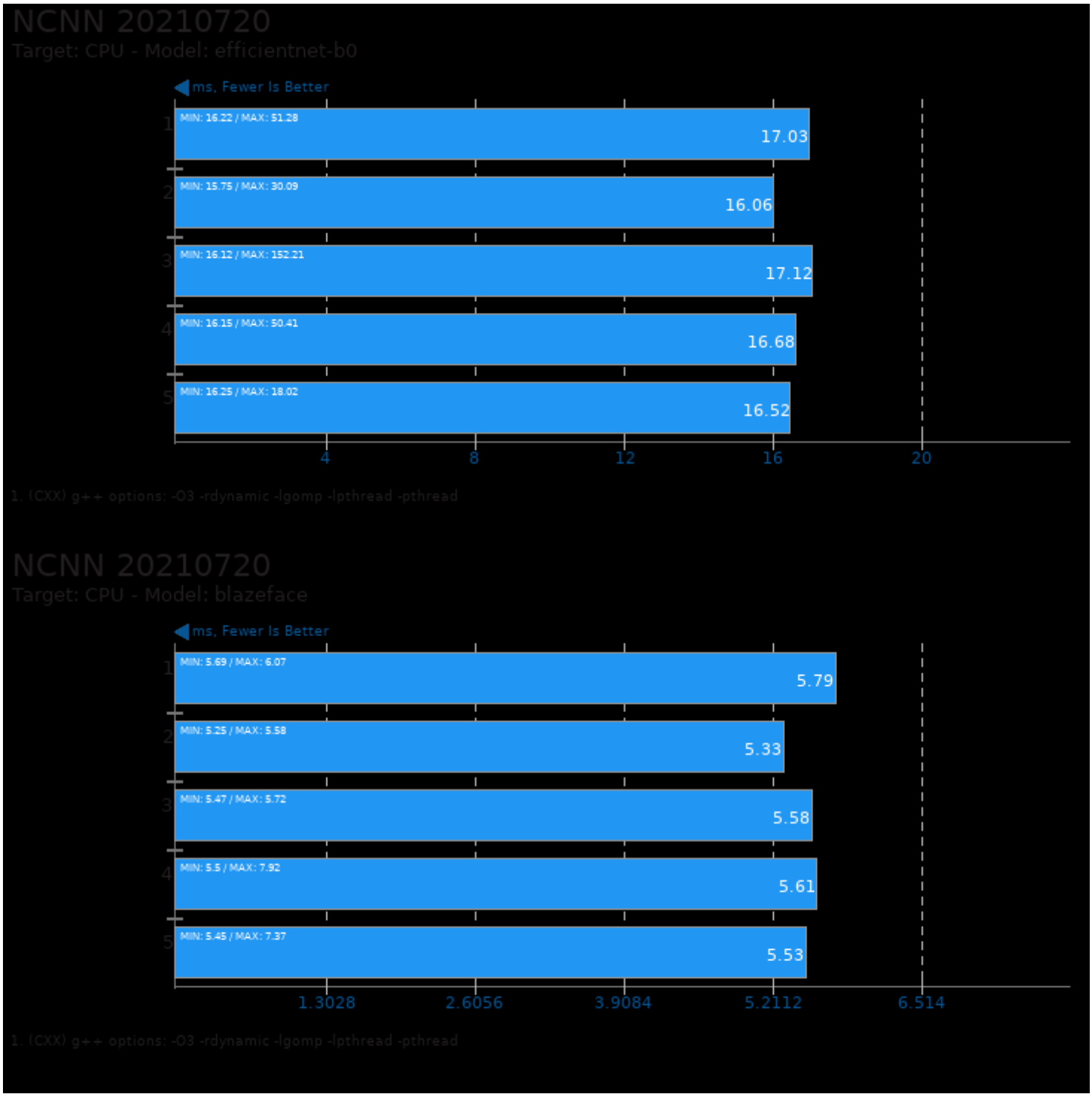

Mobile Neural Network 1.2
Model: resnet-v2-50
ms, Fewer Is Better
1
MIN: 41.23 / MAX: 54.09
44.87
2
MIN: 44.15 / MAX: 55.02
50.67
3
MIN: 42.25 / MAX: 53.65
46.24
4
MIN: 43.11 / MAX: 50.9
46.48
5
MIN: 41.32 / MAX: 52.99
46.22
11
22
33
44
55
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.2
Model: SqueezeNetV1.0
ms, Fewer Is Better
1
MIN: 11.38 / MAX: 19.14
12.28
2
MIN: 10.22 / MAX: 21.7
11.02
3
MIN: 11.04 / MAX: 29.01
11.36
4
MIN: 12.08 / MAX: 18.74
12.68
5
MIN: 11.94 / MAX: 21.8
12.81
3
6
9
12
15
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

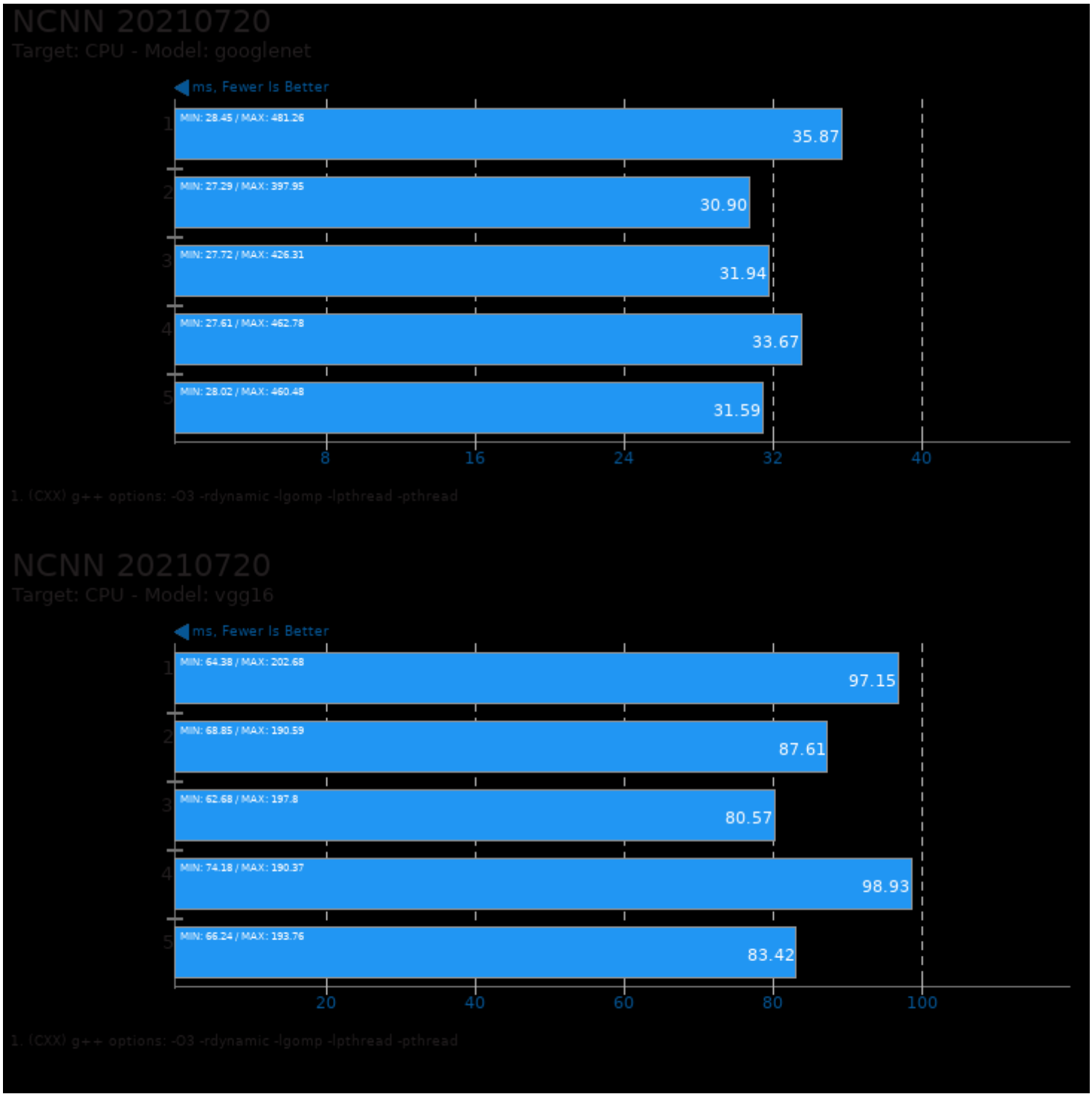

Mobile Neural Network 1.2
Model: MobileNetV2_224
ms, Fewer Is Better
1
MIN: 7.59 / MAX: 7.99
7.707
2
MIN: 7.62 / MAX: 8.45
8.046
3
MIN: 7.29 / MAX: 12.92
7.615
4
MIN: 7.48 / MAX: 7.71
7.590
5
MIN: 7.11 / MAX: 7.43
7.292
2
4
6
8
10
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.2
Model: mobilenet-v1-1.0
ms, Fewer Is Better
1
MIN: 4.89 / MAX: 30.05
5.114
2
MIN: 4.79 / MAX: 25.01
4.948
3
MIN: 4.71 / MAX: 29.42
5.109
4
MIN: 4.8 / MAX: 22.32
5.011
5
MIN: 4.88 / MAX: 35.84
4.996
1.1507
2.3014
3.4521
4.6028
5.7535
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

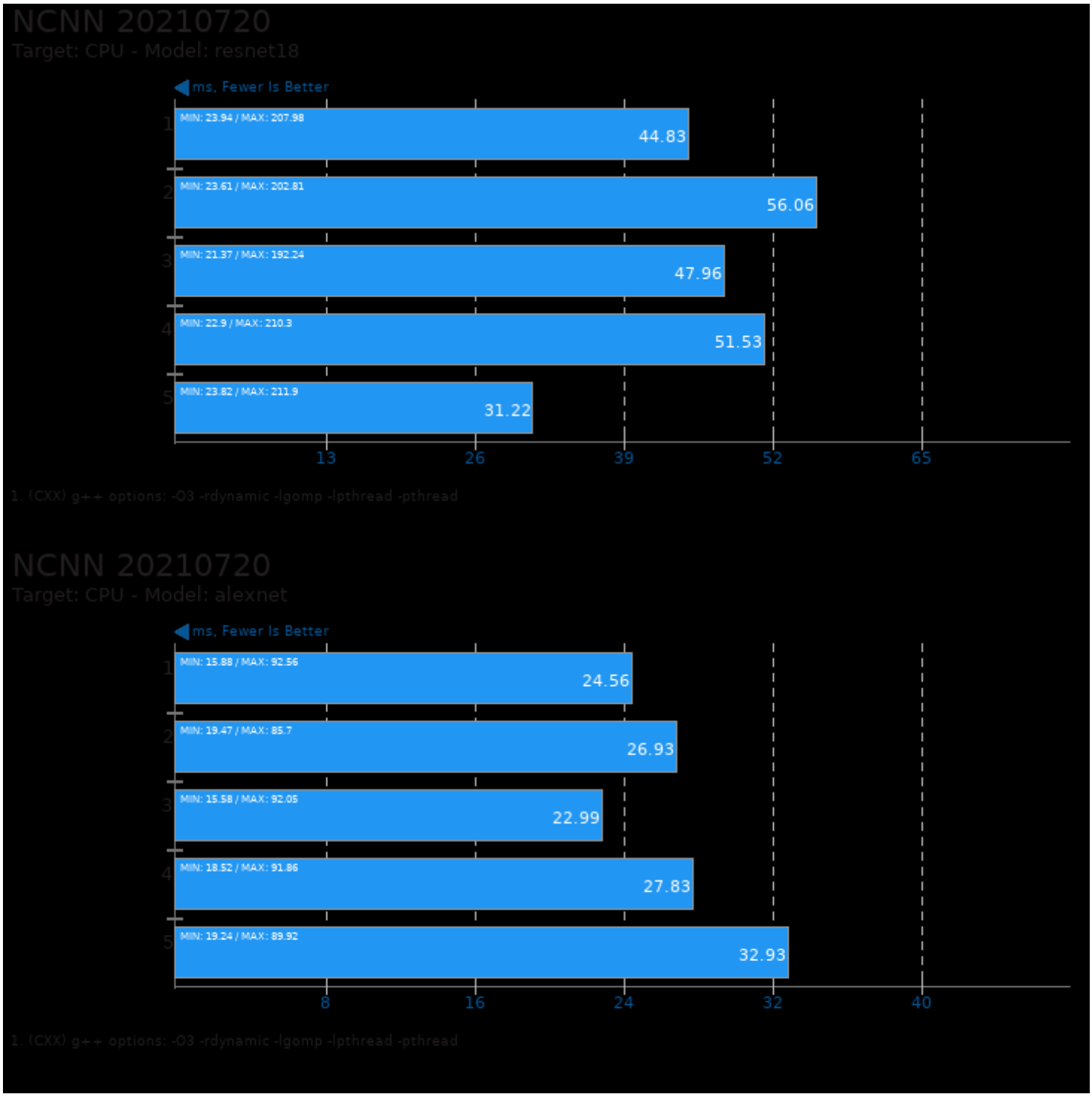

Mobile Neural Network 1.2
Model: inception-v3
ms, Fewer Is Better
1
MIN: 56.78 / MAX: 99.98
59.53
2
MIN: 51.43 / MAX: 102.58
61.55
3
MIN: 55.24 / MAX: 97.8
59.60
4
MIN: 52.71 / MAX: 69.65
59.25
5
MIN: 54.43 / MAX: 135.59
57.16
14
28
42
56
70
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
NCNN 20210720
Target: CPU - Model: mobilenet
ms, Fewer Is Better
1
MIN: 27.53 / MAX: 185.96
29.59
2
MIN: 26.18 / MAX: 458.09
31.08
3
MIN: 27.73 / MAX: 39.91
28.71
4
MIN: 27.42 / MAX: 44.83
28.82
5
MIN: 26.67 / MAX: 185.23
28.75
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

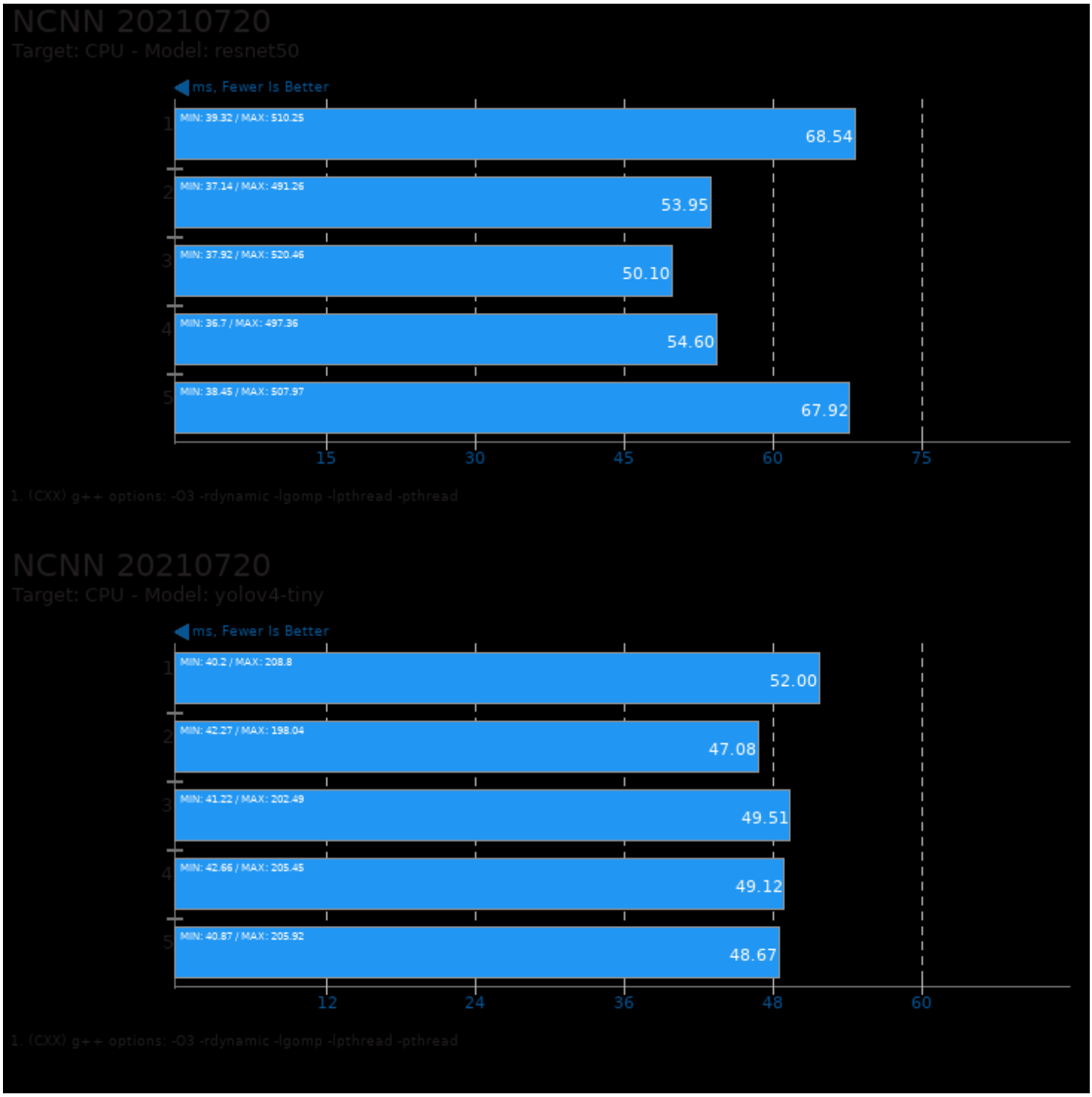

NCNN 20210720
Target: CPU-v2-v2 - Model: mobilenet-v2
ms, Fewer Is Better
1
MIN: 13 / MAX: 38.43
13.38
2
MIN: 13.01 / MAX: 42.06
13.53
3
MIN: 12.64 / MAX: 48.95
13.02
4
MIN: 12.8 / MAX: 35.47
13.28
5
MIN: 12.07 / MAX: 135.13
13.50
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU-v3-v3 - Model: mobilenet-v3
ms, Fewer Is Better
1
MIN: 12.47 / MAX: 57.66
13.01
2
MIN: 11.77 / MAX: 337.64
13.65
3
MIN: 11.95 / MAX: 65
12.74
4
MIN: 12.09 / MAX: 33.96
12.59
5
MIN: 12 / MAX: 333.01
13.56
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

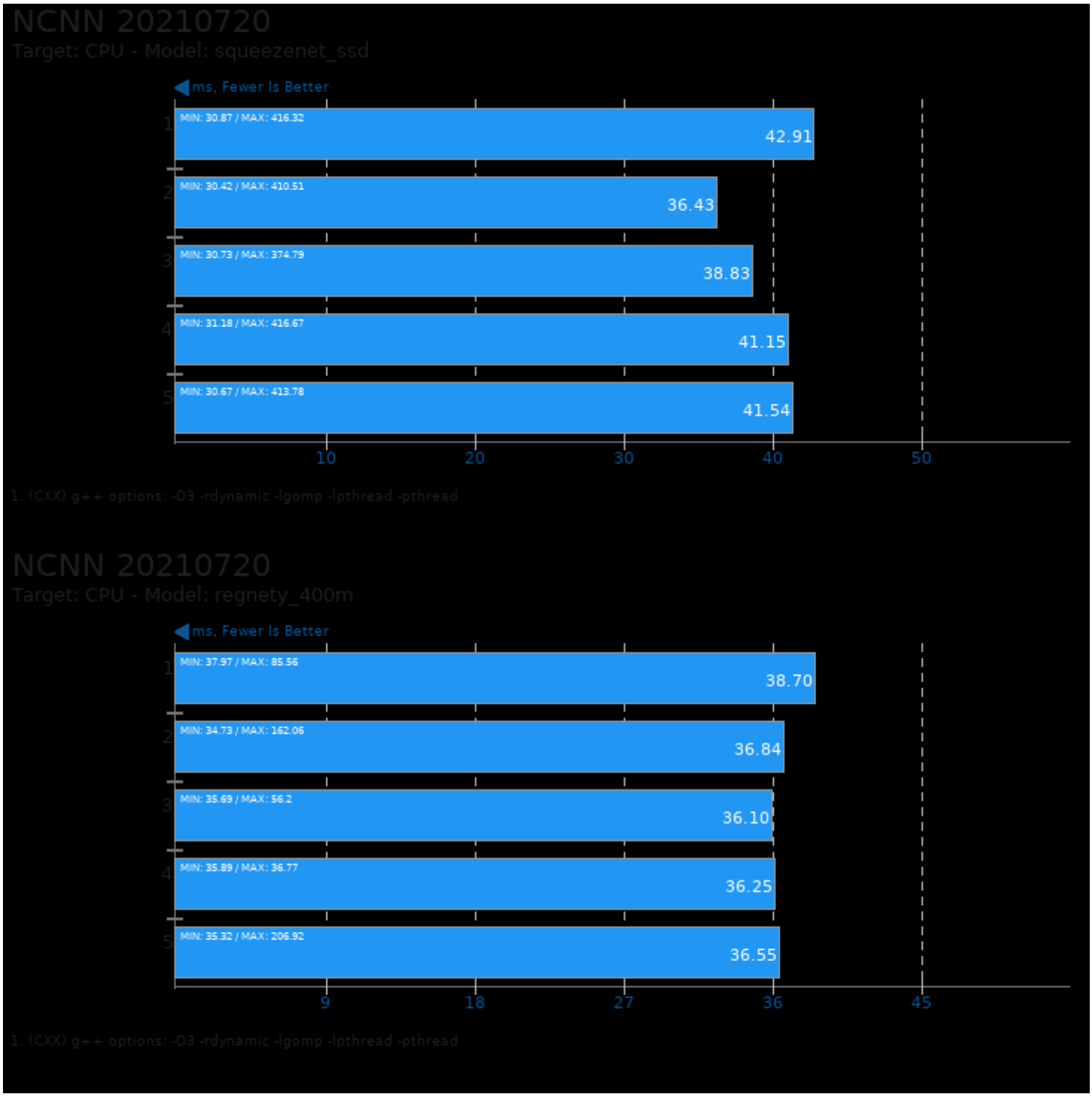

NCNN 20210720
Target: CPU - Model: shufflenet-v2
ms, Fewer Is Better
1
MIN: 13.87 / MAX: 19.94
14.00
2
MIN: 12.67 / MAX: 14.53
12.78
3
MIN: 13.3 / MAX: 14.22
13.56
4
MIN: 13.54 / MAX: 53.61
13.81
5
MIN: 13.47 / MAX: 15.05
13.53
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: mnasnet
ms, Fewer Is Better
1
MIN: 11.38 / MAX: 68.71
12.19
2
MIN: 10.99 / MAX: 95.85
12.86
3
MIN: 11.45 / MAX: 23.8
11.84
4
MIN: 11.63 / MAX: 72.91
12.29
5
MIN: 11.35 / MAX: 33.67
11.71
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

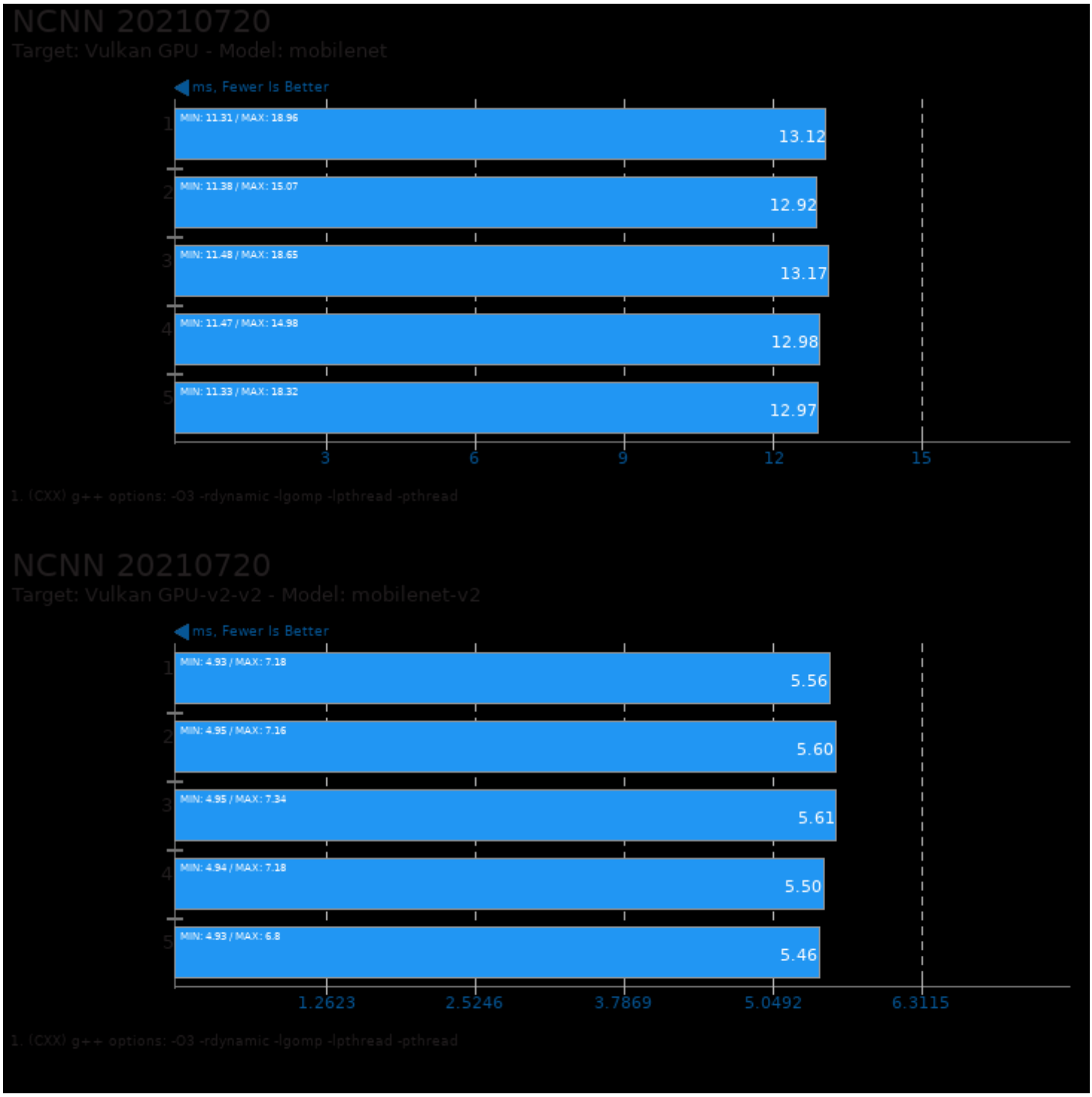

NCNN 20210720
Target: CPU - Model: efficientnet-b0
ms, Fewer Is Better
1
MIN: 16.22 / MAX: 51.28
17.03
2
MIN: 15.75 / MAX: 30.09
16.06
3
MIN: 16.12 / MAX: 152.21
17.12
4
MIN: 16.15 / MAX: 50.41
16.68
5
MIN: 16.25 / MAX: 18.02
16.52
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: blazeface
ms, Fewer Is Better
1
MIN: 5.69 / MAX: 6.07
5.79
2
MIN: 5.25 / MAX: 5.58
5.33
3
MIN: 5.47 / MAX: 5.72
5.58
4
MIN: 5.5 / MAX: 7.92
5.61
5
MIN: 5.45 / MAX: 7.37
5.53
1.3028
2.6056
3.9084
5.2112
6.514
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

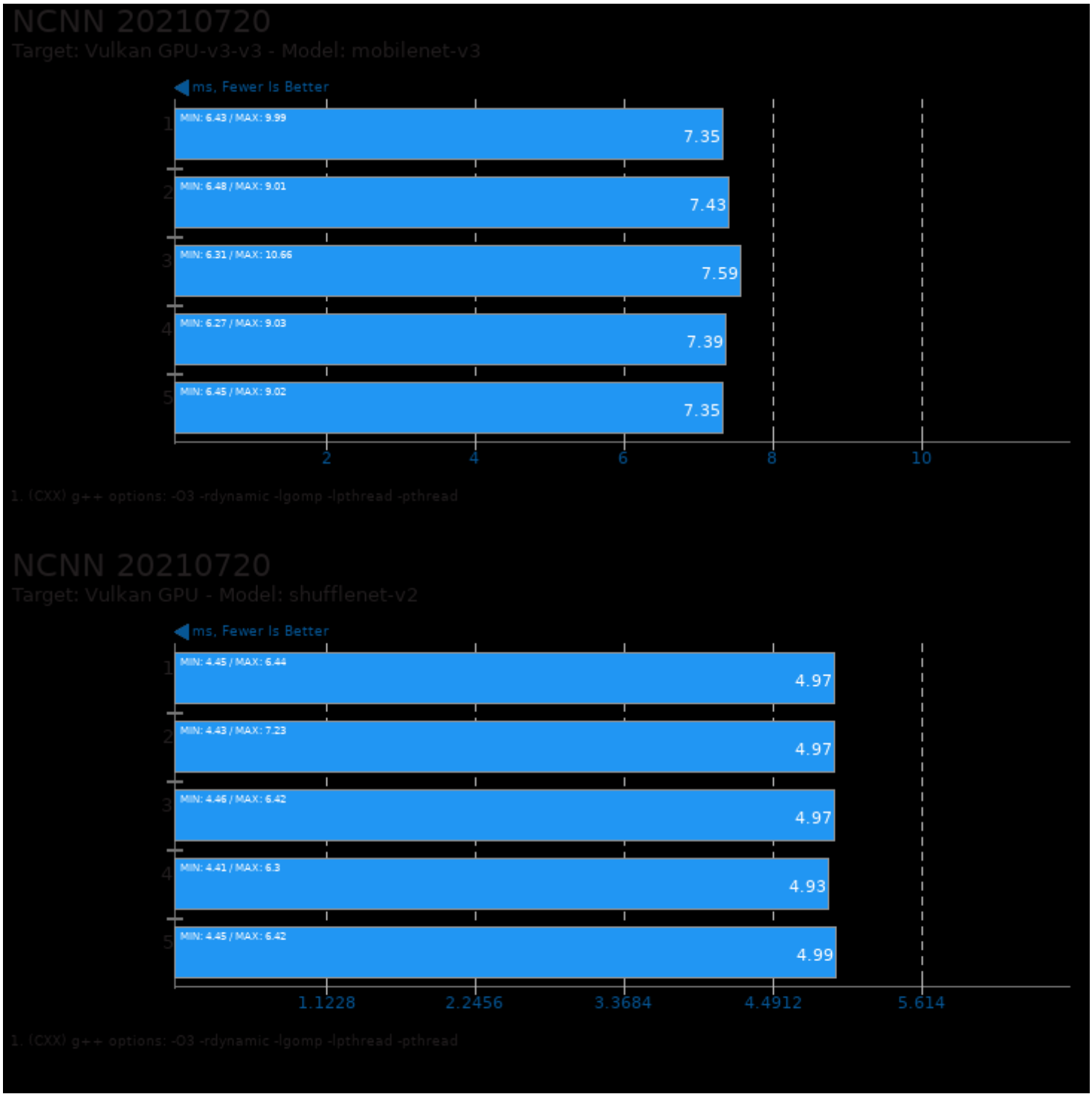

NCNN 20210720
Target: CPU - Model: googlenet
ms, Fewer Is Better
1
MIN: 28.45 / MAX: 481.26
35.87
2
MIN: 27.29 / MAX: 397.95
30.90
3
MIN: 27.72 / MAX: 426.31
31.94
4
MIN: 27.61 / MAX: 462.78
33.67
5
MIN: 28.02 / MAX: 460.48
31.59
8
16
24
32
40
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: vgg16
ms, Fewer Is Better
1
MIN: 64.38 / MAX: 202.68
97.15
2
MIN: 68.85 / MAX: 190.59
87.61
3
MIN: 62.68 / MAX: 197.8
80.57
4
MIN: 74.18 / MAX: 190.37
98.93
5
MIN: 66.24 / MAX: 193.76
83.42
20
40
60
80
100
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

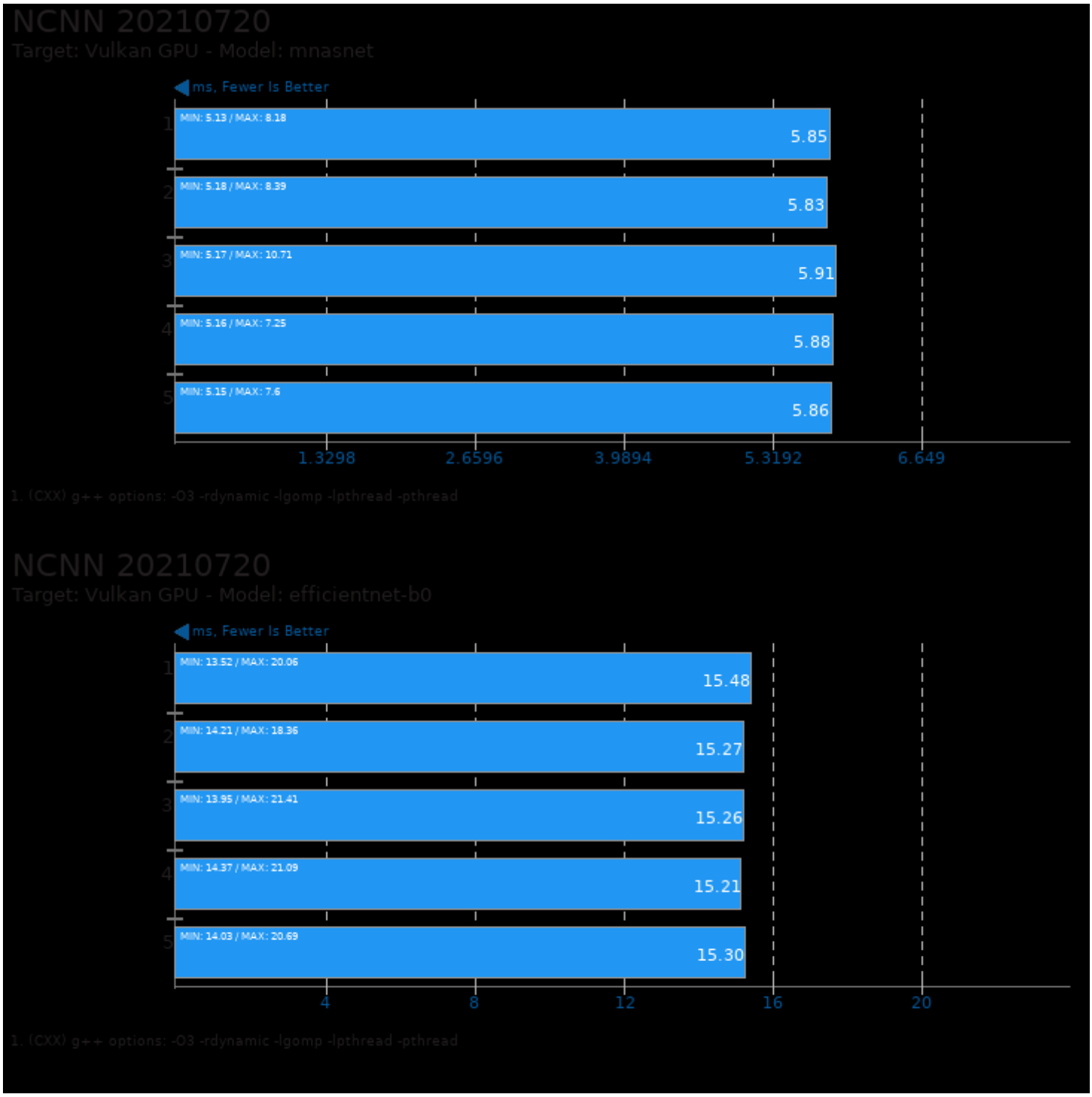

NCNN 20210720
Target: CPU - Model: resnet18
ms, Fewer Is Better
MIN: 23.94 / MAX: 207.98
44.83
MIN: 23.61 / MAX: 202.81
56.06
MIN: 21.37 / MAX: 192.24
47.96
MIN: 22.9 / MAX: 210.3
51.53
MIN: 23.82 / MAX: 211.9
31.22
13
26
39
52
65
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: alexnet
ms, Fewer Is Better
MIN: 15.88 / MAX: 92.56
24.56
MIN: 19.47 / MAX: 85.7
26.93
MIN: 15.58 / MAX: 92.05
22.99
MIN: 18.52 / MAX: 91.86
27.83
MIN: 19.24 / MAX: 89.92
32.93
8
16
24
32
40
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

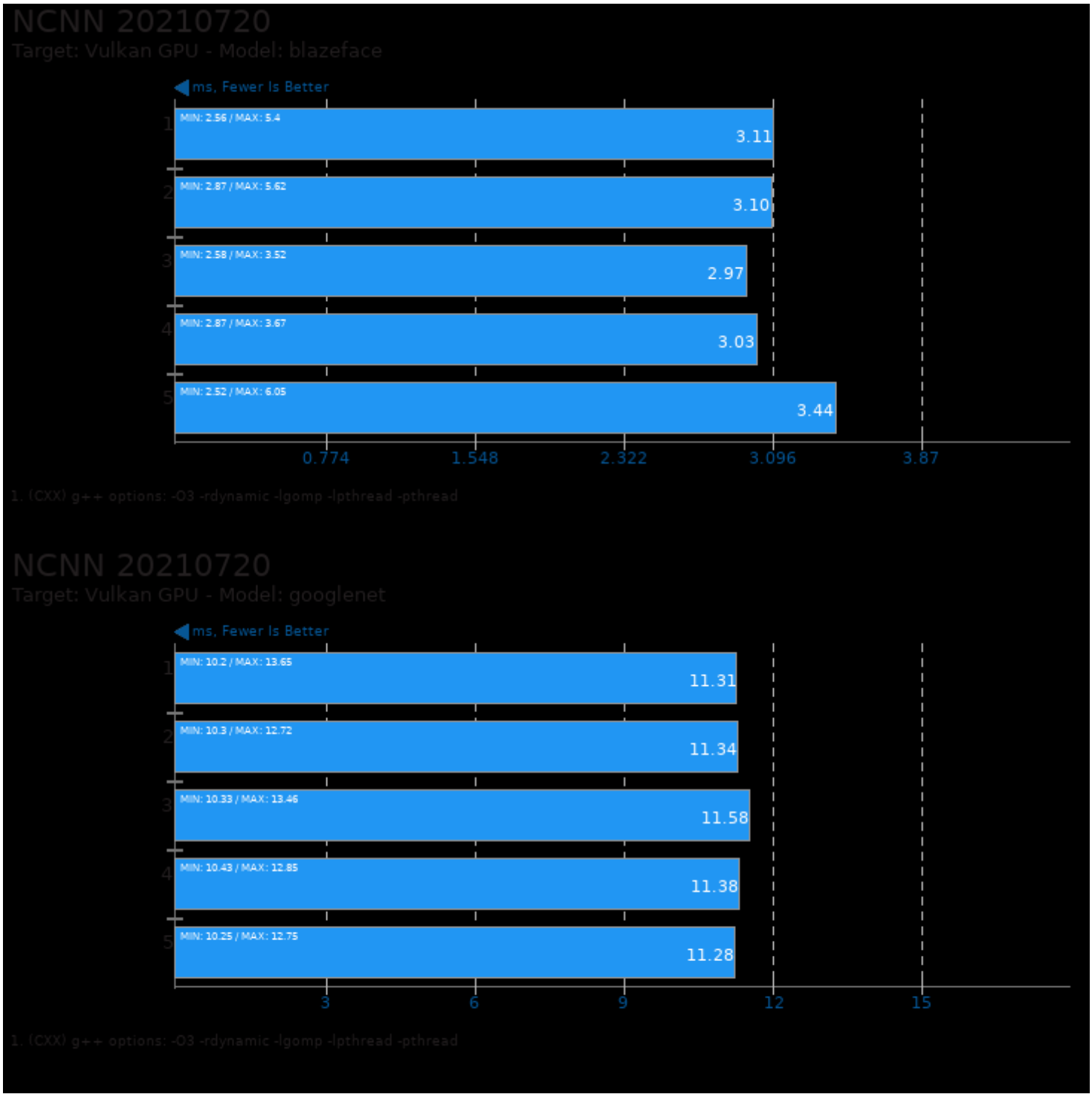

NCNN 20210720
Target: CPU - Model: resnet50
ms, Fewer Is Better
1
MIN: 39.32 / MAX: 510.25
68.54
2
MIN: 37.14 / MAX: 491.26
53.95
3
MIN: 37.92 / MAX: 520.46
50.10
4
MIN: 36.7 / MAX: 497.36
54.60
5
MIN: 38.45 / MAX: 507.97
67.92
15
30
45
60
75
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: yolov4-tiny
ms, Fewer Is Better
1
MIN: 40.2 / MAX: 208.8
52.00
2
MIN: 42.27 / MAX: 198.04
47.08
3
MIN: 41.22 / MAX: 202.49
49.51
4
MIN: 42.66 / MAX: 205.45
49.12
5
MIN: 40.87 / MAX: 205.92
48.67
12
24
36
48
60
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

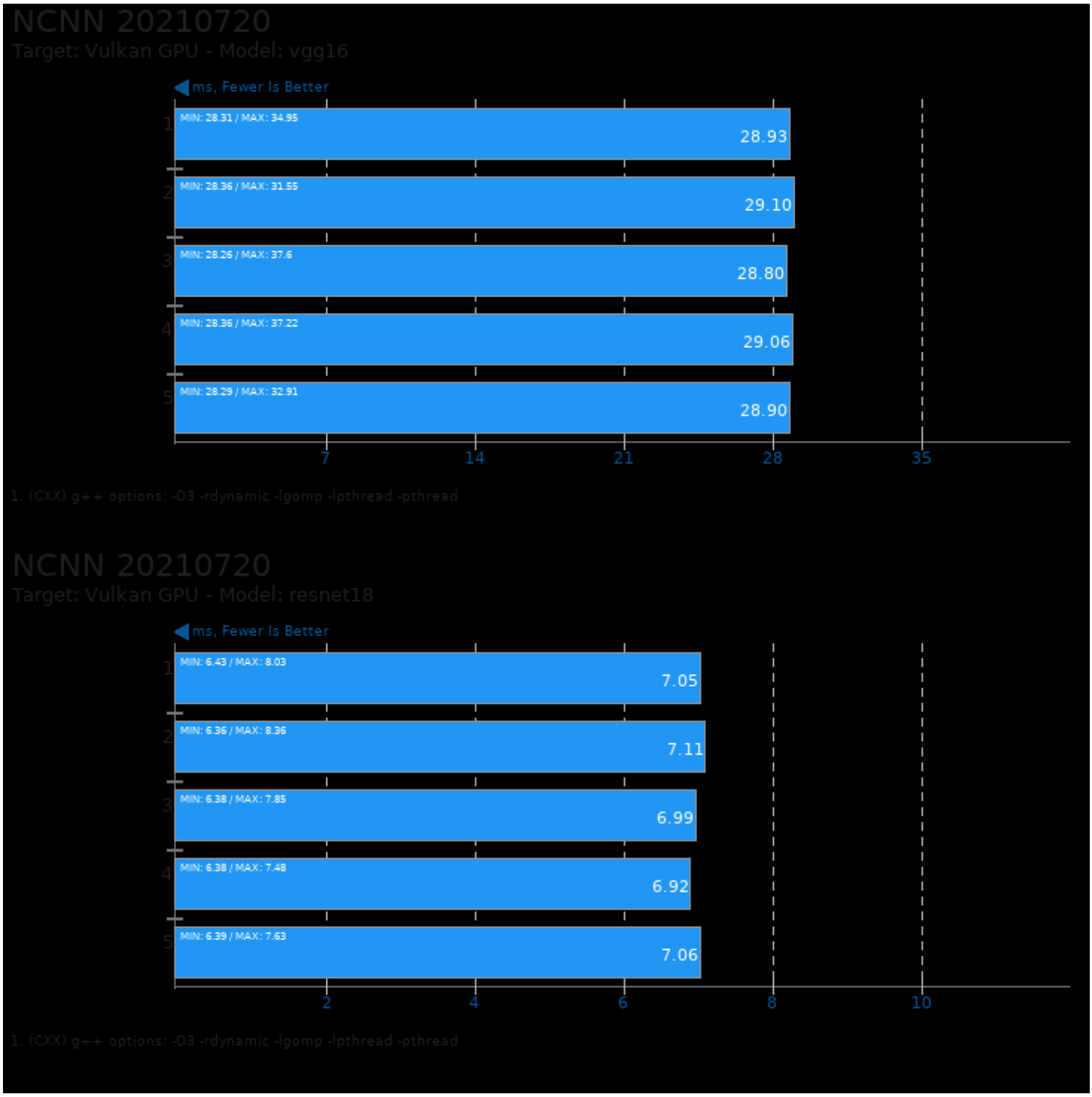

NCNN 20210720
Target: CPU - Model: squeezenet_ssd
ms, Fewer Is Better
1
MIN: 30.87 / MAX: 416.32
42.91
2
MIN: 30.42 / MAX: 410.51
36.43
3
MIN: 30.73 / MAX: 374.79
38.83
4
MIN: 31.18 / MAX: 416.67
41.15
5
MIN: 30.67 / MAX: 413.78
41.54
10
20
30
40
50
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: regnety_400m
ms, Fewer Is Better
1
MIN: 37.97 / MAX: 85.56
38.70
2
MIN: 34.73 / MAX: 162.06
36.84
3
MIN: 35.69 / MAX: 56.2
36.10
4
MIN: 35.89 / MAX: 36.77
36.25
5
MIN: 35.32 / MAX: 206.92
36.55
9
18
27
36
45
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

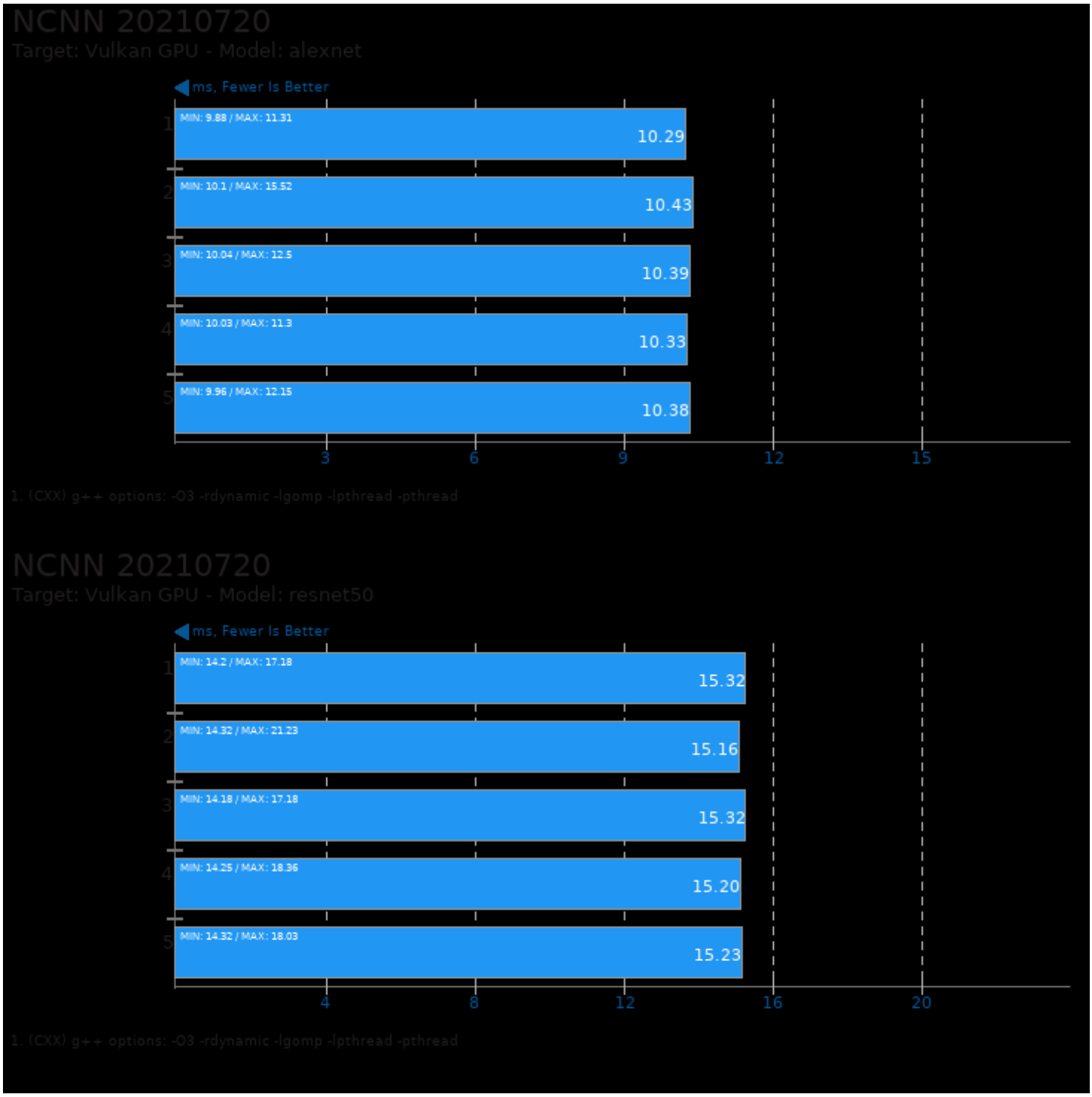

NCNN 20210720
Target: Vulkan GPU - Model: mobilenet
ms, Fewer Is Better
1
MIN: 11.31 / MAX: 18.96
13.12
2
MIN: 11.38 / MAX: 15.07
12.92
3
MIN: 11.48 / MAX: 18.65
13.17
4
MIN: 11.47 / MAX: 14.98
12.98
5
MIN: 11.33 / MAX: 18.32
12.97
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2
ms, Fewer Is Better
1
MIN: 4.93 / MAX: 7.18
5.56
2
MIN: 4.95 / MAX: 7.16
5.60
3
MIN: 4.95 / MAX: 7.34
5.61
4
MIN: 4.94 / MAX: 7.18
5.50
5
MIN: 4.93 / MAX: 6.8
5.46
1.2623
2.5246
3.7869
5.0492
6.3115
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

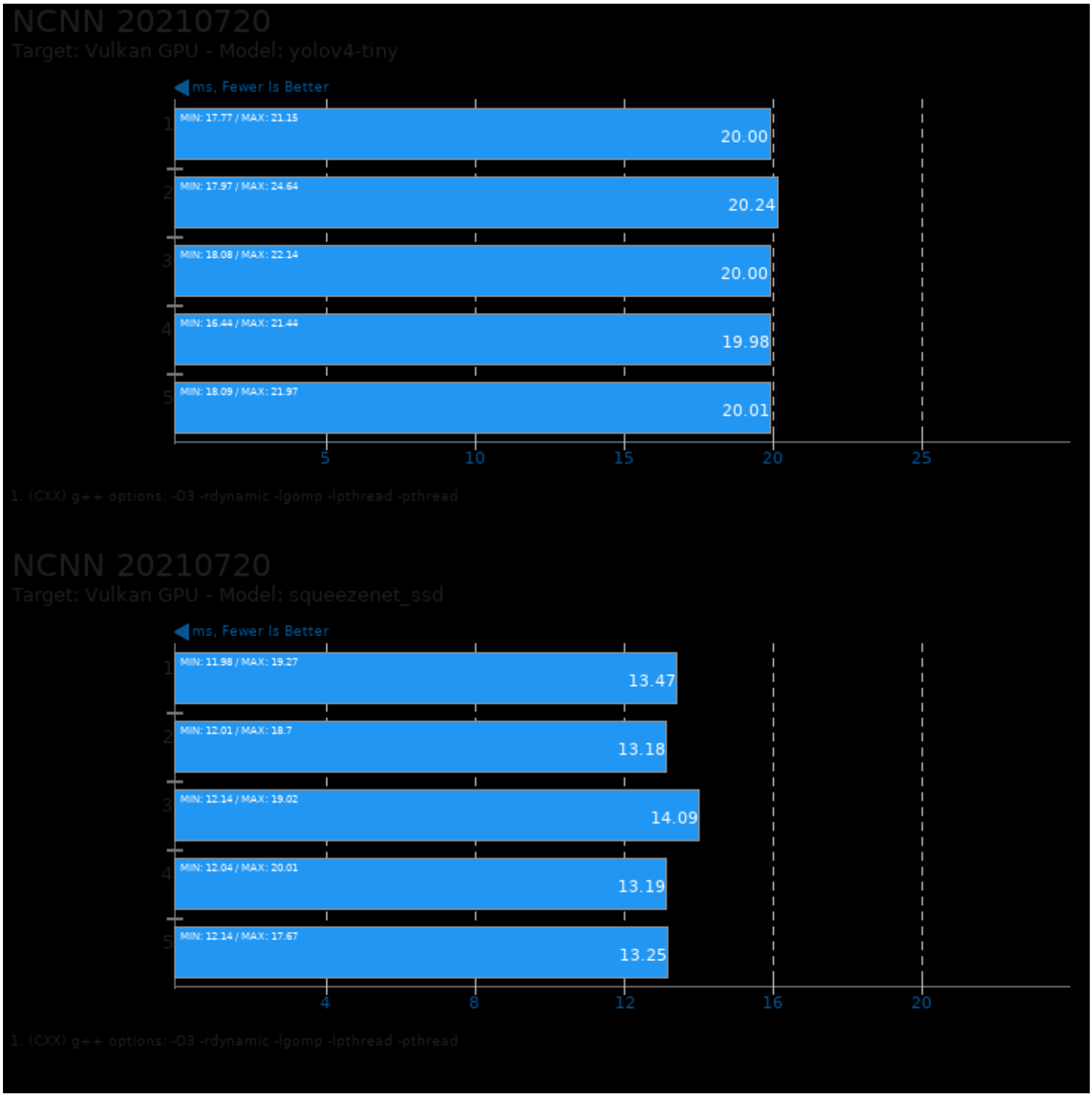

NCNN 20210720
Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3
ms, Fewer Is Better
1
MIN: 6.43 / MAX: 9.99
7.35
2
MIN: 6.48 / MAX: 9.01
7.43
3
MIN: 6.31 / MAX: 10.66
7.59
4
MIN: 6.27 / MAX: 9.03
7.39
5
MIN: 6.45 / MAX: 9.02
7.35
2
4
6
8
10
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: shufflenet-v2
ms, Fewer Is Better
1
MIN: 4.45 / MAX: 6.44
4.97
2
MIN: 4.43 / MAX: 7.23
4.97
3
MIN: 4.46 / MAX: 6.42
4.97
4
MIN: 4.41 / MAX: 6.3
4.93
5
MIN: 4.45 / MAX: 6.42
4.99
1.1228
2.2456
3.3684
4.4912
5.614
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

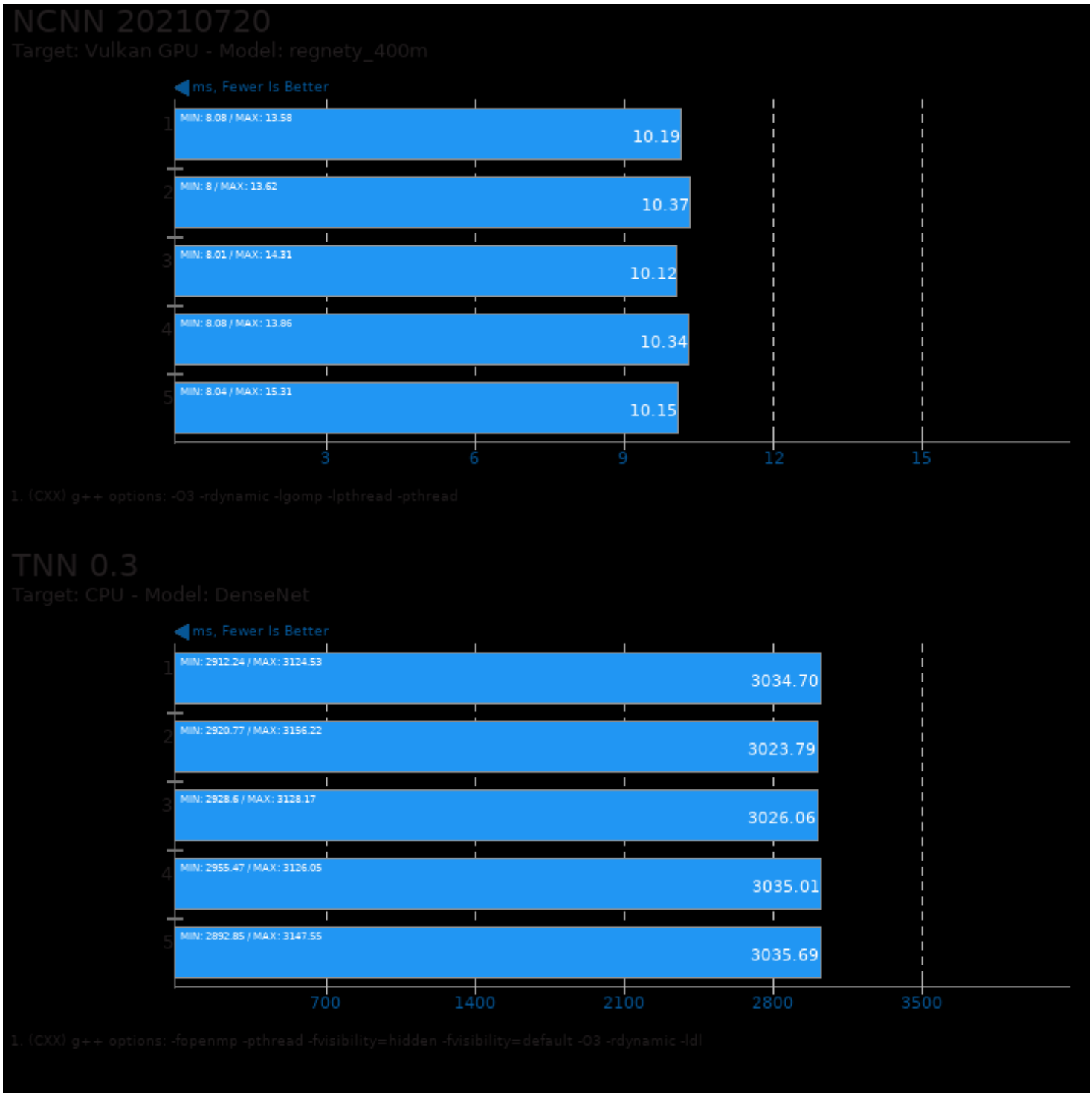

NCNN 20210720
Target: Vulkan GPU - Model: mnasnet
ms, Fewer Is Better
1
MIN: 5.13 / MAX: 8.18
5.85
2
MIN: 5.18 / MAX: 8.39
5.83
3
MIN: 5.17 / MAX: 10.71
5.91
4
MIN: 5.16 / MAX: 7.25
5.88
5
MIN: 5.15 / MAX: 7.6
5.86
1.3298
2.6596
3.9894
5.3192
6.649
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: efficientnet-b0
ms, Fewer Is Better
1
MIN: 13.52 / MAX: 20.06
15.48
2
MIN: 14.21 / MAX: 18.36
15.27
3
MIN: 13.95 / MAX: 21.41
15.26
4
MIN: 14.37 / MAX: 21.09
15.21
5
MIN: 14.03 / MAX: 20.69
15.30
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

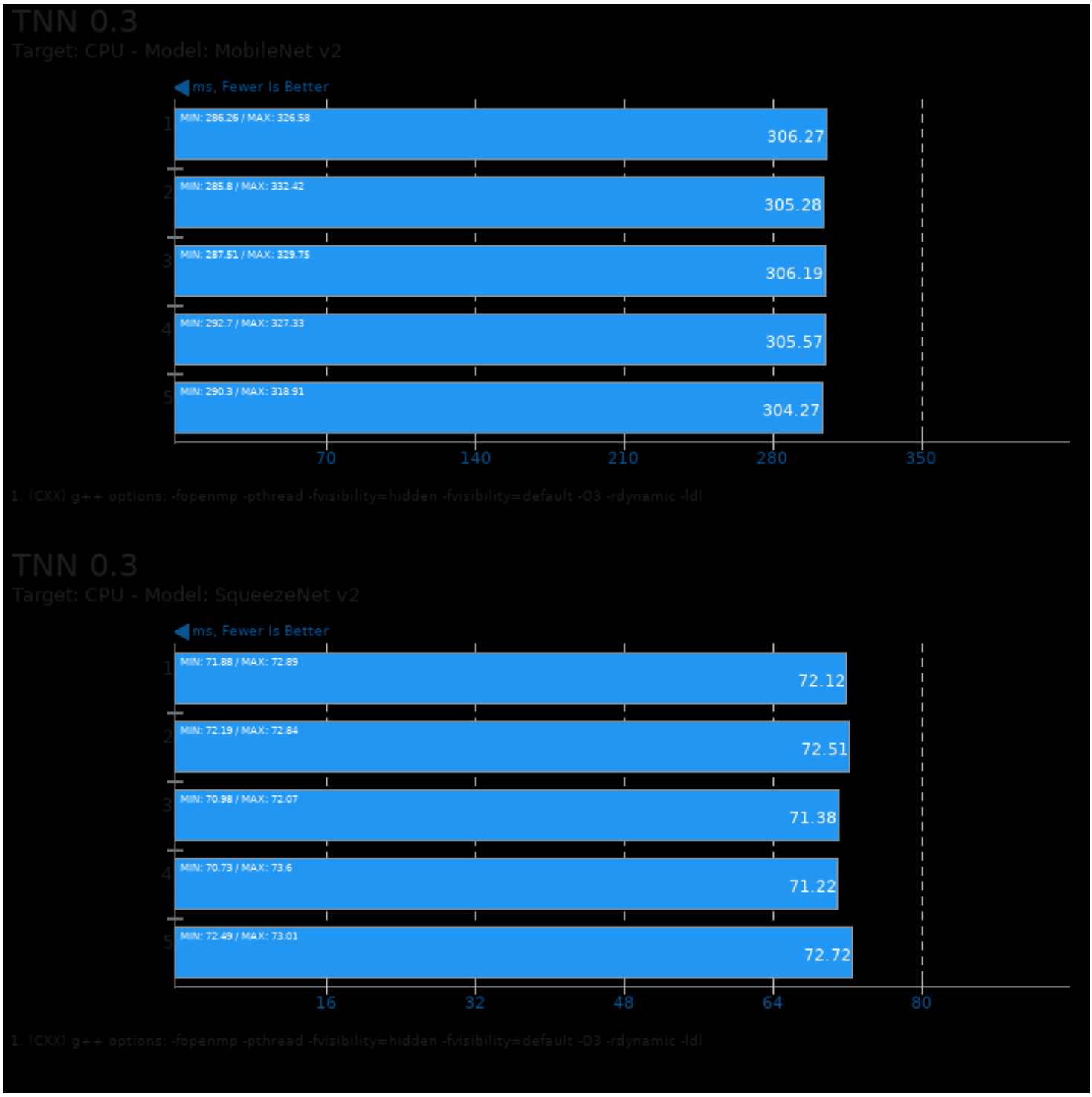

NCNN 20210720
Target: Vulkan GPU - Model: blazeface
ms, Fewer Is Better
1
MIN: 2.56 / MAX: 5.4
3.11
2
MIN: 2.87 / MAX: 5.62
3.10
3
MIN: 2.58 / MAX: 3.52
2.97
4
MIN: 2.87 / MAX: 3.67
3.03
5
MIN: 2.52 / MAX: 6.05
3.44
0.774
1.548
2.322
3.096
3.87
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: googlenet
ms, Fewer Is Better
1
MIN: 10.2 / MAX: 13.65
11.31
2
MIN: 10.3 / MAX: 12.72
11.34
3
MIN: 10.33 / MAX: 13.46
11.58
4
MIN: 10.43 / MAX: 12.85
11.38
5
MIN: 10.25 / MAX: 12.75
11.28
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

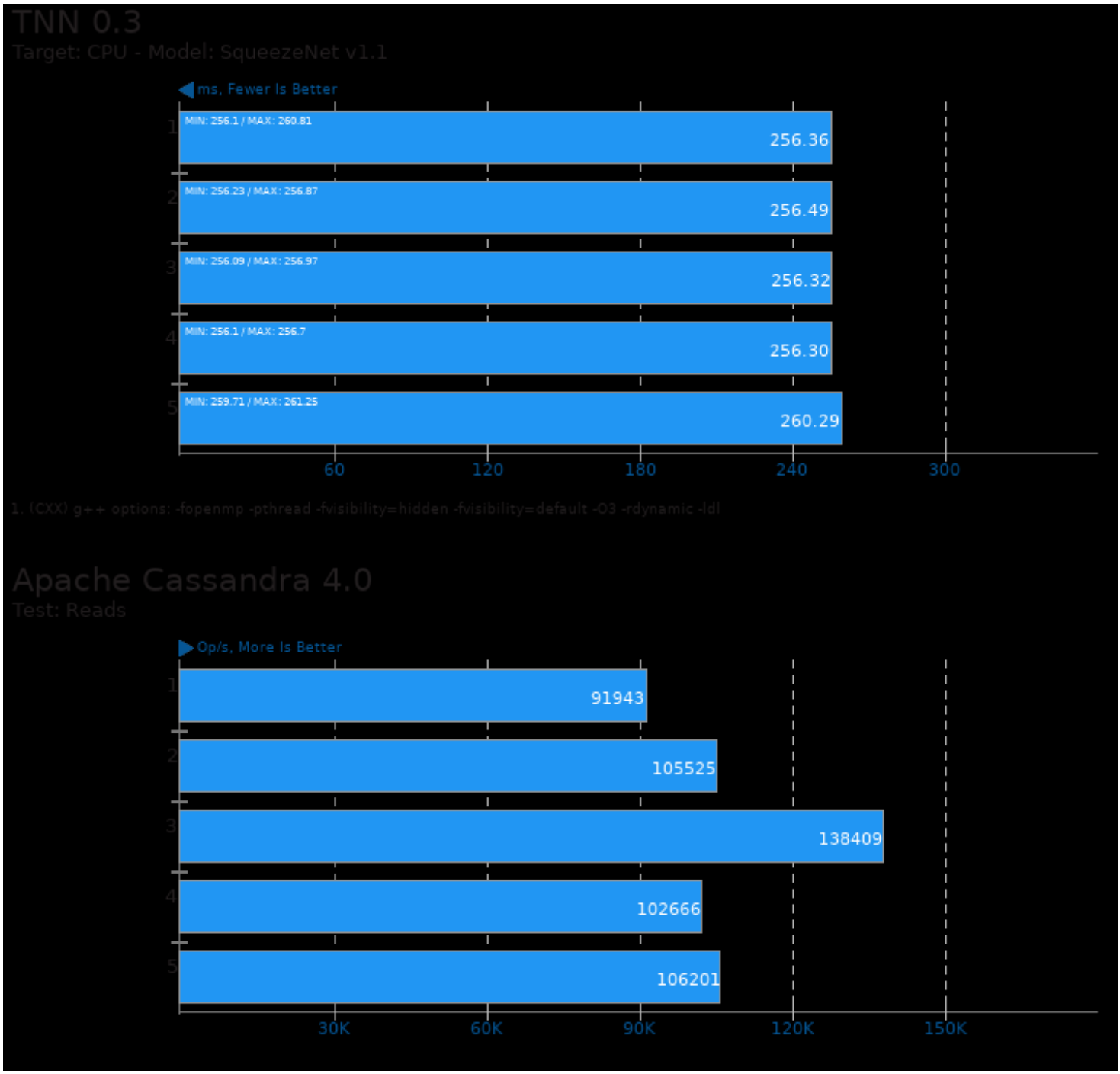

NCNN 20210720
Target: Vulkan GPU - Model: vgg16
ms, Fewer Is Better
1
MIN: 28.31 / MAX: 34.95
28.93
2
MIN: 28.36 / MAX: 31.55
29.10
3
MIN: 28.26 / MAX: 37.6
28.80
4
MIN: 28.36 / MAX: 37.22
29.06
5
MIN: 28.29 / MAX: 32.91
28.90
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: resnet18
ms, Fewer Is Better
1
MIN: 6.43 / MAX: 8.03
7.05
2
MIN: 6.36 / MAX: 8.36
7.11
3
MIN: 6.38 / MAX: 7.85
6.99
4
MIN: 6.38 / MAX: 7.48
6.92
5
MIN: 6.39 / MAX: 7.63
7.06
2
4
6
8
10
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

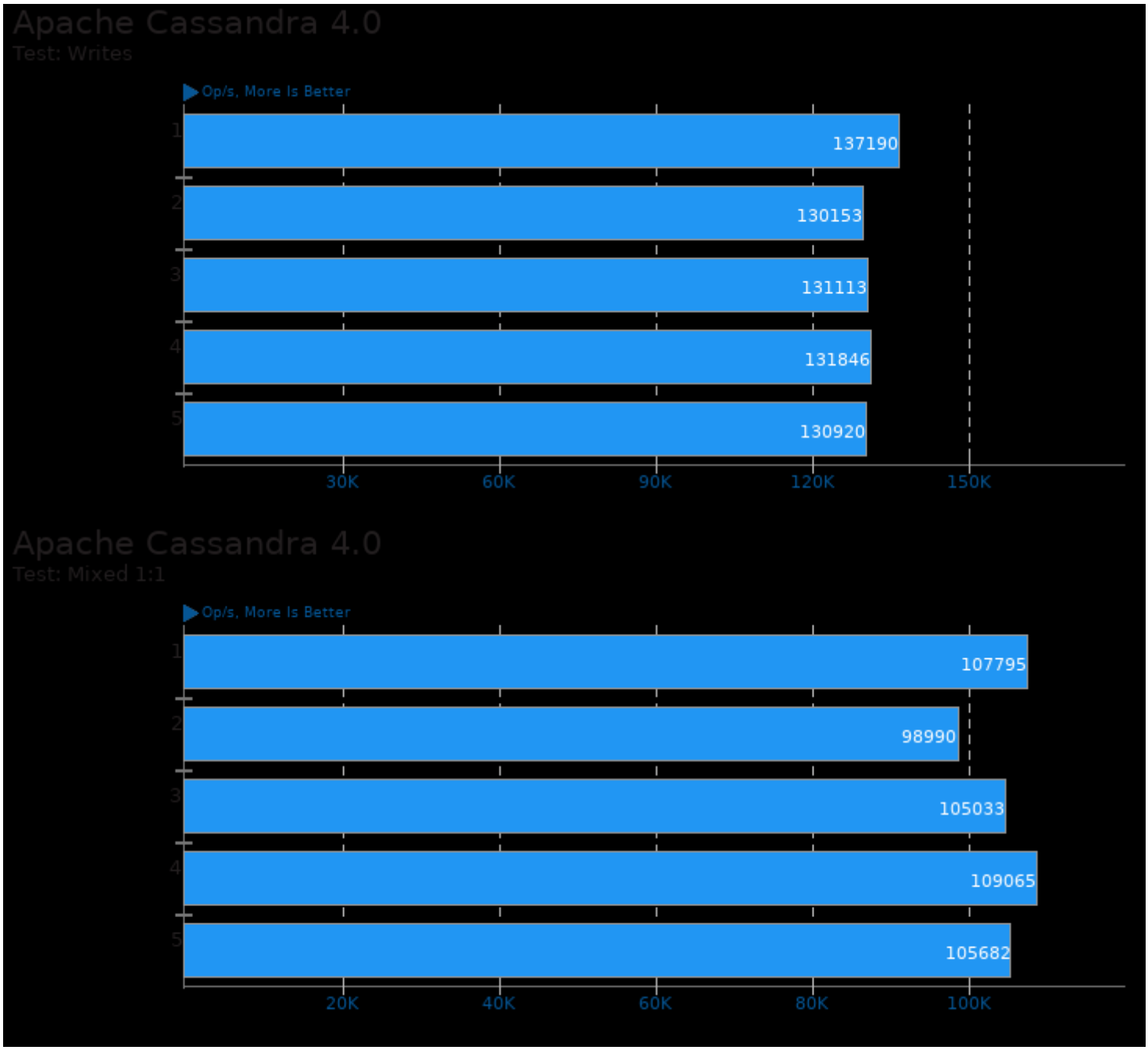

NCNN 20210720
Target: Vulkan GPU - Model: alexnet
ms, Fewer Is Better
1
MIN: 9.88 / MAX: 11.31
10.29
2
MIN: 10.1 / MAX: 15.52
10.43
3
MIN: 10.04 / MAX: 12.5
10.39
4
MIN: 10.03 / MAX: 11.3
10.33
5
MIN: 9.96 / MAX: 12.15
10.38
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: resnet50
ms, Fewer Is Better
1
MIN: 14.2 / MAX: 17.18
15.32
2
MIN: 14.32 / MAX: 21.23
15.16
3
MIN: 14.18 / MAX: 17.18
15.32
4
MIN: 14.25 / MAX: 18.36
15.20
5
MIN: 14.32 / MAX: 18.03
15.23
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

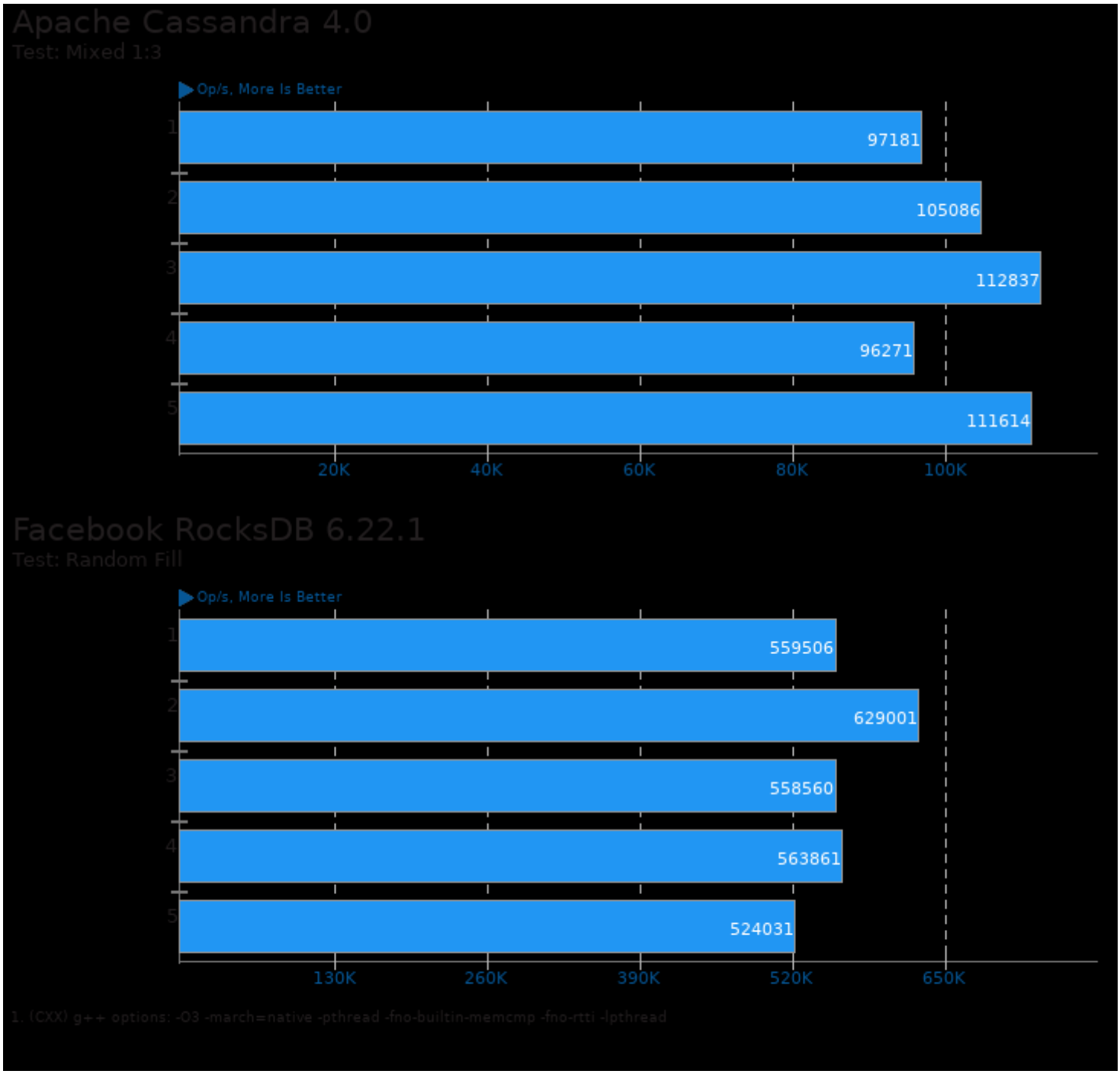

NCNN 20210720
Target: Vulkan GPU - Model: yolov4-tiny
ms, Fewer Is Better
1
MIN: 17.77 / MAX: 21.15
20.00
2
MIN: 17.97 / MAX: 24.64
20.24
3
MIN: 18.08 / MAX: 22.14
20.00
4
MIN: 16.44 / MAX: 21.44
19.98
5
MIN: 18.09 / MAX: 21.97
20.01
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: Vulkan GPU - Model: squeezenet_ssd
ms, Fewer Is Better
1
MIN: 11.98 / MAX: 19.27
13.47
2
MIN: 12.01 / MAX: 18.7
13.18
3
MIN: 12.14 / MAX: 19.02
14.09
4
MIN: 12.04 / MAX: 20.01
13.19
5
MIN: 12.14 / MAX: 17.67
13.25
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

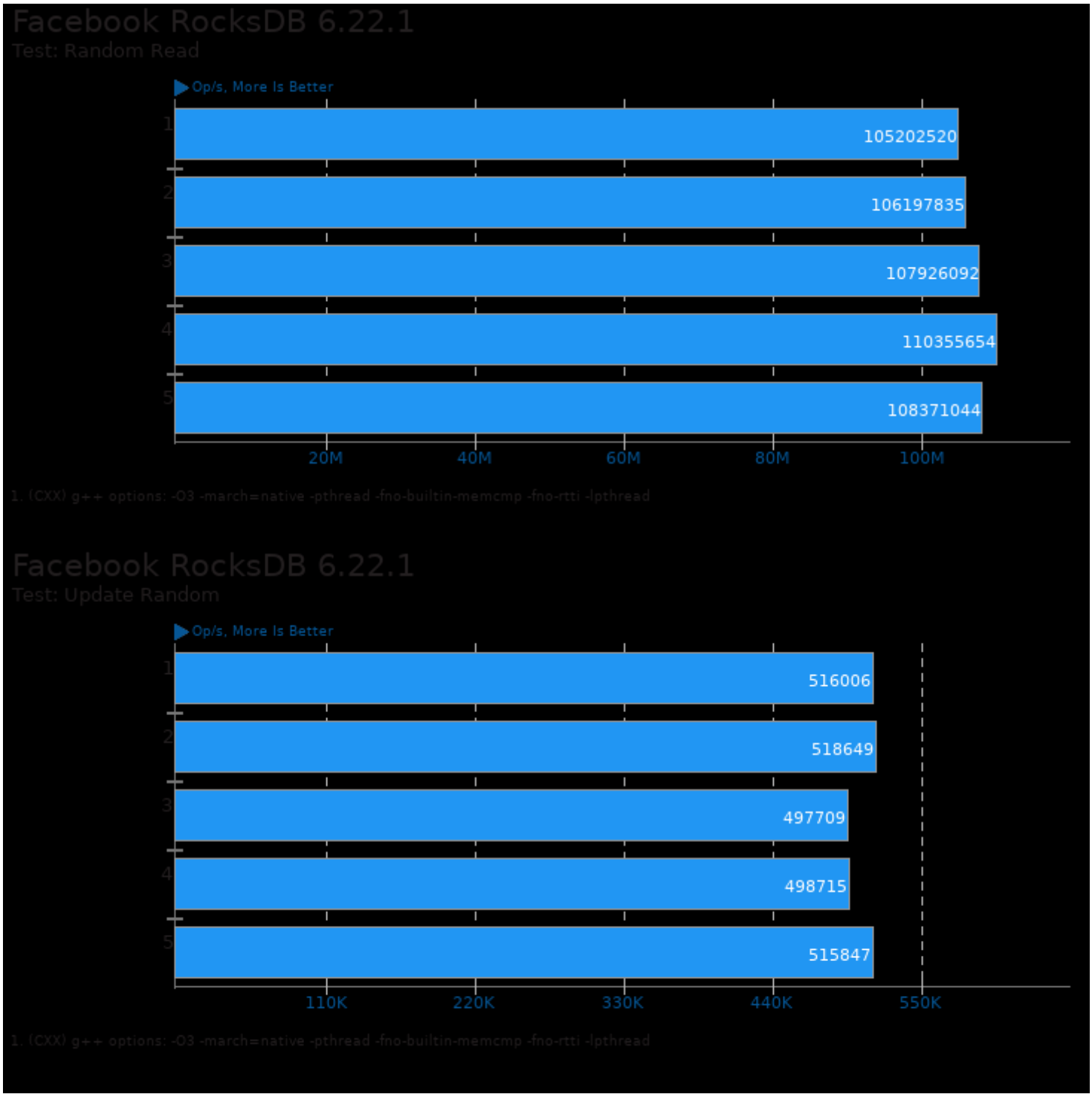

NCNN 20210720
Target: Vulkan GPU - Model: regnety_400m
ms, Fewer Is Better
1
MIN: 8.08 / MAX: 13.58
10.19
2
MIN: 8 / MAX: 13.62
10.37
3
MIN: 8.01 / MAX: 14.31
10.12
4
MIN: 8.08 / MAX: 13.86
10.34
5
MIN: 8.04 / MAX: 15.31
10.15
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
TNN 0.3
Target: CPU - Model: DenseNet
ms, Fewer Is Better
1
MIN: 2912.24 / MAX: 3124.53
3034.70
2
MIN: 2920.77 / MAX: 3156.22
3023.79
3
MIN: 2928.6 / MAX: 3128.17
3026.06
4
MIN: 2955.47 / MAX: 3126.05
3035.01
5
MIN: 2892.85 / MAX: 3147.55
3035.69
700
1400
2100
2800
3500
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

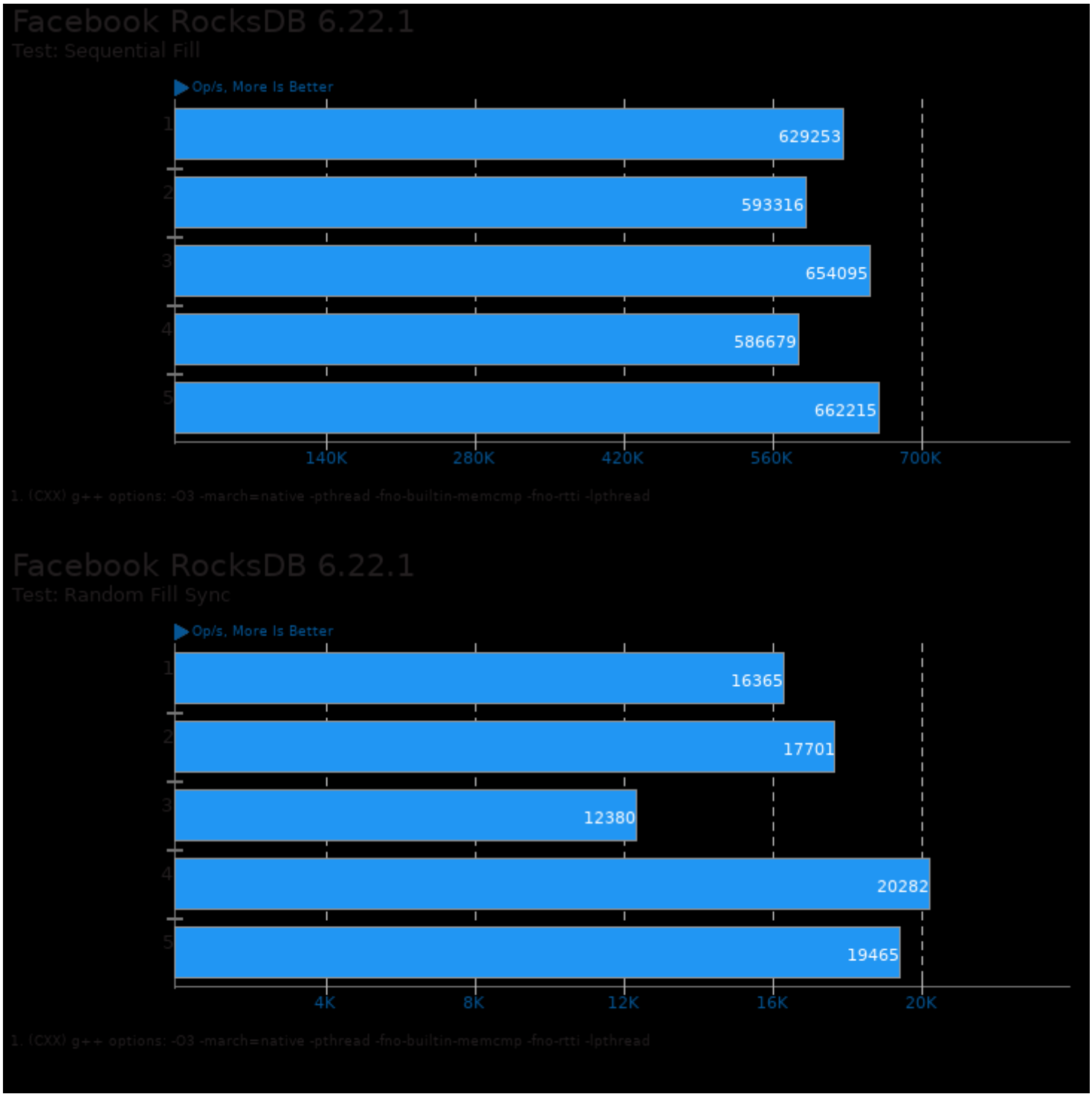

TNN 0.3
Target: CPU - Model: MobileNet v2
ms, Fewer Is Better
1
MIN: 286.26 / MAX: 326.58
306.27
2
MIN: 285.8 / MAX: 332.42
305.28
3
MIN: 287.51 / MAX: 329.75
306.19
4
MIN: 292.7 / MAX: 327.33
305.57
5
MIN: 290.3 / MAX: 318.91
304.27
70
140
210
280
350
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl
TNN 0.3
Target: CPU - Model: SqueezeNet v2
ms, Fewer Is Better
1
MIN: 71.88 / MAX: 72.89
72.12
2
MIN: 72.19 / MAX: 72.84
72.51
3
MIN: 70.98 / MAX: 72.07
71.38
4
MIN: 70.73 / MAX: 73.6
71.22
5
MIN: 72.49 / MAX: 73.01
72.72
16
32
48
64
80
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl


TNN 0.3
Target: CPU - Model: SqueezeNet v1.1
ms, Fewer Is Better
1
MIN: 256.1 / MAX: 260.81
256.36
2
MIN: 256.23 / MAX: 256.87
256.49
3
MIN: 256.09 / MAX: 256.97
256.32
4
MIN: 256.1 / MAX: 256.7
256.30
5
MIN: 259.71 / MAX: 261.25
260.29
60
120
180
240
300
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl
Apache Cassandra 4.0
Test: Reads
Op/s, More Is Better
1
91943
2
105525
3
138409
4
102666
5
106201
30K
60K
90K
120K
150K

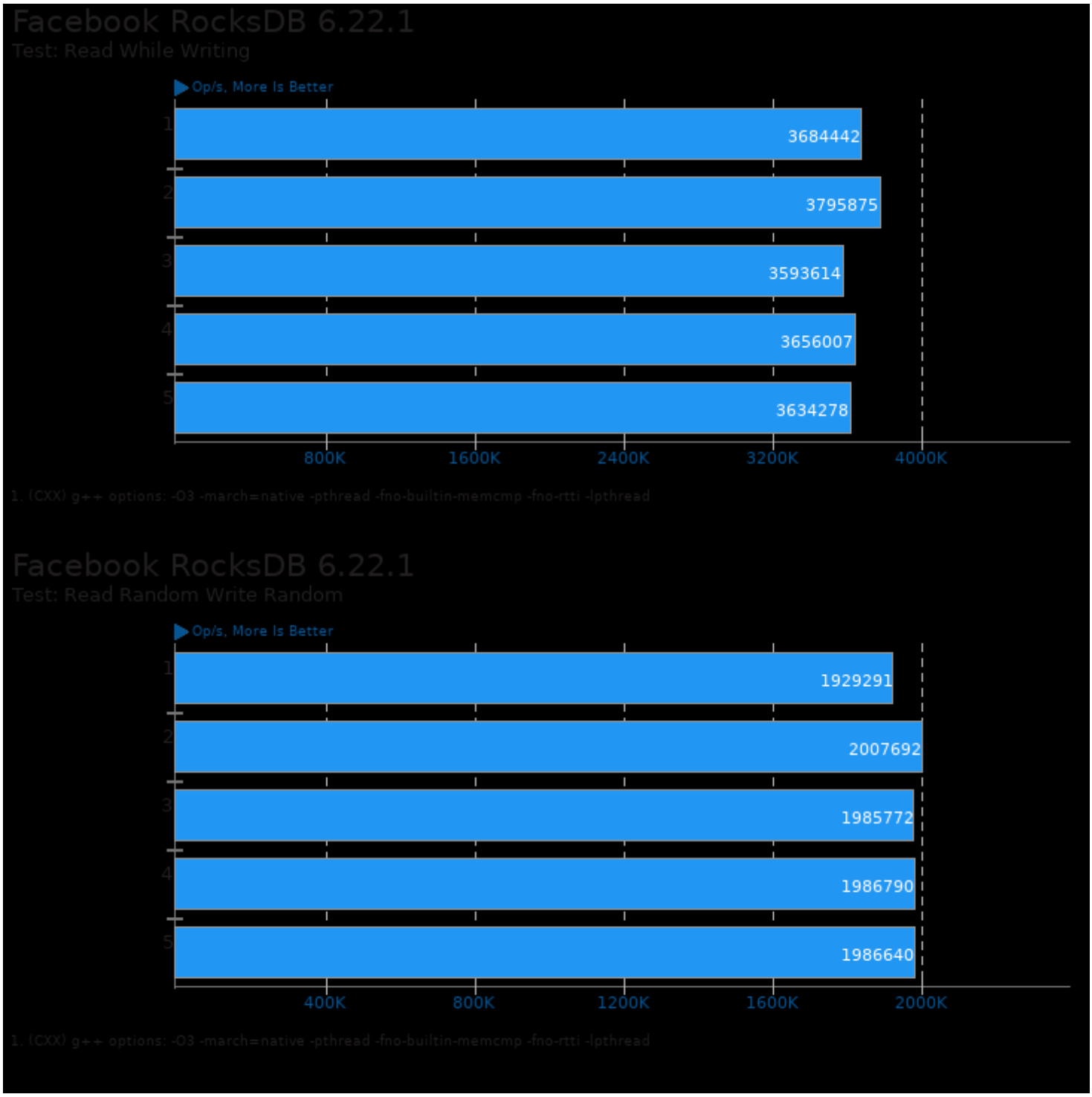

Apache Cassandra 4.0
Test: Writes
Op/s, More Is Better
1
137190
2
130153
3
131113
4
131846
5
130920
30K
60K
90K
120K
150K
Apache Cassandra 4.0
Test: Mixed 1:1
Op/s, More Is Better
1
107795
2
98990
3
105033
4
109065
5
105682
20K
40K
60K
80K
100K

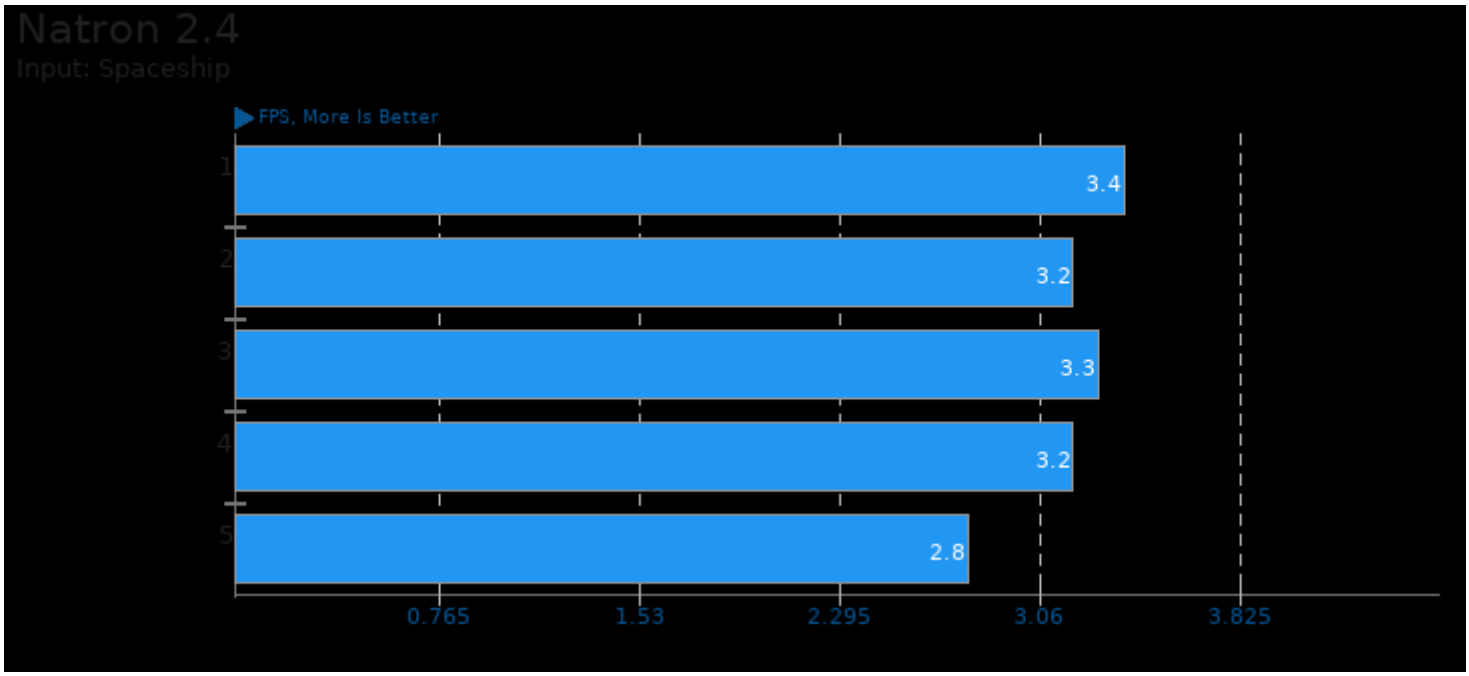

Apache Cassandra 4.0
Test: Mixed 1:3
Op/s, More Is Better
1
97181
2
105086
3
112837
4
96271
5
111614
20K
40K
60K
80K
100K
Facebook RocksDB 6.22.1
Test: Random Fill
Op/s, More Is Better
1
559506
2
629001
3
558560
4
563861
5
524031
130K
260K
390K
520K
650K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread


Facebook RocksDB 6.22.1
Test: Random Read
Op/s, More Is Better
1
2
3
4
5
105202520
106197835
107926092
110355654
108371044
20M
40M
60M
80M
100M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Update Random
Op/s, More Is Better
1
2
3
4
5
516006
518649
497709
498715
515847
110K
220K
330K
440K
550K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread


Facebook RocksDB 6.22.1
Test: Sequential Fill
Op/s, More Is Better
1
629253
2
593316
3
654095
4
586679
5
662215
140K
280K
420K
560K
700K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

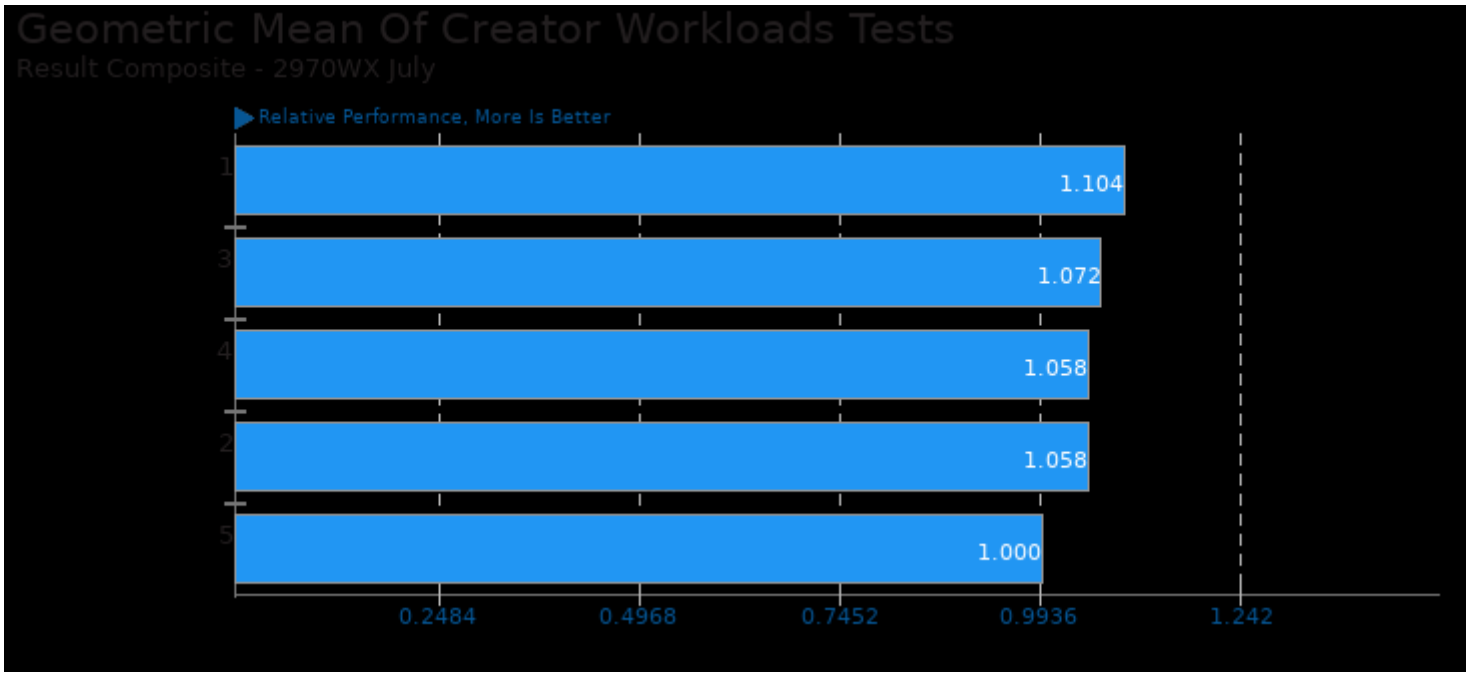
Facebook RocksDB 6.22.1
Test: Random Fill Sync
Op/s, More Is Better
1
16365
2
17701
3
12380
4
20282
5
19465
4K
8K
12K
16K
20K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread


Facebook RocksDB 6.22.1
Test: Read While Writing
Op/s, More Is Better
1
3684442
2
3795875
3
3593614
4
3656007
5
3634278
800K
1600K
2400K
3200K
4000K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Read Random Write Random
Op/s, More Is Better
1
1929291
2
2007692
3
1985772
4
1986790
5
1986640
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

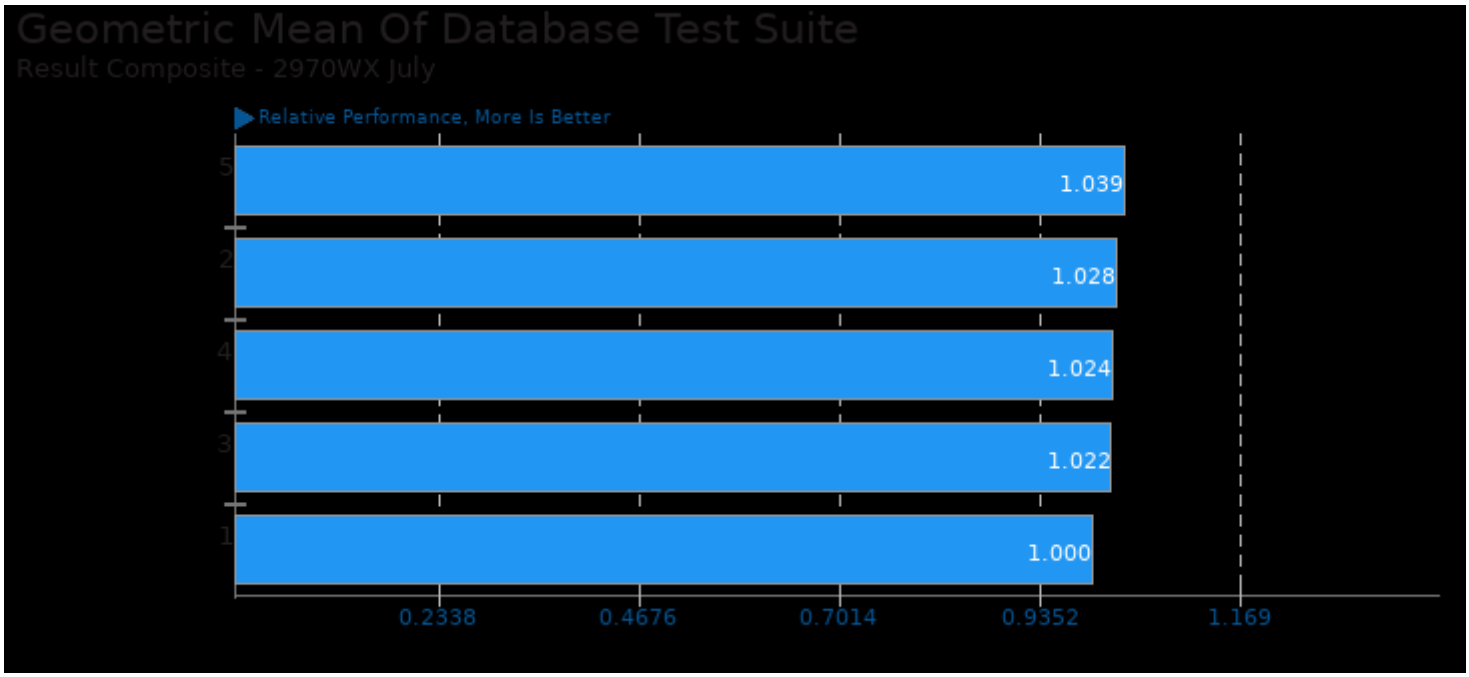

Natron 2.4
Input: Spaceship
FPS, More Is Better
1
2
3
4
5
3.4
3.2
3.3
3.2
2.8
0.765
1.53
2.295
3.06
3.825

2970WX July

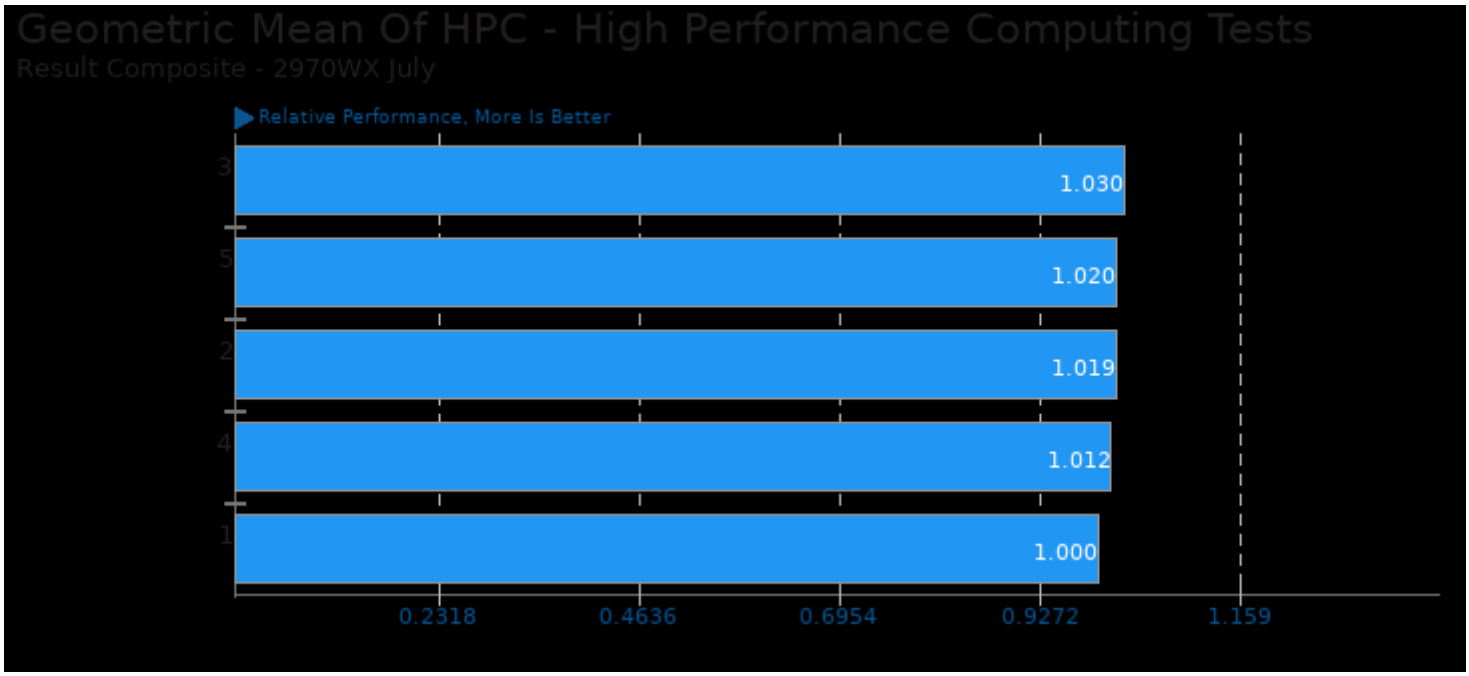
These geometric means are based upon test groupings / test suites for this result file.



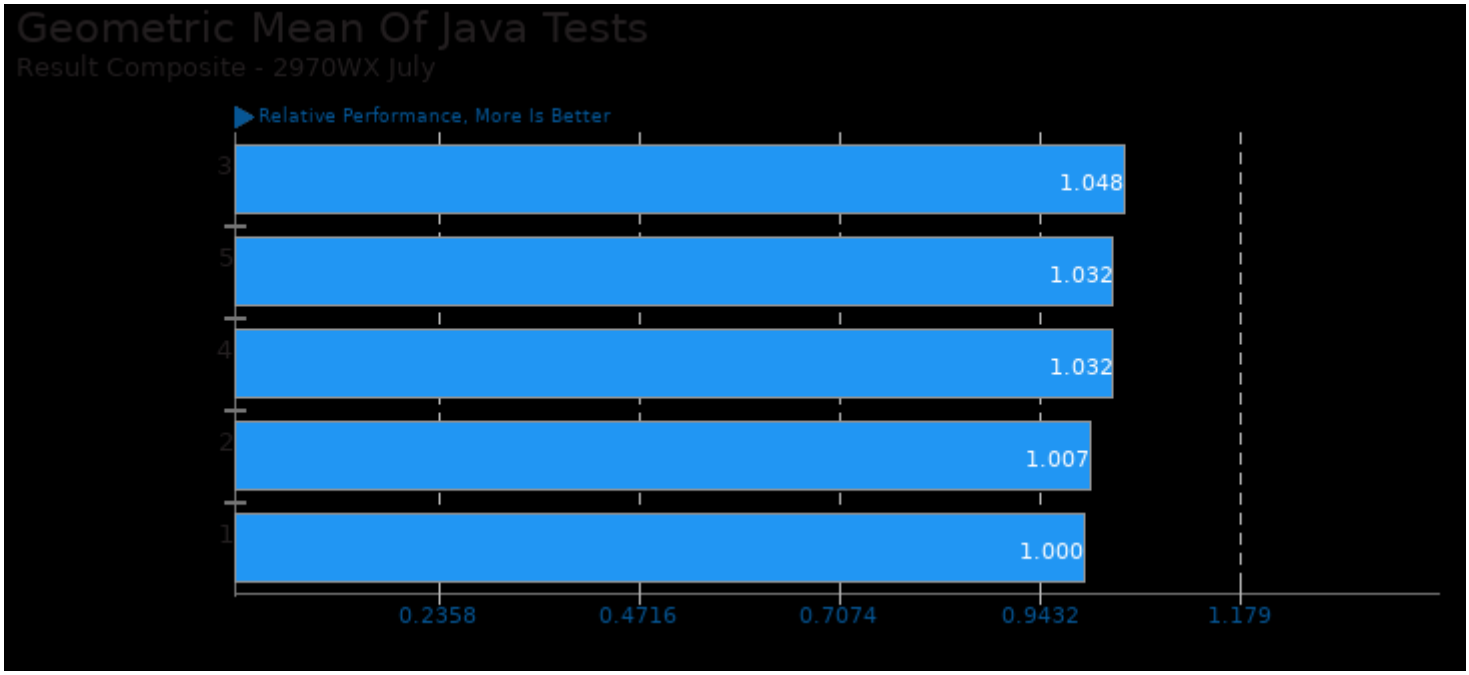
Geometric mean based upon tests: pts/yafaray and pts/natron



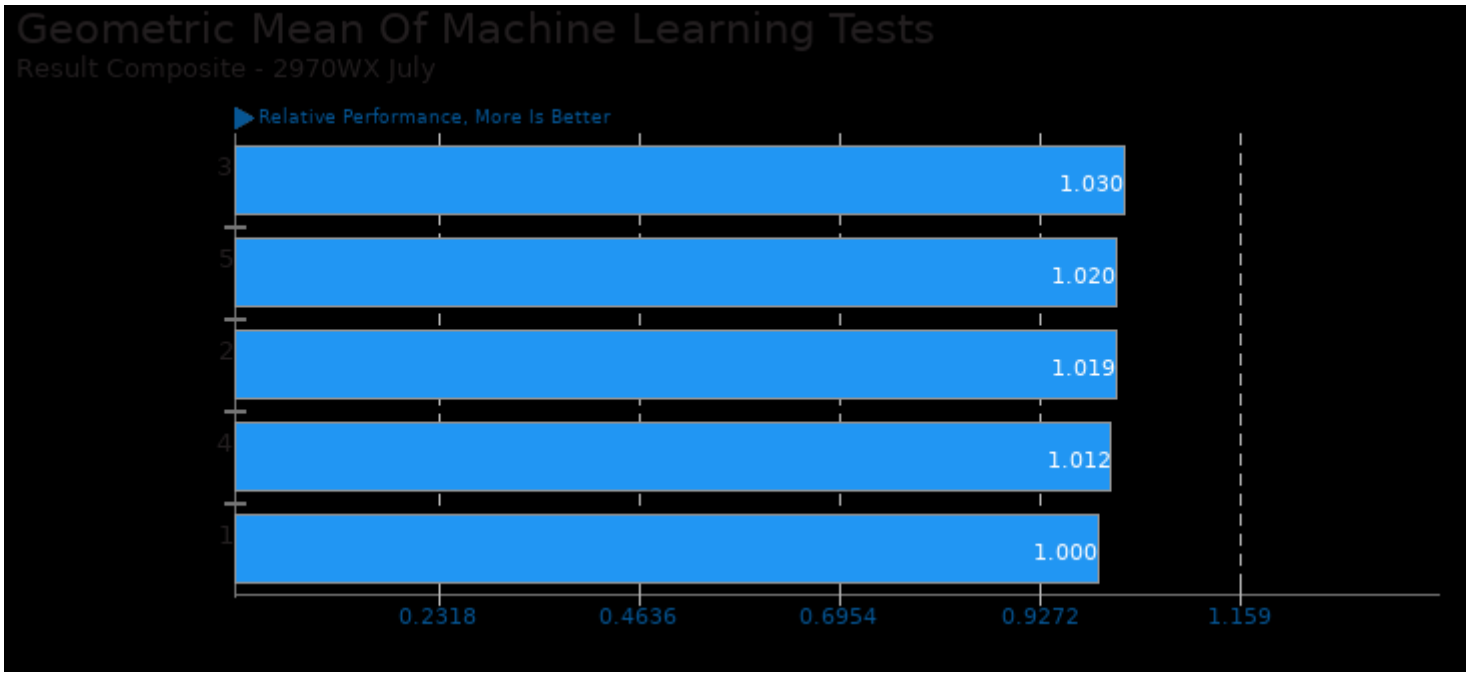
Geometric mean based upon tests: pts/rocksdb and pts/cassandra



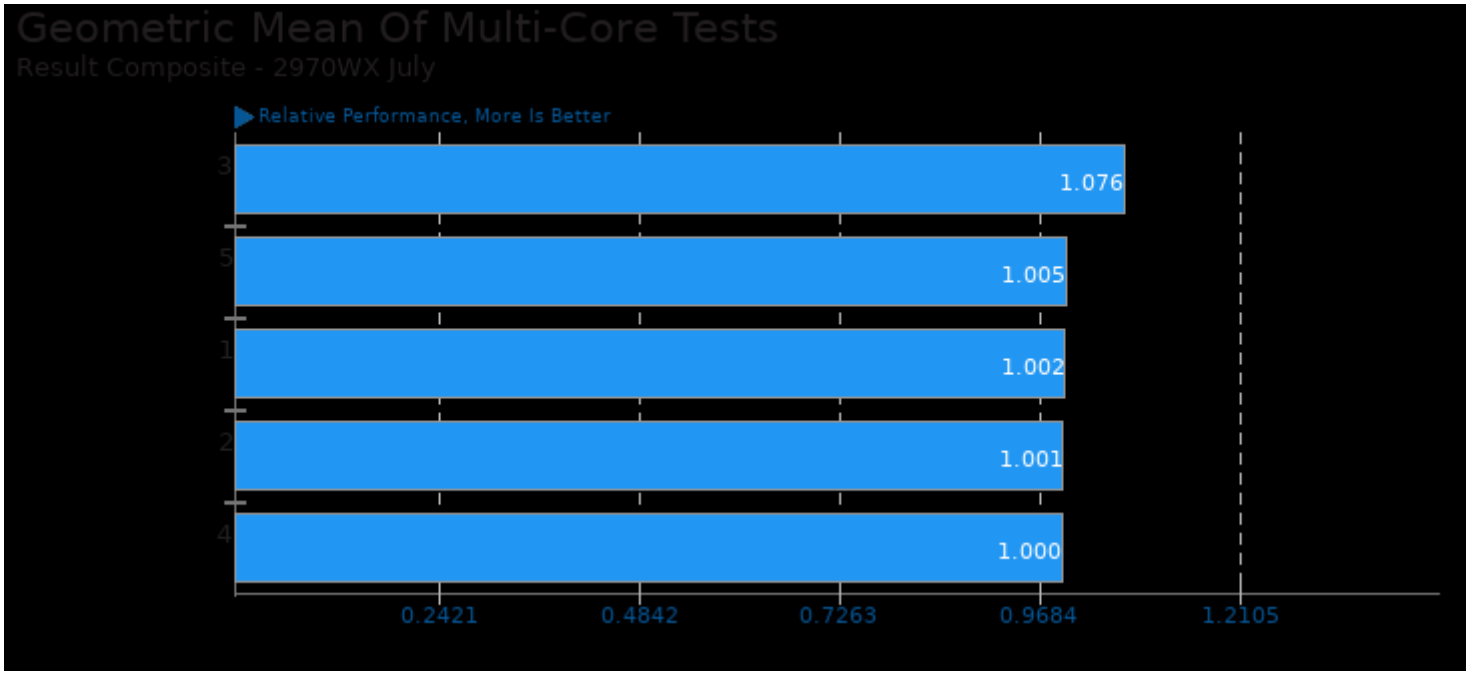
Geometric mean based upon tests: pts/mnn, pts/ncnn and pts/tnn



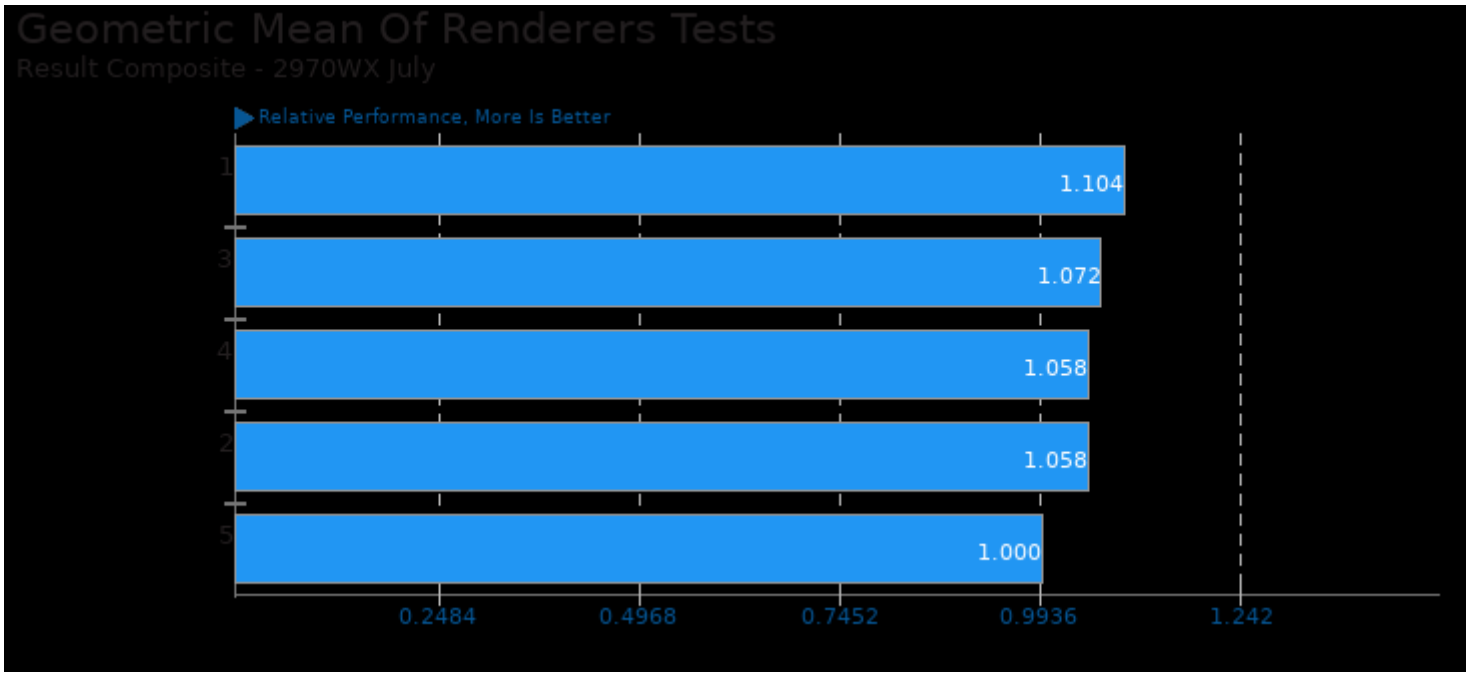
Geometric mean based upon tests: pts/renaissance and pts/cassandra



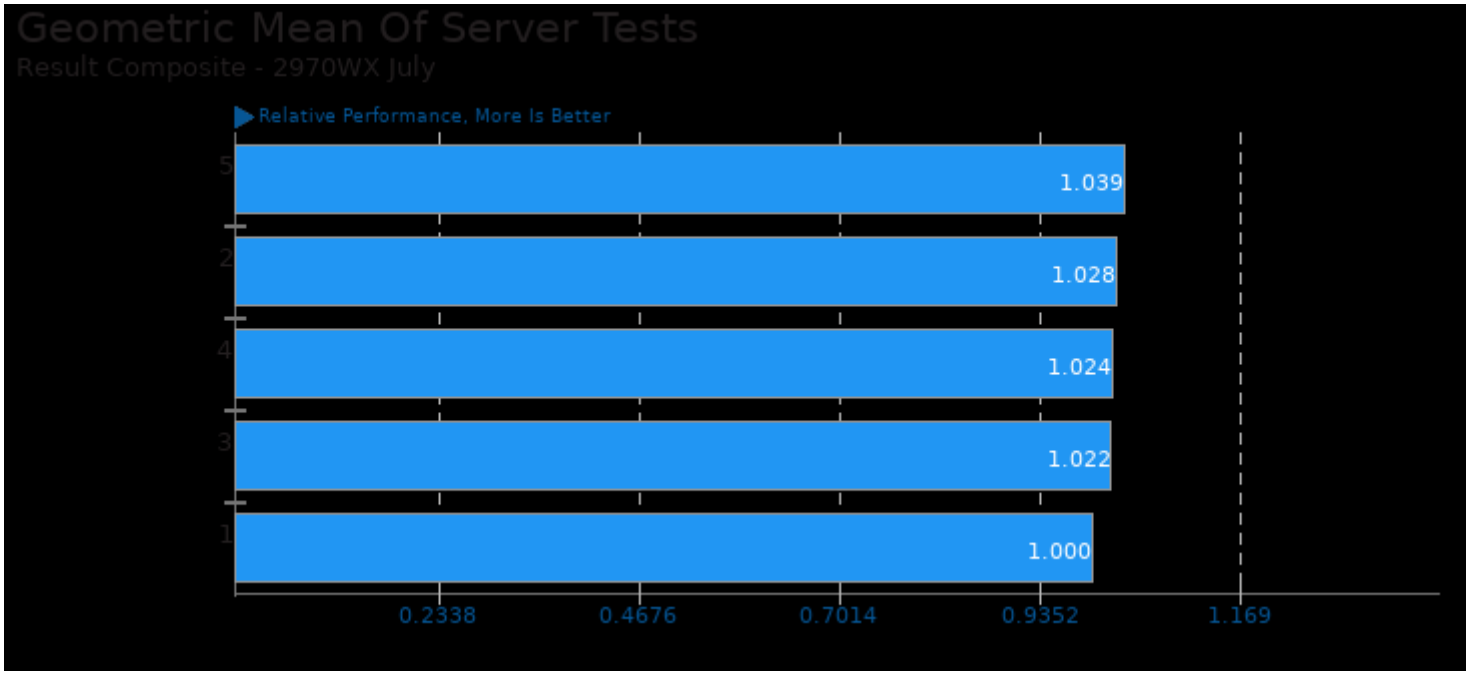
Geometric mean based upon tests: pts/mnn, pts/ncnn and pts/tnn



Geometric mean based upon tests: pts/yafaray, pts/natron and pts/cassandra



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



Geometric mean based upon tests: pts/cassandra and pts/rocksdb

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 20:25.