



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Early benchmarks by Michael Larabel.

Automated Executive Summary

Helix 500: FreeBSD 13 BETA1 had the most wins, coming in first place for 71% of the tests.

Based on the geometric mean of all complete results, the fastest (Helix 500: FreeBSD 13 BETA1) was 1.834x the speed of the slowest (Helix 500: FreeBSD 12.2). Karbon 700: FreeBSD 13 BETA1 was 1.701x the speed of Karbon 700: FreeBSD 12.2, Helix 500: FreeBSD 12.2 was 0.559x the speed of Karbon 700: FreeBSD 13 BETA1, Helix 500: FreeBSD 13 BETA1 was 1.834x the speed of Helix 500: FreeBSD 12.2.

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

OSBench (Test: Create Threads) at 5.881x

OSBench (Test: Launch Programs) at 3.495x

Stress-NG (Test: Socket Activity) at 3.14x

iPerf (Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: TCP - Parallel: 1) at 2.916x

Stress-NG (Test: Forking) at 2.76x

OSBench (Test: Create Processes) at 2.739x

OSBench (Test: Memory Allocations) at 2.615x

BlogBench (Test: Read) at 2.485x

*SMHasher (Hash: wyhash) at 2.298x
SMHasher (Hash: t1ha0_aes_avx2) at 2.291x.*

Test Systems:

Karbon 700: FreeBSD 12.2

Processor: Intel Xeon E-2278GEL @ 2.00GHz (16 Cores), Motherboard: Logic Supply RXM-181 TBD by OEM, Chipset: Intel, Memory: 16GB, Disk: TS512GMTE510T, Graphics: Intel, Audio: Intel Coffee Lake HDA, Network: Intel PRO/1000 Connection

OS: FreeBSD, Kernel: 12.2-RELEASE (x86_64), Compiler: Clang 10.0.1, File-System: zfs, Screen Resolution: 800x600

Java Notes: OpenJDK Runtime Environment (build 11.0.9+11-1)
Python Notes: Python 3.7.9

Karbon 700: FreeBSD 13 BETA1

Processor: Intel Xeon E-2278GEL @ 1.99GHz (16 Cores), Motherboard: Logic Supply RXM-181 TBD by OEM, Chipset: Intel, Memory: 16GB, Disk: TS512GMTE510T, Graphics: Intel, Audio: Intel Coffee Lake HDA, Network: Intel PRO/1000 Connection

OS: FreeBSD, Kernel: 13.0-BETA1 (x86_64), Compiler: Clang 11.0.1, File-System: zfs, Screen Resolution: 800x600

Java Notes: OpenJDK Runtime Environment (build 11.0.9+11-1)
Python Notes: Python 3.7.9

Helix 500: FreeBSD 12.2

Processor: Intel Core i7-10700T @ 2.00GHz (16 Cores), Motherboard: Insyde CometLake TBD by OEM, Chipset: Intel, Memory: 32GB, Disk: TS256GMTS800 P1225CH1 + AHCI SGPIO Enclosure 2.00 0001, Graphics: Intel, Audio: Intel Comet Lake-H HDA, Network: Intel PRO/1000 Connection

OS: FreeBSD, Kernel: 12.2-RELEASE (x86_64), Compiler: Clang 10.0.1, File-System: zfs, Screen Resolution: 1024x768

Java Notes: OpenJDK Runtime Environment (build 11.0.9+11-1)
Python Notes: Python 3.7.9

Helix 500: FreeBSD 13 BETA1

Processor: Intel Core i7-10700T @ 1.99GHz (16 Cores), Motherboard: Insyde CometLake TBD by OEM, Chipset: Intel, Memory: 32GB, Disk: TS256GMTS800 P1225CH1 + AHCI SGPIO Enclosure 2.00 0001, Graphics: Intel, Audio: Intel Comet Lake-H HDA, Network: Intel PRO/1000 Connection

OS: FreeBSD, Kernel: 13.0-BETA1 (x86_64), Compiler: Clang 11.0.1, File-System: zfs, Screen Resolution: 1024x768

Java Notes: OpenJDK Runtime Environment (build 11.0.9+11-1)
Python Notes: Python 3.7.9

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

	Karbon 700: FreeBSD 12.2	Karbon 700: FreeBSD 13 BETA1	Helix 500: FreeBSD 12.2	Helix 500: FreeBSD 13 BETA1
Aircrack-ng (k/s)	15542	26757	14764	27595
Normalized	56.32%	96.96%	53.5%	100%
Standard Deviation	0.1%	0%	0.2%	0.2%
AOBench - 2048 x 2048 - Total Time (sec)	82.006	46.765	85.865	43.877
Normalized	53.5%	93.82%	51.1%	100%
Standard Deviation	0%	0%	0.1%	0.1%
BLAKE2 (Cycles/Byte)	5.10	2.91	5.38	2.76
Normalized	54.12%	94.85%	51.3%	100%
Standard Deviation	0.1%	0%	0.1%	0.2%
BlogBench - Read (Final Score)	728692	1652105	874264	1811112
Normalized	40.23%	91.22%	48.27%	100%
Standard Deviation	4.8%	1.6%	5.4%	0.2%
BlogBench - Write (Final Score)	4370	10259	5013	10280
Normalized	42.51%	99.8%	48.76%	100%
Standard Deviation	6.1%		1.9%	
Bork File Encrypter - F.E.T (sec)	28.569	15.324	30.133	14.420
Normalized	50.47%	94.1%	47.85%	100%
Standard Deviation	1.2%	1.3%	0.8%	1.3%
Botan - KASUMI (MiB/s)	45.653	73.008	43.493	77.183
Normalized	59.15%	94.59%	56.35%	100%
Standard Deviation	0%	0%	0%	0%
Botan - AES-256 (MiB/s)	1806	3182	1717	3365
Normalized	53.68%	94.58%	51.02%	100%
Standard Deviation	0%	0%	0%	0%
Botan - Twofish (MiB/s)	149.513	255.691	142.139	272.245
Normalized	54.92%	93.92%	52.21%	100%
Standard Deviation	0%	0.1%	0%	0.1%
Botan - Blowfish (MiB/s)	181.840	315.925	173.428	336.257
Normalized	54.08%	93.95%	51.58%	100%
Standard Deviation	0.1%	0%	0.2%	0.1%
Botan - CAST-256 (MiB/s)	64.355	112.752	61.419	119.680
Normalized	53.77%	94.21%	51.32%	100%
Standard Deviation	0.1%	0%	0%	0%
C-Ray - Total Time - 4.1.R.P.P (sec)	201.976	138.167	211.923	156.857
Normalized	68.41%	100%	65.2%	88.08%
Standard Deviation	0.1%	0.6%	0.1%	0.5%
CacheBench - Read (MB/s)	3805	6663	3615	7044
Normalized	54.02%	94.59%	51.32%	100%
Standard Deviation	0%	0%	0%	0%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	153627	245018	139264	198249
Normalized	62.7%	100%	56.84%	80.91%
Standard Deviation	0.1%	2.5%	0.2%	2.2%
DaCapo Benchmark - H2 (msec)	4916	3710	5139	3266
Normalized	66.44%	88.03%	63.55%	100%
Standard Deviation	2.4%	7.6%	2.4%	6.3%
DaCapo Benchmark - Jython (msec)	8322	5005	8648	4499
Normalized	54.06%	89.89%	52.02%	100%
Standard Deviation	0.3%	1.1%	1.3%	1.3%
ddraw - R.T.P.I.C (sec)	73.995	42.263	78.007	40.080

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	Normalized	54.17%	94.83%	51.38%	100%
	Standard Deviation	0.1%	0.1%	0.1%	0.4%
FFTE - N.2.3.C.F.R (MFLOPS)	16402		18436	22589	31144
	Normalized	52.66%	59.2%	72.53%	100%
	Standard Deviation	0.1%	0.4%	0.1%	0.3%
FFTW - Stock - 2D FFT Size 4096	3023		4660	2802	5585
	(Mflops)				
	Normalized	54.13%	83.45%	50.17%	100%
	Standard Deviation	1.1%	0.5%	0.4%	0.2%
FFTW - Float + SSE - 2D FFT Size 4096	9471		13846	8966	14893
	(Mflops)				
	Normalized	63.59%	92.97%	60.2%	100%
	Standard Deviation	0%	4.9%	0.6%	0.4%
Fhourstones - C.C.4.S (Kpos / sec)	8129		12858	8231	13969
	Normalized	58.19%	92.04%	58.92%	100%
	Standard Deviation	0.1%	0.2%	0.2%	0.5%
FLAC Audio Encoding - WAV To	21.935		12.418	23.005	11.773
	FLAC (sec)				
	Normalized	53.67%	94.81%	51.18%	100%
	Standard Deviation	0.1%	0.1%	0.1%	0.1%
Git - T.T.C.C.G.C (sec)	111.530		68.457	120.284	64.843
	Normalized	58.14%	94.72%	53.91%	100%
	Standard Deviation	0.3%	0.3%	0.2%	0.2%
GNU MPC - M.P.B (Global Score)	4593		8020	3990	7763
	Normalized	57.27%	100%	49.75%	96.8%
	Standard Deviation	0.1%			0.1%
Go Benchmarks - json (ns/op)	9043850		6029985	9538525	7129231
	Normalized	66.67%	100%	63.22%	84.58%
	Standard Deviation	0.1%	5.3%	0.4%	6.3%
Go Benchmarks - build (ns/op)	38410777180		22342101760	40047668537	20875309325
	Normalized	54.35%	93.43%	52.13%	100%
	Standard Deviation	1.1%	2%	0.5%	0.8%
Go Benchmarks - garbage (ns/op)	2171602		1441863	2303848	1701560
	Normalized	66.4%	100%	62.58%	84.74%
	Standard Deviation	0.1%	3.8%	0.2%	4.9%
GraphicsMagick - Sharpen	58		87	55	76
	(Iterations/min)				
	Normalized	66.67%	100%	63.22%	87.36%
	Standard Deviation		2.4%		2.3%
GraphicsMagick - Enhanced	90		139	86	123
	(Iterations/min)				
	Normalized	64.75%	100%	61.87%	88.49%
	Standard Deviation		1.2%		0.9%
GraphicsMagick - Resizing	421		594	455	582
	(Iterations/min)				
	Normalized	70.88%	100%	76.6%	97.98%
	Standard Deviation		1.1%	0.8%	1.4%
GraphicsMagick - Noise-Gaussian	114		159	110	144
	(Iterations/min)				
	Normalized	71.7%	100%	69.18%	90.57%
	Standard Deviation		1.1%		1.2%
GraphicsMagick - HWB Color Space	620		855	739	984
	(Iterations/min)				
	Normalized	63.01%	86.89%	75.1%	100%

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	Standard Deviation	0.8%	1.2%
Hierarchical INTegration - FLOAT (QUIPs)	191826538	330736003	185131230 353263833
Normalized	54.3%	93.62%	52.41% 100%
Standard Deviation	0.2%	0.2%	0.1% 0.2%
Himeno Benchmark - P.P.S (MFLOPS)	1658	2879	1523 2917
Normalized	56.86%	98.69%	52.22% 100%
Standard Deviation	0%	0.1%	0.2% 0.1%
iPerf - 5201 - 10 Seconds - UDP - 1000Mbit Objective - 32 (Mbits/s)	27600	30597	19509 30652
Normalized	90.04%	99.82%	63.65% 100%
Standard Deviation	1.7%	0.6%	3% 2.2%
iPerf - 5201 - 10 Seconds - TCP - 1 (Mbits/s)	35013	69905	24531 71529
Normalized	48.95%	97.73%	34.3% 100%
Standard Deviation	3.8%	1%	2.7% 2.9%
iPerf - 5201 - 10 Seconds - TCP - 32 (Mbits/s)	34030	62574	25384 63263
Normalized	53.79%	98.91%	40.12% 100%
Standard Deviation	1.4%	1%	10.7% 1.9%
Java SciMark - Composite (Mflops)	1145	2012	1077 2101
Normalized	54.5%	95.74%	51.27% 100%
Standard Deviation	5.4%	5.4%	5.3% 5.2%
John The Ripper - Blowfish (Real C/S)	7356	10942	6990 9600
Normalized	67.23%	100%	63.88% 87.74%
Standard Deviation		2.4%	0% 2.4%
John The Ripper - MD5 (Real C/S)	372525	498026	353647 426519
Normalized	74.8%	100%	71.01% 85.64%
Standard Deviation	0%	2.2%	0% 2.2%
LAME MP3 Encoding - WAV To MP3 (sec)	21.230	11.707	22.578 11.197
Normalized	52.74%	95.64%	49.59% 100%
Standard Deviation	0%	0%	0.1% 0.1%
libavif avifenc - 8 (sec)	11.978	7.137	12.480 6.576
Normalized	54.9%	92.14%	52.69% 100%
Standard Deviation	0.6%	0.5%	0.6% 0.4%
libavif avifenc - 10 (sec)	11.355	6.795	11.950 6.286
Normalized	55.36%	92.51%	52.6% 100%
Standard Deviation	0.2%	0.7%	0.1% 0.7%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	92.159009	169.459136	87.701109 179.169436
Normalized	51.44%	94.58%	48.95% 100%
Standard Deviation	0%	0.1%	0.1% 0.1%
LibRaw - P.P.B (Mpix/sec)	18.77	30.33	17.51 28.89
Normalized	61.89%	100%	57.73% 95.25%
Standard Deviation	0.2%	0.1%	0.1% 2.4%
LuaJIT - Composite (Mflops)	752.26	1304	709.13 1385
Normalized	54.3%	94.16%	51.19% 100%
Standard Deviation	0.1%	0.1%	0.5% 0.4%
LuaJIT - Monte Carlo (Mflops)	251.72	441.46	239.72 467.48
Normalized	53.85%	94.43%	51.28% 100%
Standard Deviation	0%	0.2%	0.2% 0.3%
LuaJIT - F.F.T (Mflops)	284.23	439.56	238.16 457.09
Normalized	62.18%	96.16%	52.1% 100%

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Standard Deviation	0.5%	0.5%	2.1%	2%
LuaJIT - S.M.M (Mflops)	647.27	1129	617.78	1206
Normalized	53.66%	93.61%	51.22%	100%
Standard Deviation	0%	0.1%	0.1%	0.4%
LuaJIT - D.L.M.F (Mflops)	1825	3195	1736	3399
Normalized	53.7%	93.99%	51.06%	100%
Standard Deviation	0.3%	0.1%	0.6%	0.4%
LuaJIT - J.S.O.R (Mflops)	752.74	1317	714.38	1397
Normalized	53.9%	94.3%	51.15%	100%
Standard Deviation	0.2%	0%	0.2%	0%
m-queens - Time To Solve (sec)	202.222	124.431	212.902	143.379
Normalized	61.53%	100%	58.45%	86.78%
Standard Deviation	0%	1.2%	0%	1.3%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	6831	7371	6211	10811
Normalized	63.18%	68.18%	57.45%	100%
Standard Deviation	1%	0.3%	1.8%	0.8%
Monkey Audio Encoding - WAV To APE (sec)	68.114	35.125	72.441	33.682
Normalized	49.45%	95.89%	46.5%	100%
Standard Deviation	0%	0%	0%	0%
Node.js Express HTTP Load Test (Req/sec)	3958	6979	3952	7380
Normalized	53.63%	94.57%	53.55%	100%
Standard Deviation	0.1%	0.4%	0.4%	0.7%
Numpy Benchmark (Score)	192.59	290.02	185.47	311.95
Normalized	61.74%	92.97%	59.46%	100%
Standard Deviation	0.2%	0.4%	0%	0.5%
OpenSSL - R.4.b.P (Signs/sec)	778.6	1353	739.2	1169
Normalized	57.54%	100%	54.63%	86.4%
Standard Deviation	0%	1.2%	0%	6.6%
Optcarrot - O.B (FPS)	67.68	114.64	64.56	121.14
Normalized	55.87%	94.63%	53.29%	100%
Standard Deviation	0.2%	0.1%	0.3%	0.2%
OSBench - Create Files (us/Event)	123.229822	67.993345	75.523087	36.165431
Normalized	29.35%	53.19%	47.89%	100%
Standard Deviation	11.1%	51.5%	1.1%	0.5%
OSBench - Create Threads (us/Event)	15.397072	2.956391	17.385483	3.126463
Normalized	19.2%	100%	17%	94.56%
Standard Deviation	0.7%	1.5%	0.4%	1.8%
OSBench - Launch Programs	127.126376	49.739679	173.850060	70.159435
Normalized	39.13%	100%	28.61%	70.9%
Standard Deviation	0.2%	0.4%	0.6%	2.1%
OSBench - Create Processes	60.876210	27.066866	73.312521	26.769638
Normalized	43.97%	98.9%	36.51%	100%
Standard Deviation	0.7%	0.8%	2.3%	1.3%
OSBench - Memory Allocations (Ns/Event)	60.998678	26.557922	65.539910	25.064010
Normalized	41.09%	94.37%	38.24%	100%
Standard Deviation	0.3%	0.1%	2.9%	3.6%
Perl Benchmarks - Pod2html (sec)	0.31573604	0.16873474	0.33328397	0.15992416
Normalized	50.65%	94.78%	47.98%	100%
Standard Deviation	1.4%	0.9%	0.7%	0.5%

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PHP Micro Benchmarks - Zend bench	0.995 (sec)	0.575	1.044	0.54
Normalized	54.27%	93.91%	51.72%	100%
Standard Deviation	0%	2.5%	0.1%	0%
PHP Micro Benchmarks - Zend	5.174 micro_bench (sec)	2.998	5.426	2.822
Normalized	54.54%	94.13%	52.01%	100%
Standard Deviation	0%	0.5%	0%	0%
PHPBench - P.B.S (Score)	273777	483162	262992	511621
Normalized	53.51%	94.44%	51.4%	100%
Standard Deviation	0%	0%	0.2%	0.1%
PolyBench-C - 3.M.M (sec)	5.817	3.343	6.085	2.963
Normalized	50.94%	88.63%	48.69%	100%
Standard Deviation	0.5%	0.6%	0.2%	0.1%
Primesieve - 1.P.N.G (sec)	59.443	42.439	62.947	49.040
Normalized	71.39%	100%	67.42%	86.54%
Standard Deviation	0.1%	2.4%	0.4%	1.2%
PyBench - T.F.A.T.T (Milliseconds)	3180	1836	3290	1750
Normalized	55.03%	95.32%	53.19%	100%
Standard Deviation	0.2%	0.3%	0.2%	0.3%
PyPerformance - go (Milliseconds)	796	463	837	439
Normalized	55.15%	94.82%	52.45%	100%
Standard Deviation	0.1%	0.1%	0.2%	0.3%
PyPerformance - 2to3 (Milliseconds)	903	526	949	495
Normalized	54.82%	94.11%	52.16%	100%
Standard Deviation	0.2%	0.1%		
PyPerformance - float (Milliseconds)	308	185	323	175
Normalized	56.82%	94.59%	54.18%	100%
Standard Deviation			0.2%	
PyPerformance - nbody (Milliseconds)	370	233	389	220
Normalized	59.46%	94.42%	56.56%	100%
PyPerformance - pathlib	71.8	36.3	74.8	34.4
Normalized	47.91%	94.77%	45.99%	100%
Standard Deviation	0.3%	0.2%	0.2%	0.2%
PyPerformance - json.loads	81.8 (Milliseconds)	42.6	87.3	40.7
Normalized	49.76%	95.54%	46.62%	100%
Standard Deviation	0.1%	0.2%	0.3%	0.1%
PyPerformance - crypto_pyaes	318 (Milliseconds)	187	334	177
Normalized	55.66%	94.65%	52.99%	100%
Standard Deviation	0.2%			
PyPerformance - regex_compile	549 (Milliseconds)	329	578	311
Normalized	56.65%	94.53%	53.81%	100%
Standard Deviation			0.2%	
PyPerformance - python_startup	21 (Milliseconds)	13.7	22	13.3
Normalized	63.33%	97.08%	60.45%	100%
Standard Deviation		0%		0.4%
PyPerformance - django_template	190 (Milliseconds)	113	201	107
Normalized	56.32%	94.69%	53.23%	100%
Standard Deviation	0.3%		0.3%	

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		FreeBSD 12.2	FreeBSD 13 BETA
R Benchmark (sec)	1.3919	0.7841	1.4291 0.7487
Normalized	53.79%	95.49%	52.39% 100%
Standard Deviation	0.3%	0.4%	0.3% 0.2%
rav1e - 5 (FPS)	0.604	1.061	0.572 1.060
Normalized	56.93%	100%	53.91% 99.91%
Standard Deviation	0.7%	0.2%	0.7% 2.5%
rav1e - 6 (FPS)	0.813	1.409	0.757 1.445
Normalized	56.26%	97.51%	52.39% 100%
Standard Deviation	0.1%	0.7%	1.1% 0.7%
rav1e - 10 (FPS)	1.808	3.129	1.713 3.300
Normalized	54.79%	94.82%	51.91% 100%
Standard Deviation	0.3%	0.3%	0.4% 0.3%
Renaissance - Scala Dotty (ms)	3350	1934	3396 1804
Normalized	53.86%	93.29%	53.14% 100%
Standard Deviation	1%	1.1%	1% 0.9%
Renaissance - Savina Reactors.IO	33209	19121	40991 17989
Normalized	54.17%	94.08%	43.89% 100%
Standard Deviation	0.5%	1.4%	1.9% 1.4%
Renaissance - T.H.R (ms)	4013	2702	4009 3107
Normalized	67.32%	100%	67.4% 86.96%
Standard Deviation	1.4%	1.3%	1.5% 1.4%
Rodinia - OpenMP CFD Solver (sec)	45.227	33.306	27.382
Normalized	60.54%	82.21%	62.56% 100%
Standard Deviation	0.1%	1.2%	0.4% 2.4%
Rust Mandelbrot - T.T.C.S.P.M (sec)	109.013	61.733	113.782 59.564
Normalized	54.64%	96.49%	52.35% 100%
Standard Deviation	0.6%	0%	0.1% 0.2%
Rust Prime Benchmark - P.N.T.T.2.0.0	24.298 (sec)	13.883	25.654 16.057
Normalized	57.14%	100%	54.12% 86.46%
Standard Deviation	0.2%	0.1%	0% 2.5%
Scikit-Learn (sec)	291.104	168.313	318.782 171.043
Normalized	57.82%	100%	52.8% 98.4%
Standard Deviation	0%	0%	0.2% 0.2%
SciMark - Composite (Mflops)	354.06	613.82	340.88 664.97
Normalized	53.24%	92.31%	51.26% 100%
Standard Deviation	0.1%	0.1%	0.2% 0.3%
simdjson - Kostya (GB/s)	0.46	0.83	0.42 0.85
Normalized	54.12%	97.65%	49.41% 100%
Standard Deviation	0%	0%	0% 0%
simdjson - LargeRand (GB/s)	0.24	0.46	0.23 0.48
Normalized	50%	95.83%	47.92% 100%
Standard Deviation	0%	0%	0% 0%
simdjson - PartialTweets (GB/s)	0.35	0.64	0.33 0.66
Normalized	53.03%	96.97%	50% 100%
Standard Deviation	0%	0%	0% 0%
simdjson - DistinctUserID (GB/s)	0.37	0.66	0.34 0.68
Normalized	54.41%	97.06%	50% 100%
Standard Deviation	0%	0%	0% 0%
Smallpt - G.I.R.1.S (sec)	28.235	18.005	29.690 20.805
Normalized	63.77%	100%	60.64% 86.54%
Standard Deviation	0.1%	2.5%	0.1% 2.4%
SMHasher - wyhash (MiB/sec)	12711	24086	11679 26835
Normalized	47.37%	89.75%	43.52% 100%
Standard Deviation	0.2%	0.2%	0.8% 0.2%

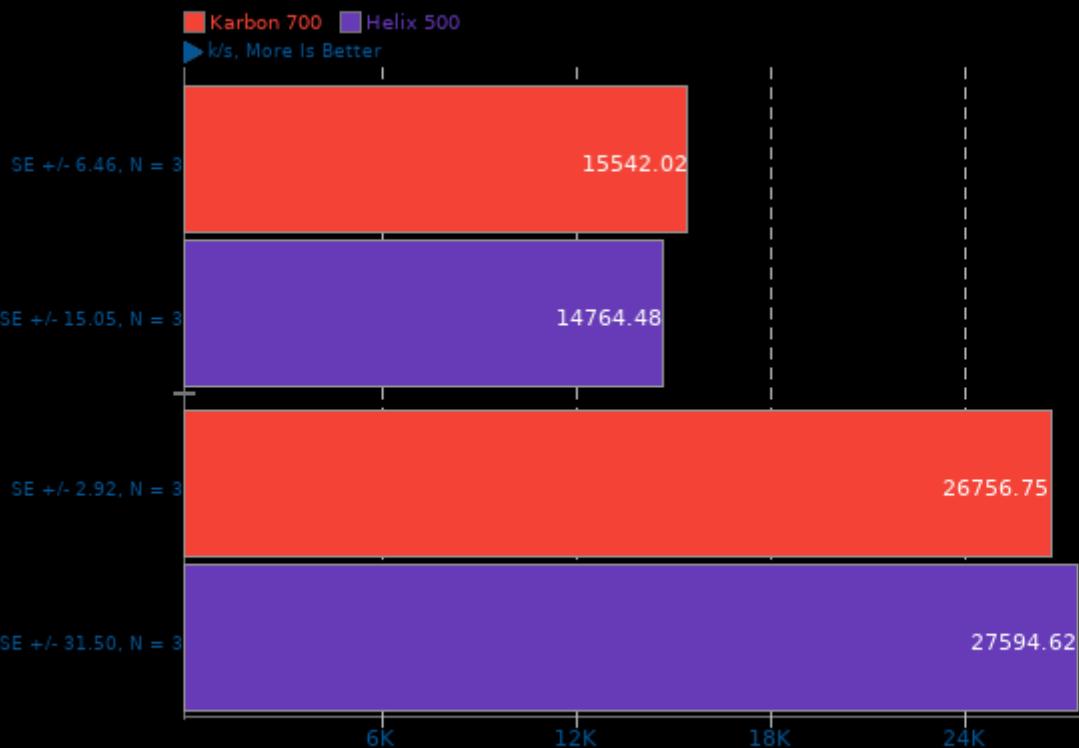
FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

SMHasher - wyhash (cycles/hash)	33.333	18.838	35.236	17.839
Normalized	53.52%	94.7%	50.63%	100%
Standard Deviation	0%	0%	0%	0%
SMHasher - MeowHash (MiB/sec)	29576	50310	27598	53634
Normalized	55.14%	93.8%	51.46%	100%
Standard Deviation	0.9%	0.8%	0.6%	0.1%
SMHasher - MeowHash (cycles/hash)	72.770	41.421	76.451	38.968
Normalized	53.55%	94.08%	50.97%	100%
Standard Deviation	0%	0.2%	0%	0%
SMHasher - Spooky32 (MiB/sec)	11927	20891	11180	22733
Normalized	52.47%	91.9%	49.18%	100%
Standard Deviation	0.8%	0.3%	0.4%	0%
SMHasher - Spooky32 (cycles/hash)	56.679	32.106	59.769	30.530
Normalized	53.86%	95.09%	51.08%	100%
Standard Deviation	0.1%	0%	0%	0%
SMHasher - fasthash32 (MiB/sec)	5390	9433	5111	9970
Normalized	54.06%	94.61%	51.26%	100%
Standard Deviation	0%	0%	0%	0%
SMHasher - fasthash32 (cycles/hash)	45.231	25.996	47.567	24.621
Normalized	54.43%	94.71%	51.76%	100%
Standard Deviation	0%	0%	0.1%	0%
SMHasher - t1ha2_atonce (MiB/sec)	12108	21002	10485	20943
Normalized	57.65%	100%	49.93%	99.72%
Standard Deviation	0.4%	0.5%	0%	0%
SMHasher - t1ha2_atonce	44.670	25.354	46.925	23.831
Normalized	53.35%	93.99%	50.79%	100%
Standard Deviation	0.1%	0%	0.1%	0.1%
SMHasher - t1ha0_aes_avx2 (MiB/sec)	33407	60166	31601	72402
Normalized	46.14%	83.1%	43.65%	100%
Standard Deviation	3.9%	1.4%	3.4%	0.1%
SMHasher - t1ha0_aes_avx2	44.475 (cycles/hash)	25.178	46.755	23.626
Normalized	53.12%	93.84%	50.53%	100%
Standard Deviation	0%	0.2%	0.1%	0%
SQLite Speedtest - Timed Time - Size	221.539	112.301	233.356	106.113
1,000 (sec)				
Normalized	47.9%	94.49%	45.47%	100%
Standard Deviation	0.1%	0.1%	0.3%	0.6%
Stockfish - Total Time (Nodes/s)	9083381	12872811	9132396	11051619
Normalized	70.56%	100%	70.94%	85.85%
Standard Deviation	1.1%	3.5%	0.8%	2.4%
Stress-NG - MMAP (Bogo Ops/s)	114.63	216.97	101.96	212.59
Normalized	52.83%	100%	46.99%	97.98%
Standard Deviation	5.9%	3.1%	11%	6.7%
Stress-NG - Malloc (Bogo Ops/s)	90297292	160803472	85352349	143900729
Normalized	56.15%	100%	53.08%	89.49%
Standard Deviation	0.1%	1.6%	0.3%	2.1%
Stress-NG - Forking (Bogo Ops/s)	15458	38093	13801	26910
Normalized	40.58%	100%	36.23%	70.64%
Standard Deviation	3.9%	1.2%	4.4%	2.2%
Stress-NG - CPU Stress (Bogo Ops/s)	1437	2381	1357	2103
Normalized	60.33%	100%	57%	88.34%
Standard Deviation	0.5%	2.5%	0.2%	2.3%
Stress-NG - Semaphores (Bogo	12107606	20109853	11429812	17337245
Normalized	60.21%	100%	56.84%	86.21%

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Stress-NG - Matrix Math (Bogo Ops/s)	Standard Deviation Normalized Standard Deviation	3.3% 66.52% 0.4%	3.8% 100% 2.2%	5.1% 63.97% 1.8%	2.3% 87.39% 1.3%
Stress-NG - Memory Copying (Bogo Ops/s)	Ops/s Normalized Standard Deviation	22147 52.29% 0.8%	33294 796.42	21297 1511	29095 1610
Stress-NG - Socket Activity (Bogo Ops/s)	Normalized Standard Deviation	48.39% 3.3%	3189	1025	3218
Stress-NG - Context Switching (Bogo Ops/s)	Normalized Standard Deviation	54.27% 1.5%	99.12% 0.4%	93.83% 0.7%	100% 0.5%
Stress-NG - G.C.S.F (Bogo Ops/s)	Normalized Standard Deviation	69.22% 0.2%	18590880	9683382	60362 14550134
Stress-NG - G.Q.D.S (Bogo Ops/s)	Normalized Standard Deviation	66.03% 0%	100% 7.2%	52.09% 4%	90.36% 2.3%
Stress-NG - S.V.M.P (Bogo Ops/s)	Normalized Standard Deviation	50.38% 0.3%	185.89	116.43	160.95
Swet - Average (Operations/sec)	Normalized Standard Deviation	55.92% 1.5%	100% 2.5%	62.63% 0.1%	86.58% 2.4%
Timed Eigen Compilation - Time To Compile (sec)	Normalized Standard Deviation	55.98% 0.1%	1465334	675814	1543793
Timed HMMer Search - P.D.S (sec)	Normalized Standard Deviation	54.84% 0.2%	94.92% 0.3%	43.78% 0.2%	100% 0.2%
Timed PHP Compilation - Time To Compile (sec)	Normalized Standard Deviation	54.20% 0.7%	323138442	171943966	331636377
TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)	Normalized Standard Deviation	50.31% 0.4%	97.44% 0.4%	51.85% 0.7%	100% 0.5%
x264 - H.2.V.E (FPS)	Normalized Standard Deviation	61.97% 2.5%	90.517	159.836	85.201
x265 - Bosphorus 4K (FPS)	Normalized Standard Deviation	44.40 6.15	94.13% 130.592	53.31% 0.1%	100% 0.2%
x265 - Bosphorus 1080p (FPS)	Normalized Standard Deviation	73.21% 0.7%	72.79 8.40	126.047 62.37	100% 0.6%
	Normalized Standard Deviation	65.01% 1.1%	100% 2.6%	46.7% 0.7%	85.68% 3.8%
	Normalized Standard Deviation	100% 2.5%	44.39 28.09	6.27 0.2%	99.17% 1.7%
	Normalized Standard Deviation	100% 1.8%	100% 0.5%	74.64% 0.2%	8.33 40.25
	Normalized Standard Deviation	63.28% 0.5%		90.67% 2.5%	

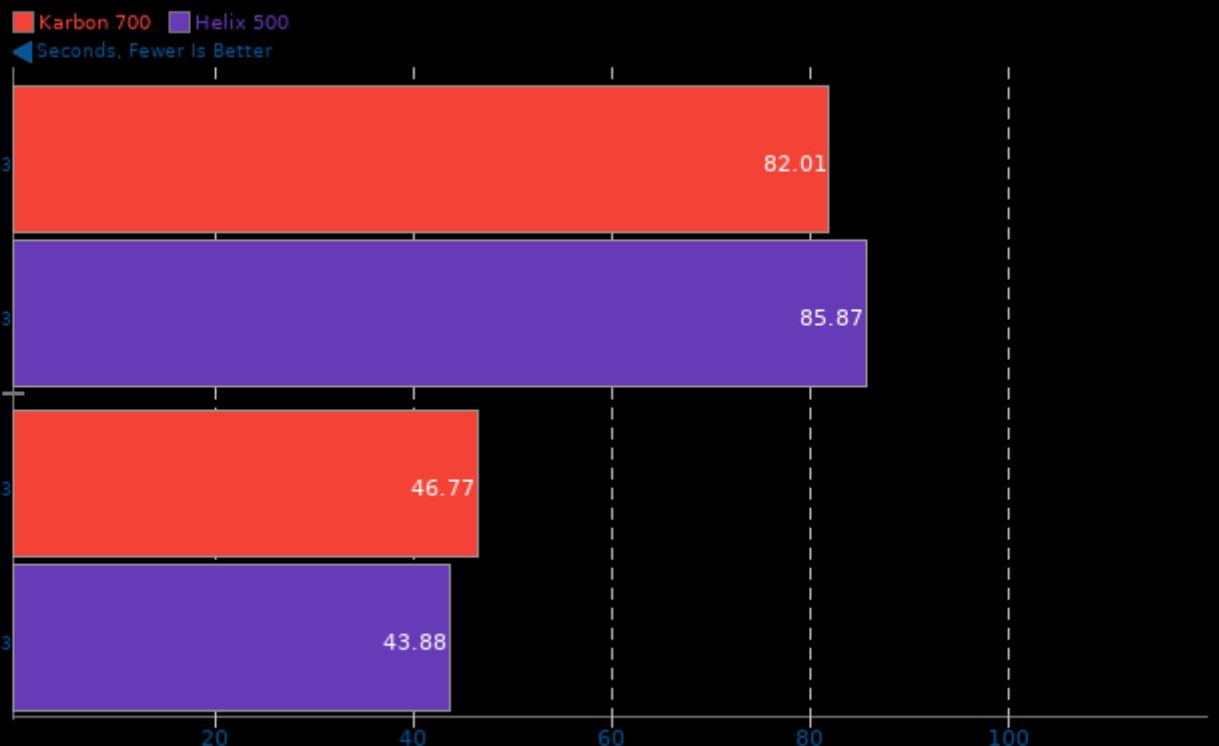
Aircrack-ng 1.5.2



1. (CXX) clang++ options: -O3 -fvisibility=hidden -fasm=intel -fcommon -rdynamic -lsqllite3 -lpthread -lz -lcrypto -lhwloc -ldl -lm -pthread

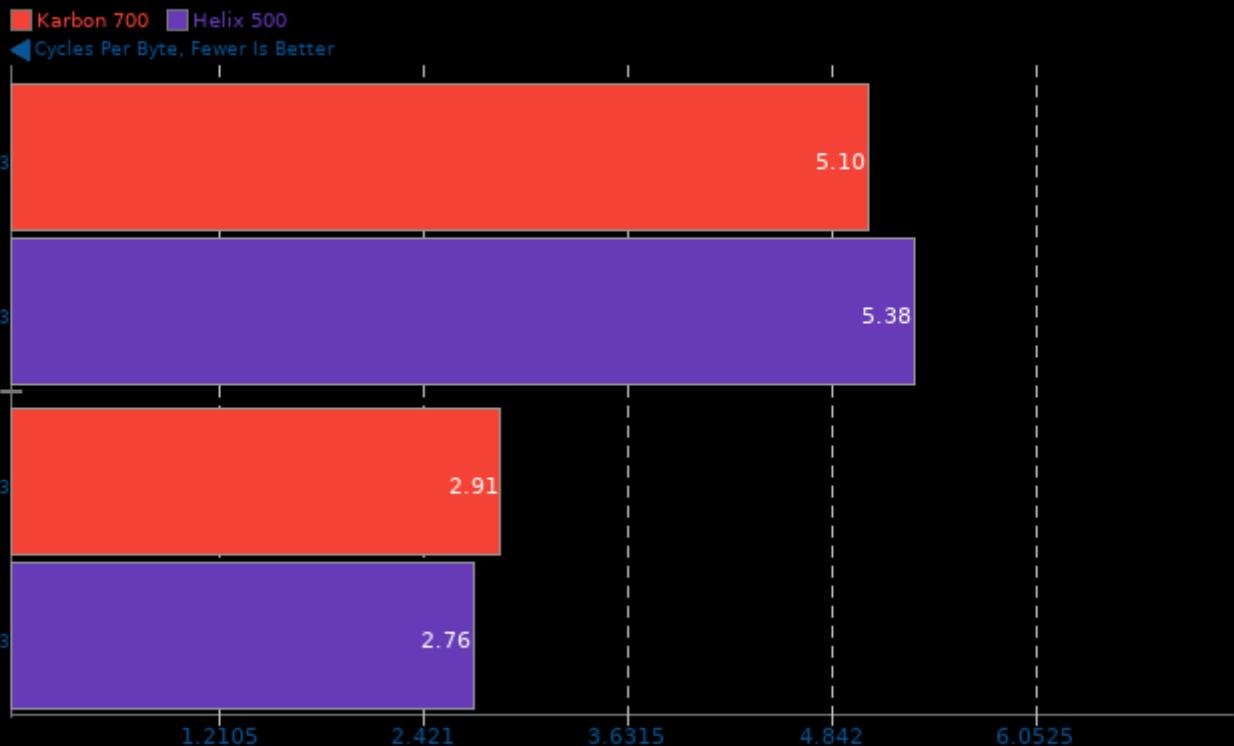
AOBench

Size: 2048 x 2048 - Total Time



1. (CC) clang options: -lm -O3

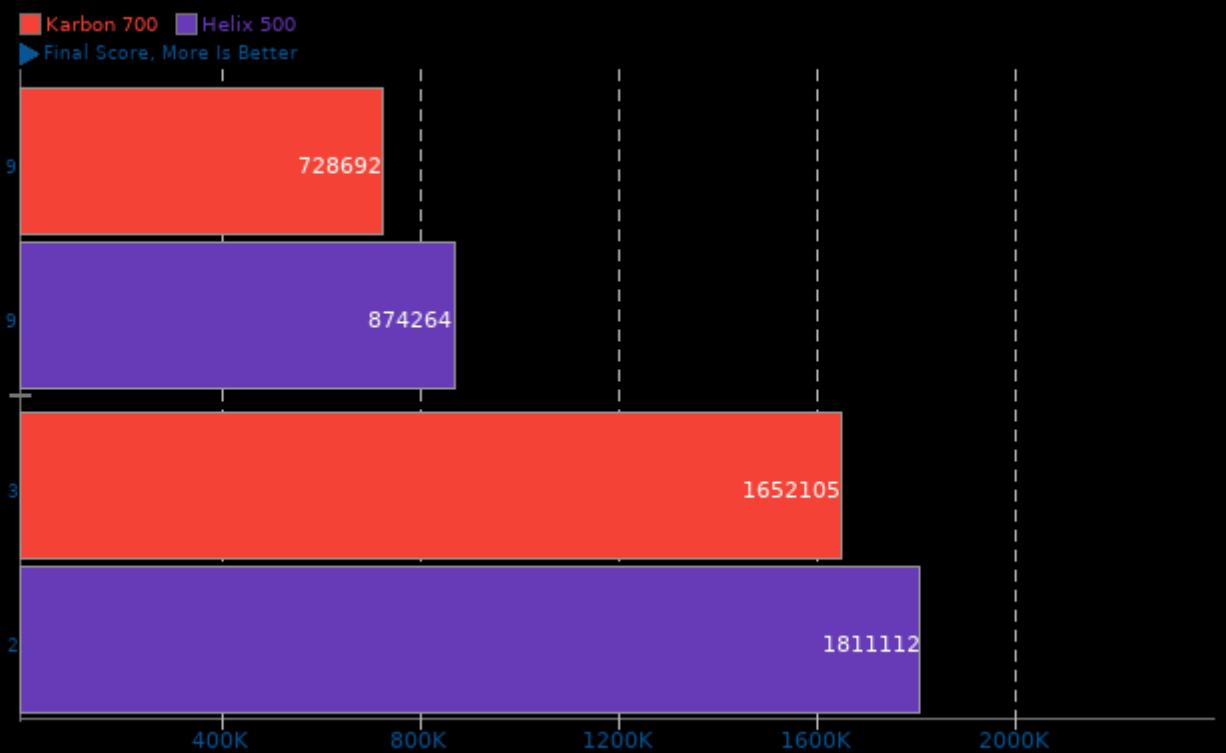
BLAKE2 20170307



1. (CC) clang options: -O3 -march=native -lcrypto -lz

BlogBench 1.1

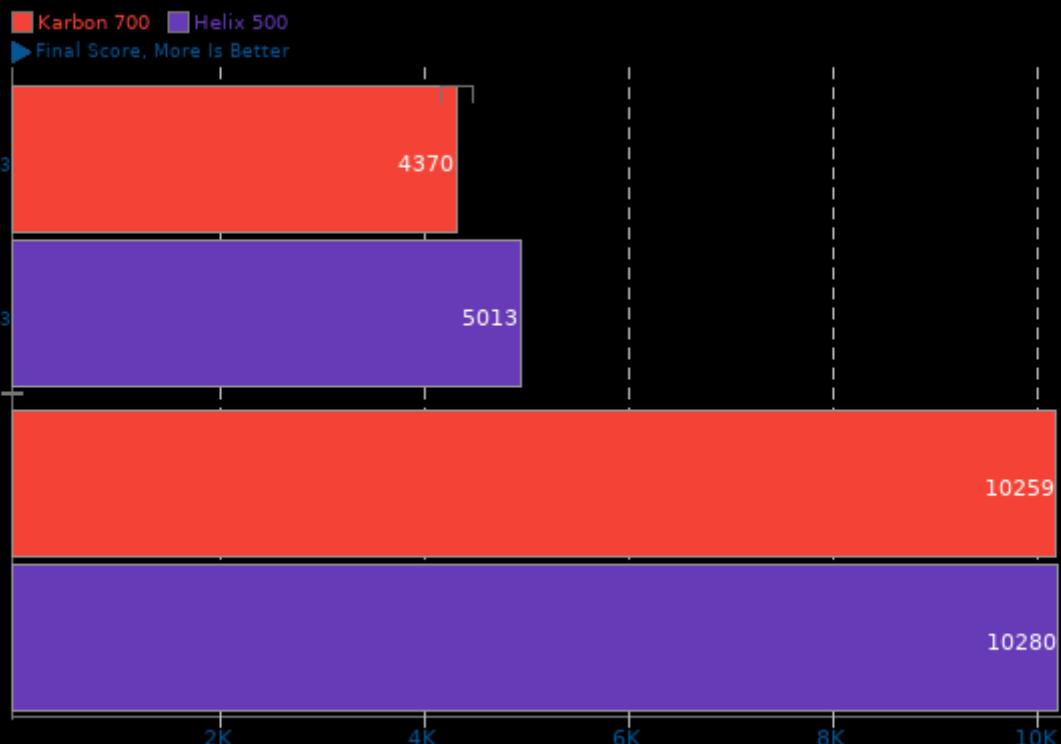
Test: Read



1. (CC) clang options: -O2 -pthread

BlogBench 1.1

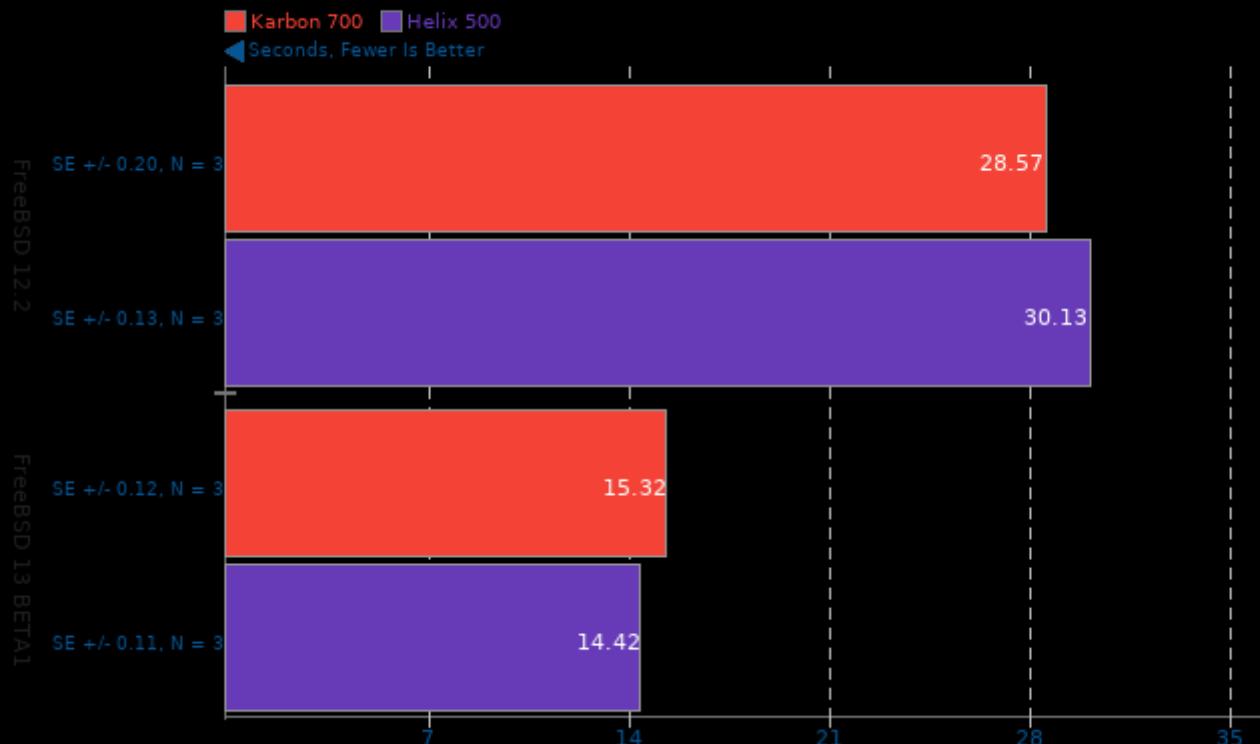
Test: Write



1. (CC) clang options: -O2 -pthread

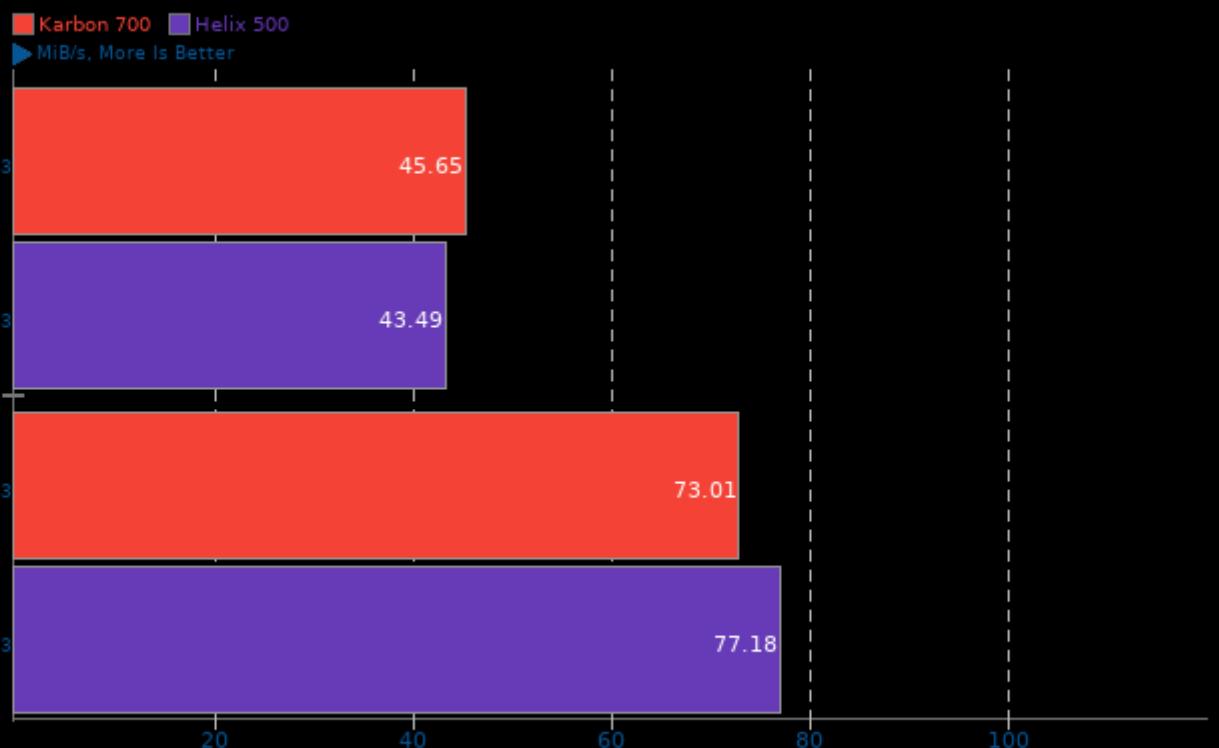
Bork File Encrypter 1.4

File Encryption Time



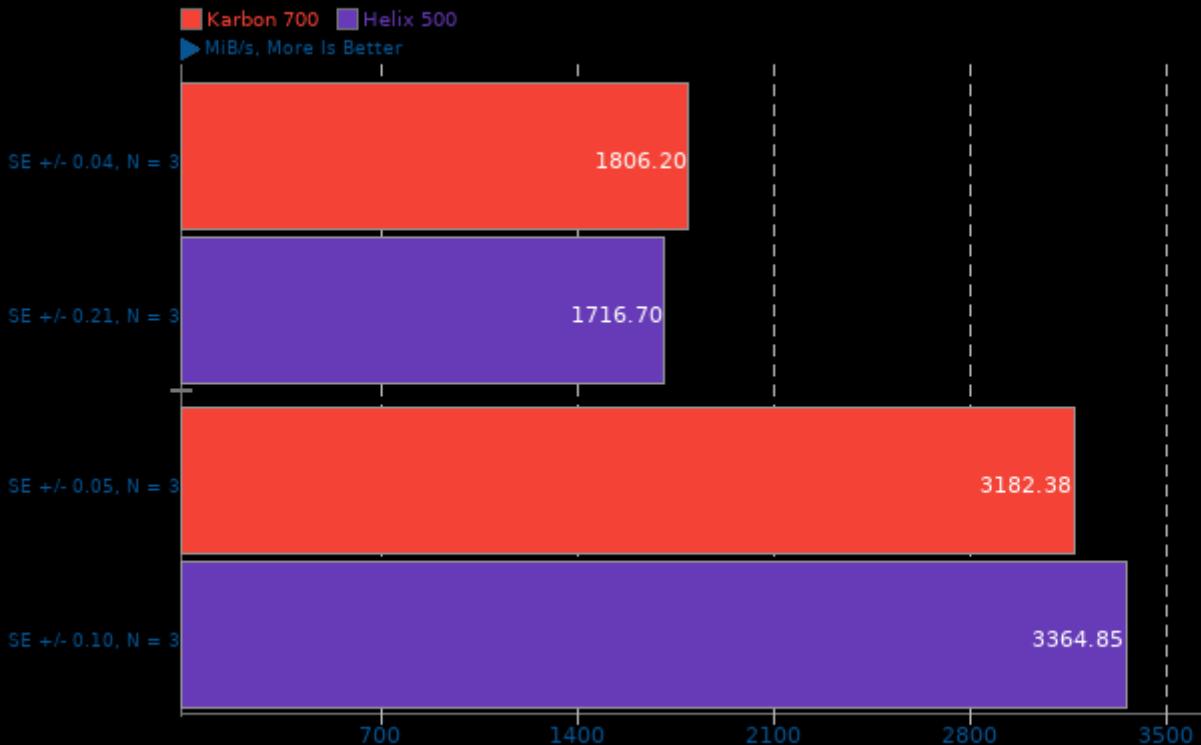
Botan 2.13.0

Test: KASUMI



Botan 2.13.0

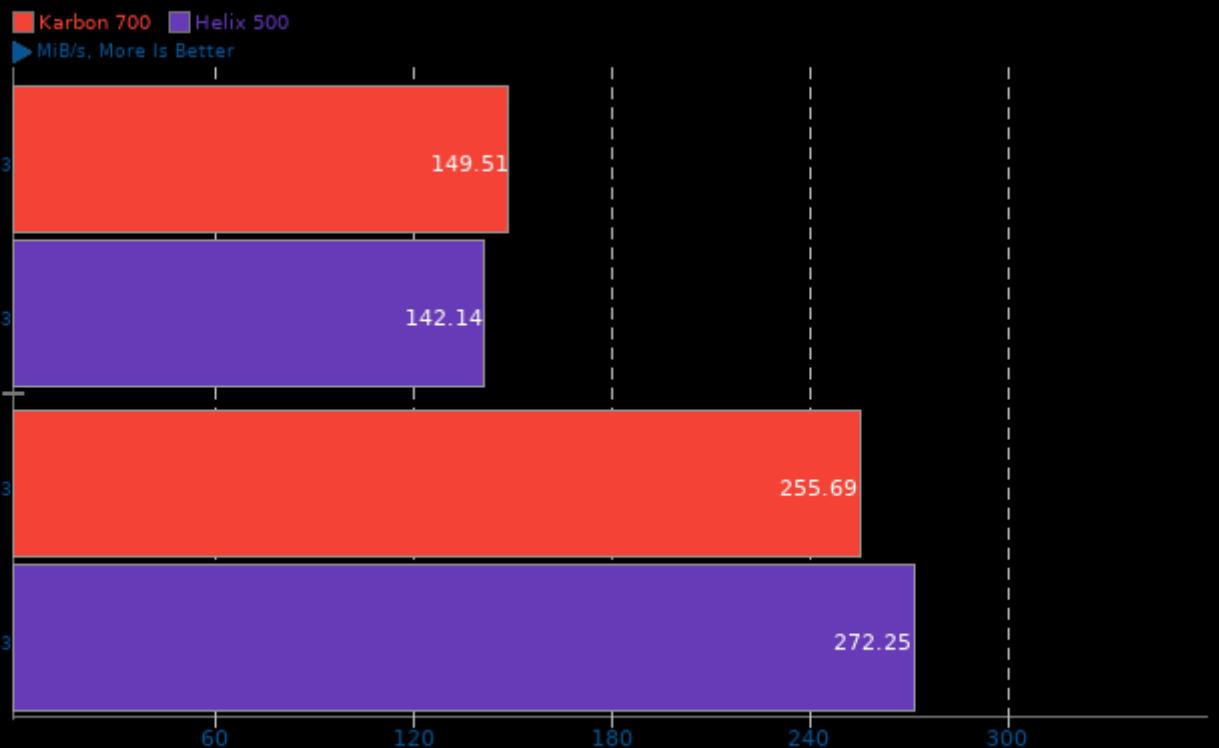
Test: AES-256



1. (CXX) clang++ options: -fstack-protector -pthread -lbotan-2

Botan 2.13.0

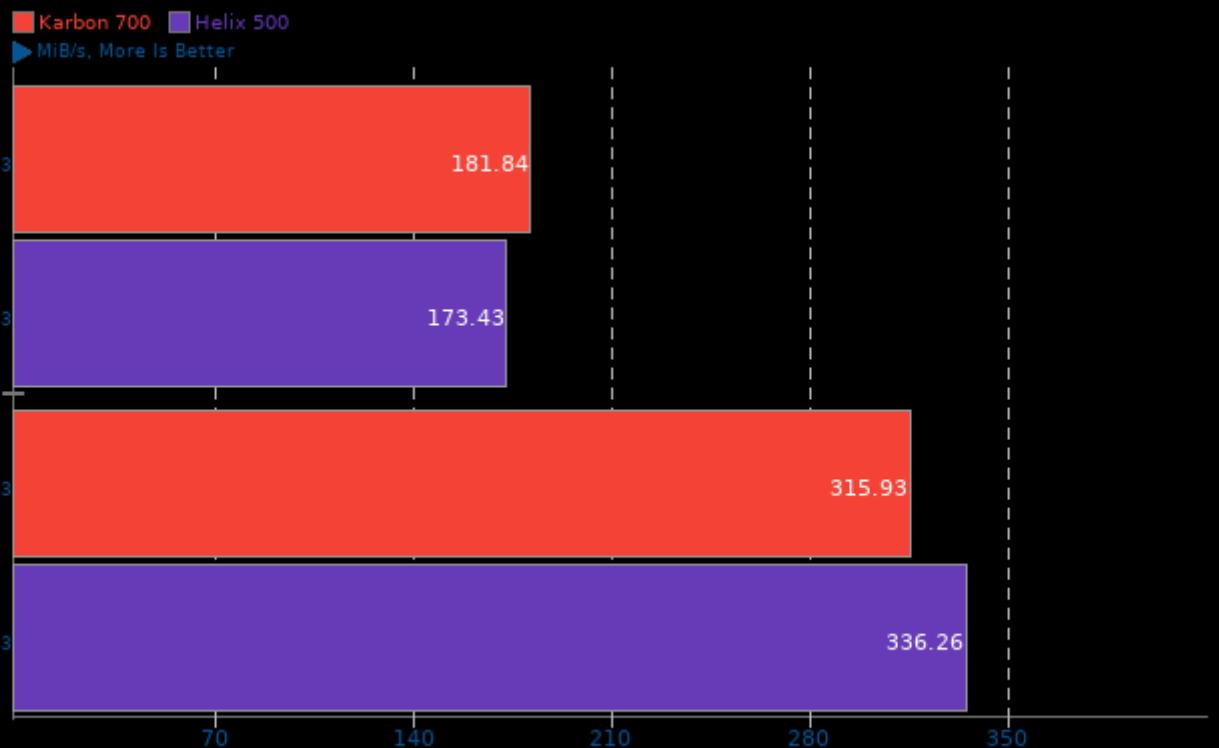
Test: Twofish



1. (CXX) clang++ options: -fstack-protector -pthread -lbotan-2

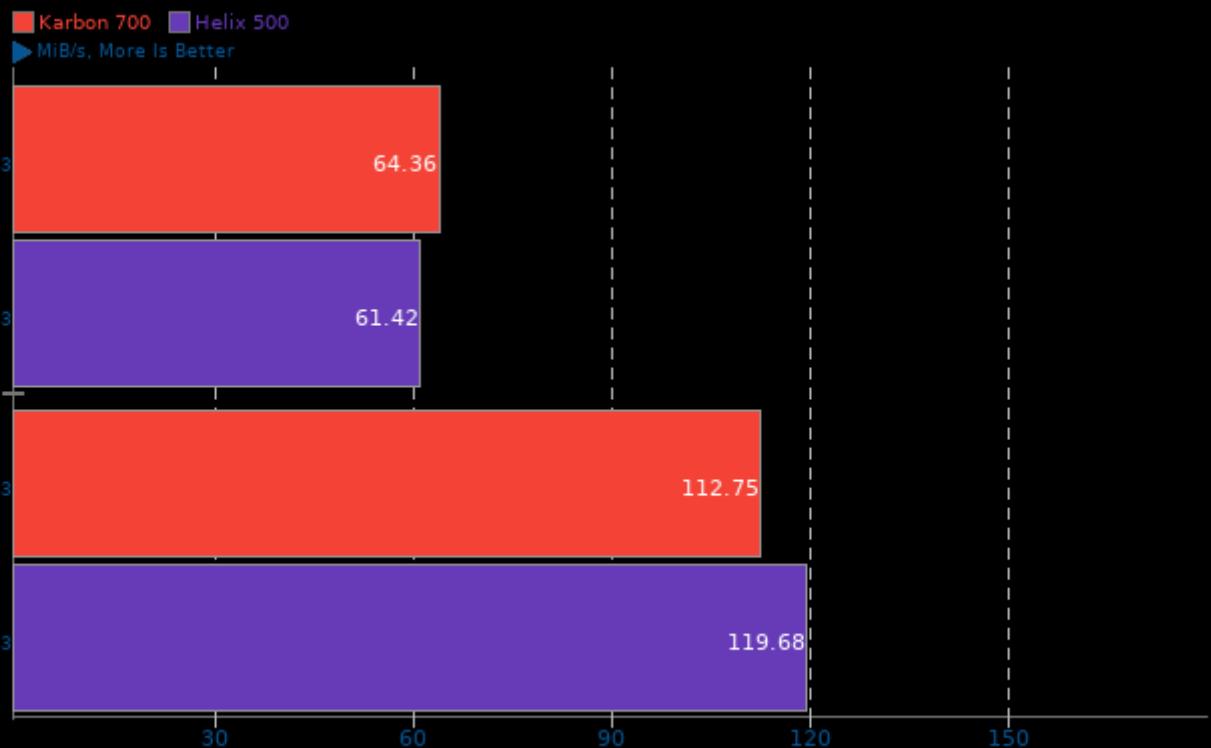
Botan 2.13.0

Test: Blowfish



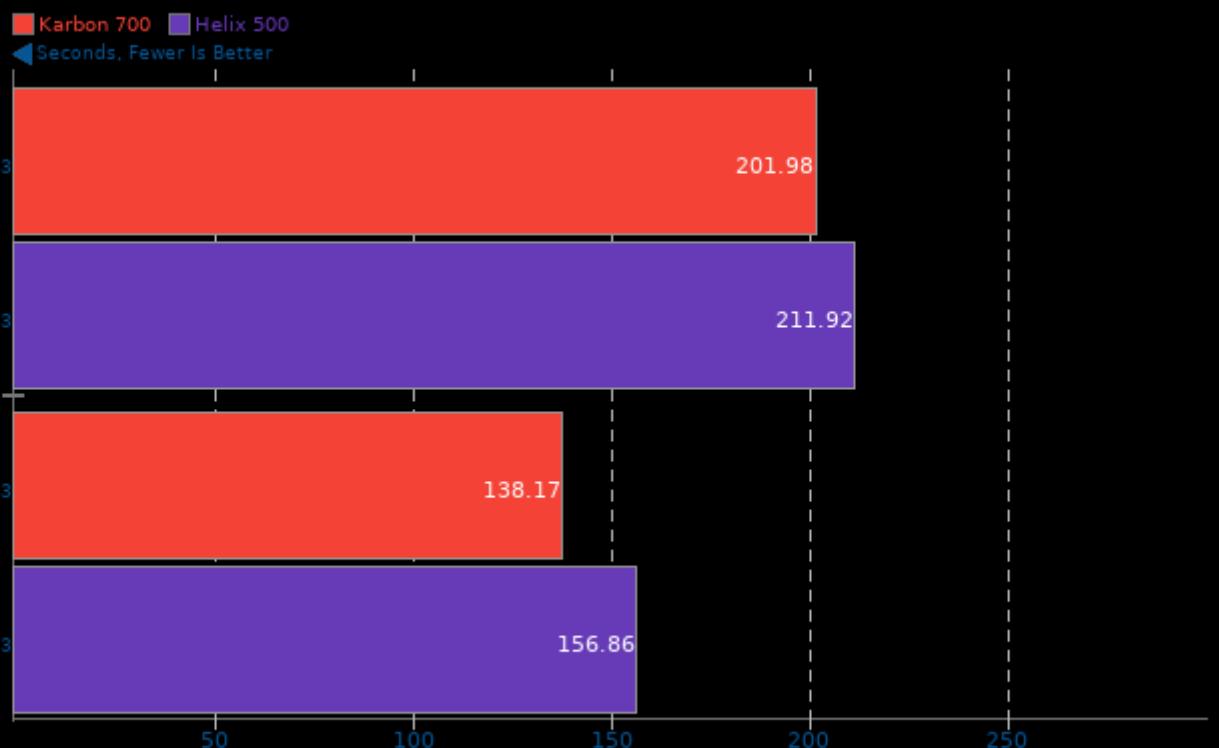
Botan 2.13.0

Test: CAST-256



C-Ray 1.1

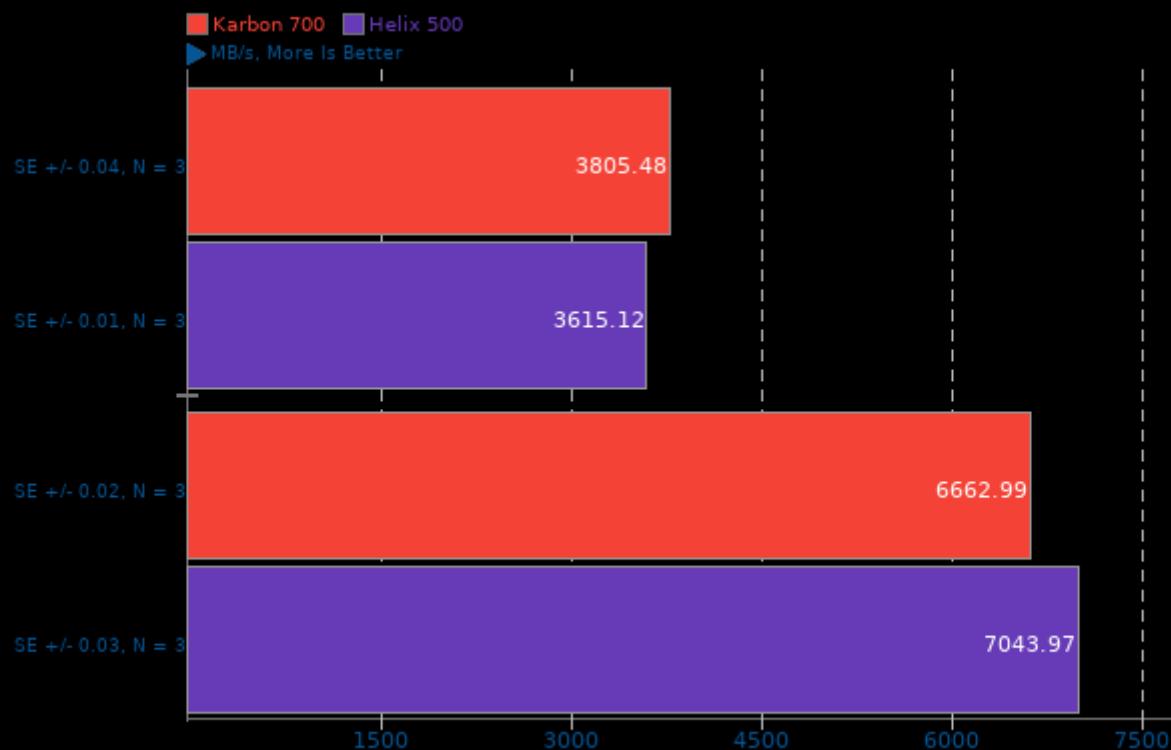
Total Time - 4K, 16 Rays Per Pixel



1. (CC) clang options: -lm -lpthread -O3

CacheBench

Test: Read

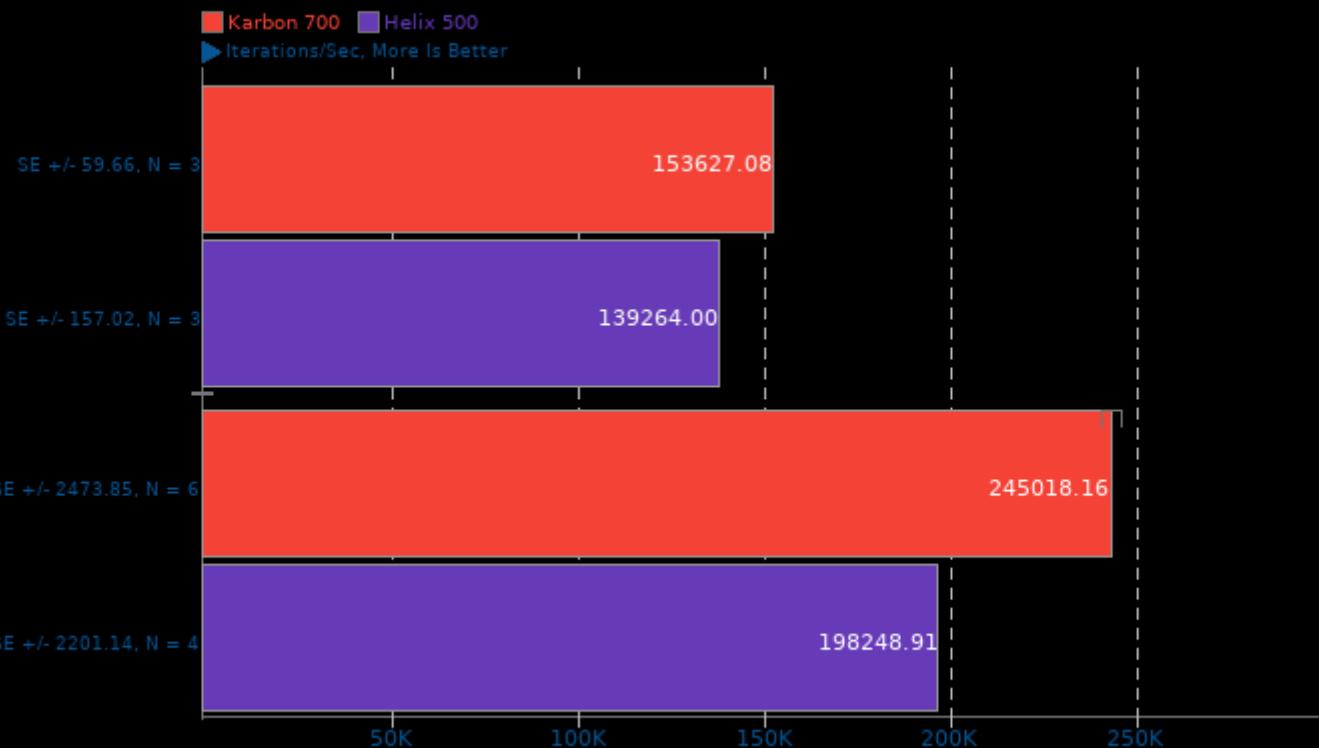


1. (CC) clang options: -fipa-sra

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Coremark 1.0

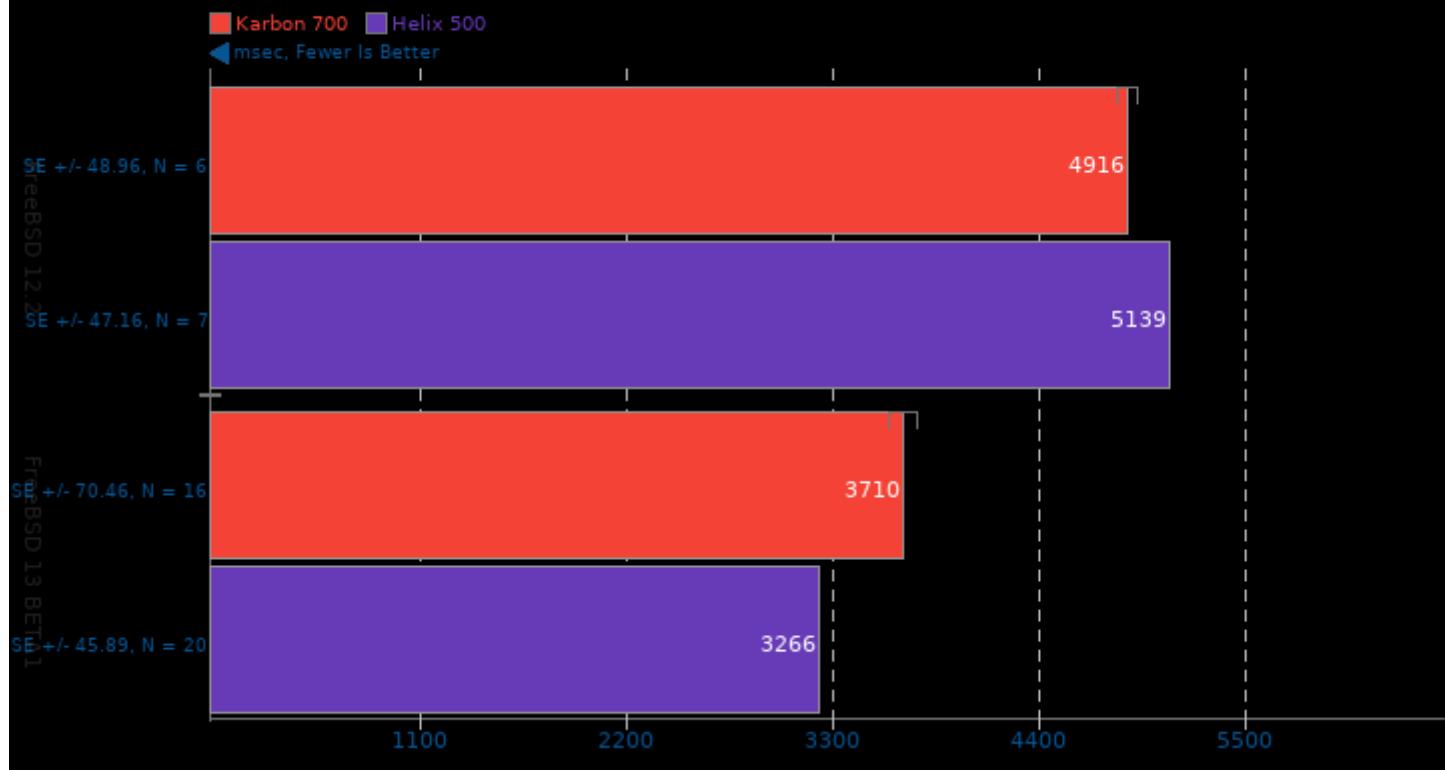
CoreMark Size 666 - Iterations Per Second



1. (CC) clang options: -O2 -fipa-sra -fipa-profile

DaCapo Benchmark 9.12-MR1

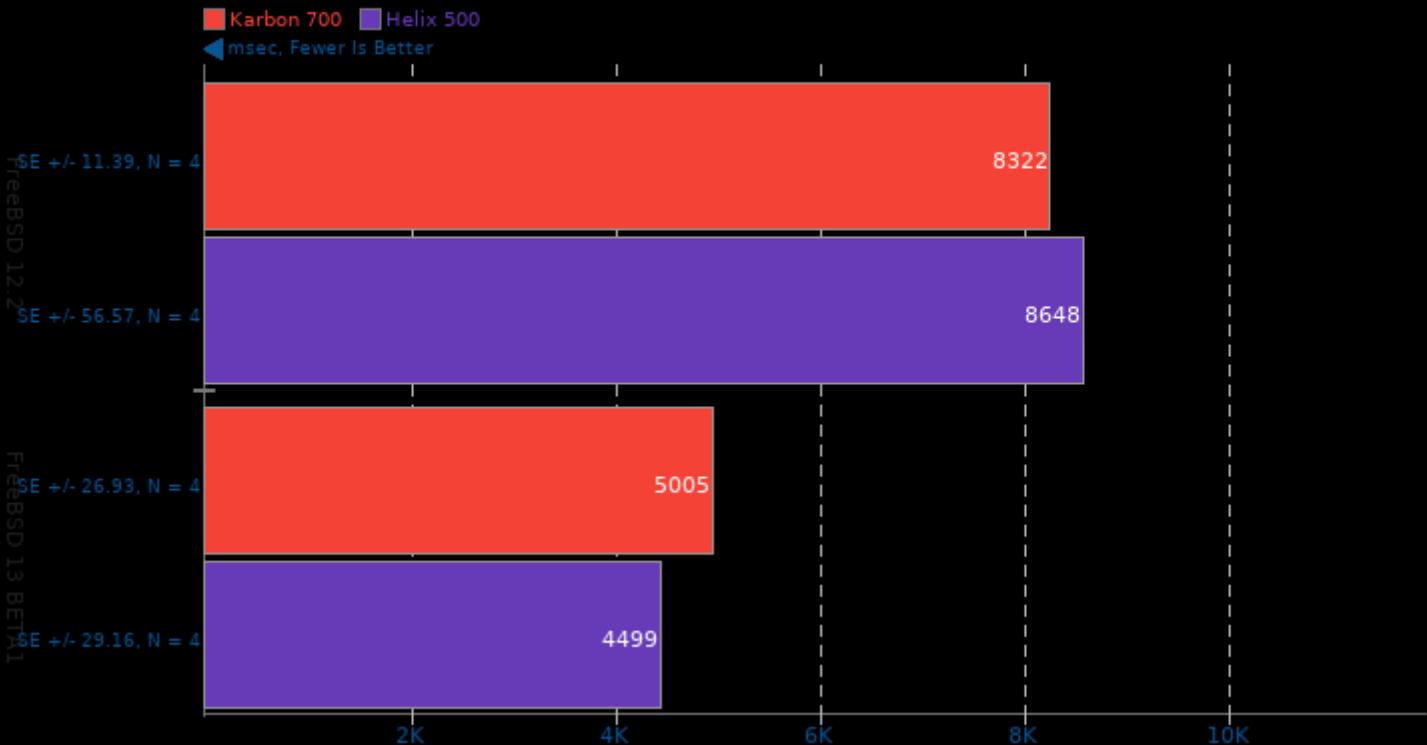
Java Test: H2



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

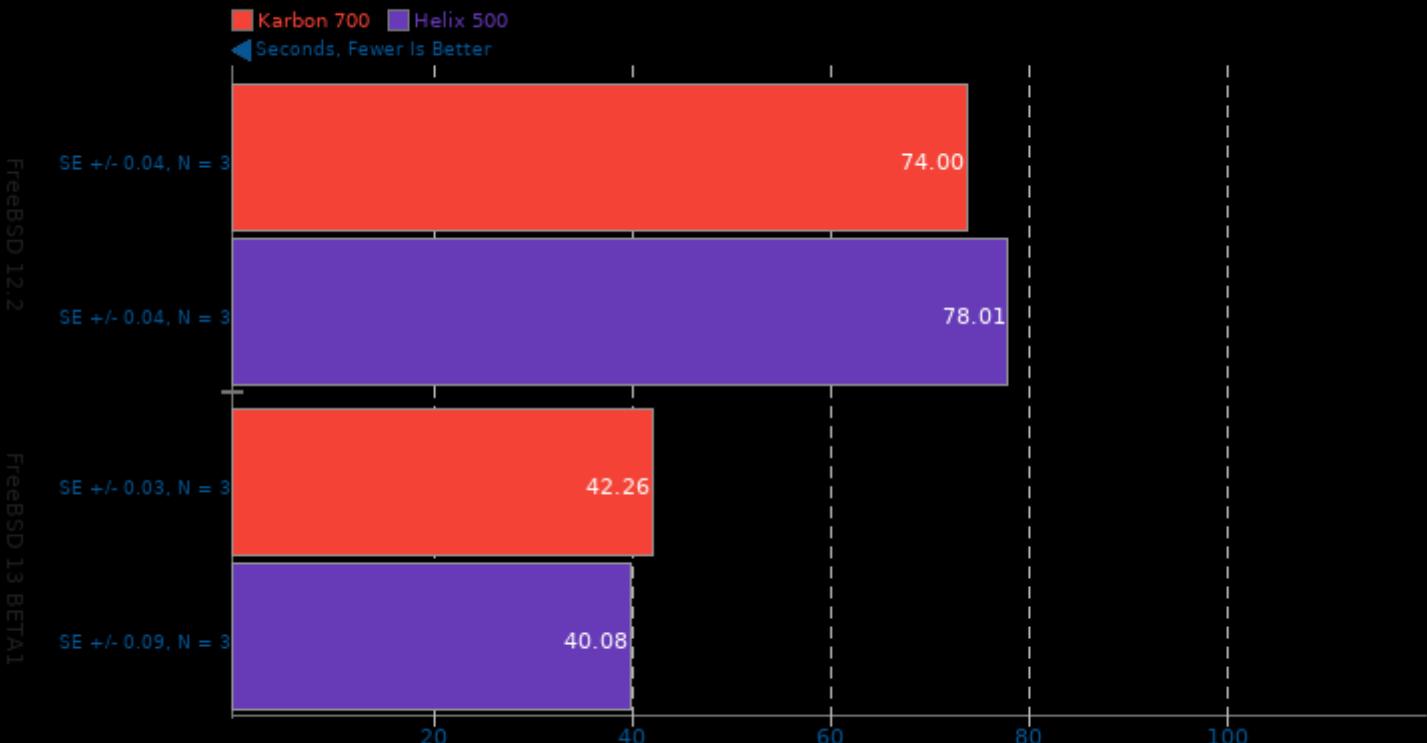
DaCapo Benchmark 9.12-MR1

Java Test: Jython



dcraw

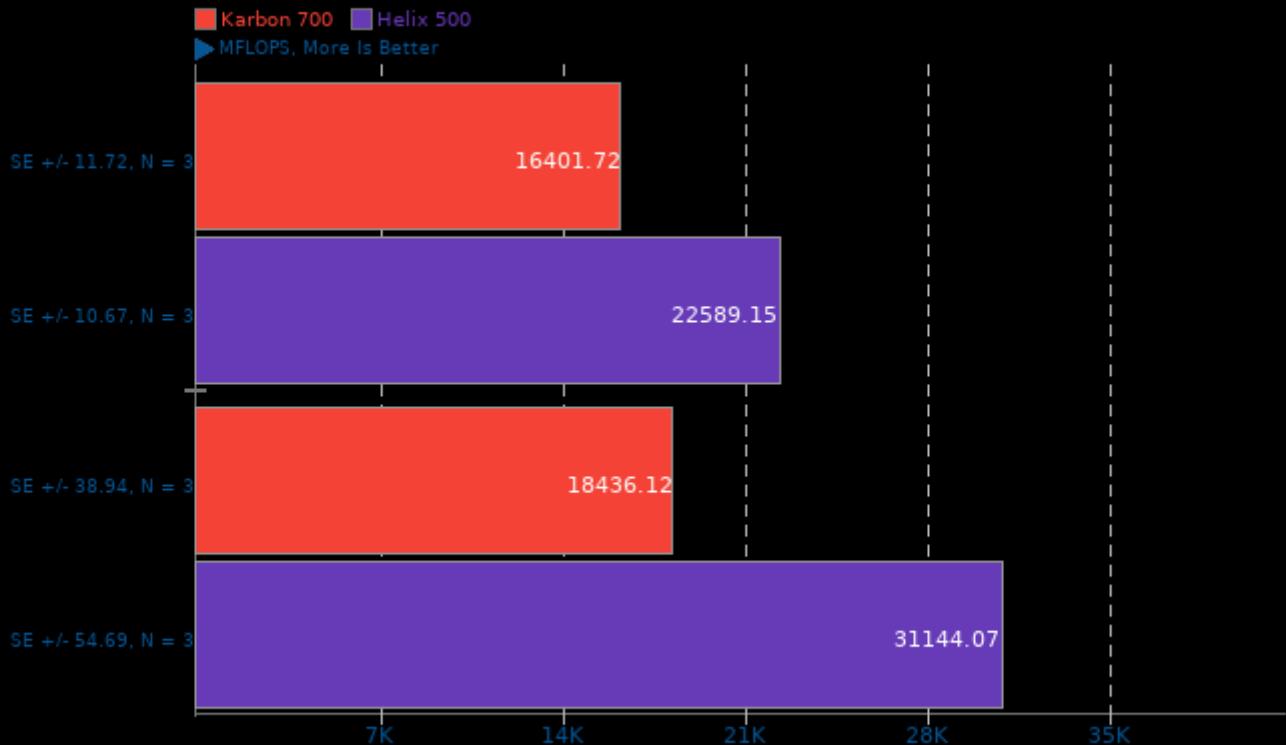
RAW To PPM Image Conversion



1. (CC) clang options: -lm

FFTE 7.0

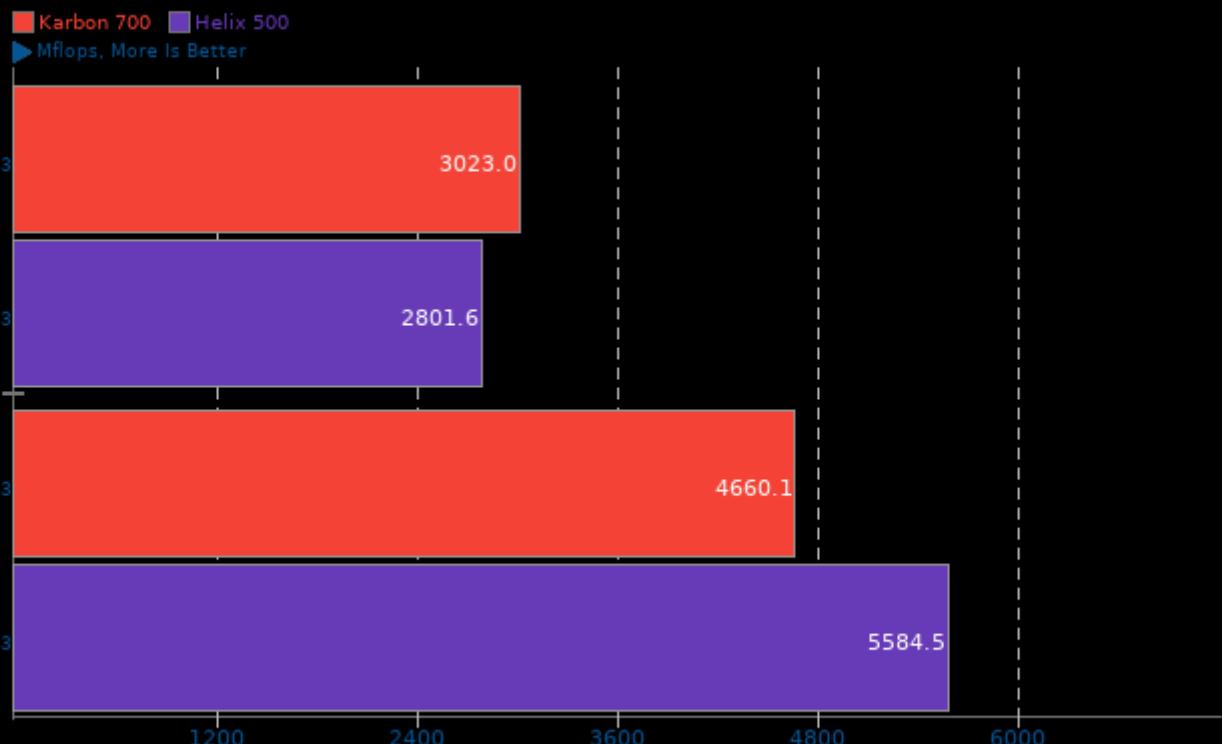
N=256, 3D Complex FFT Routine



1. (F9X) gfortran9 options: -O3 -fomit-frame-pointer -fopenmp

FFTW 3.3.6

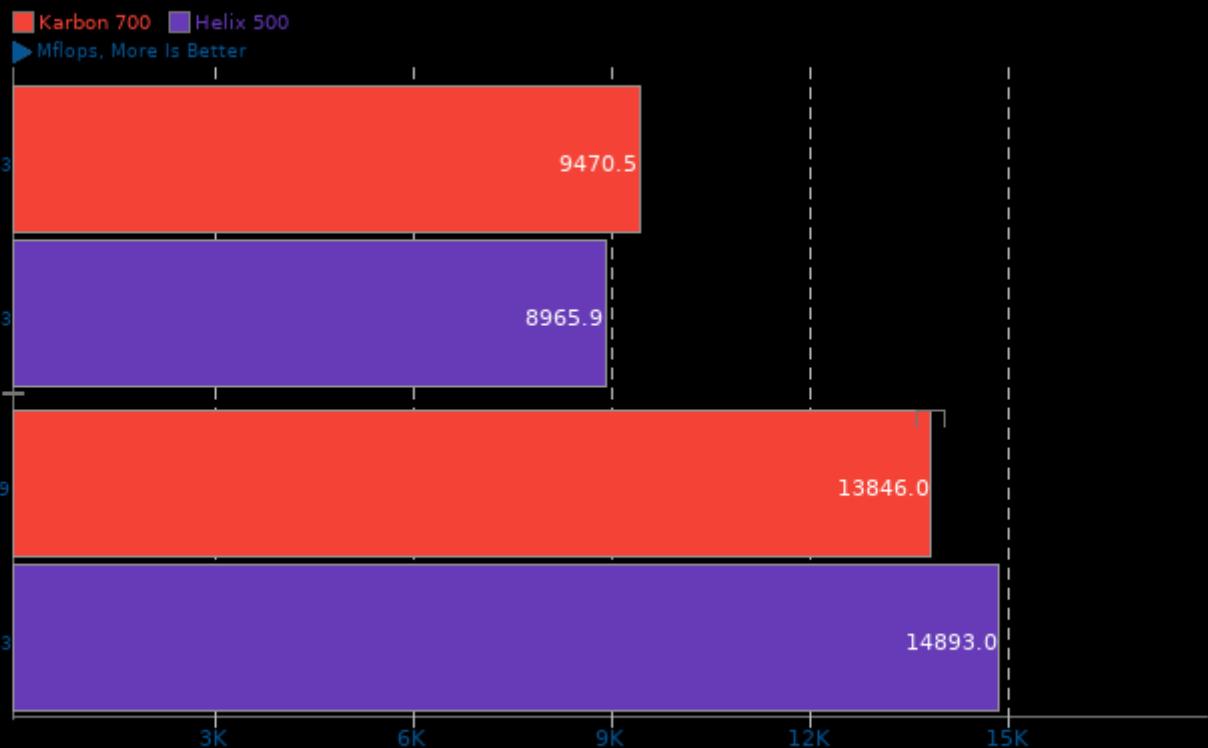
Build: Stock - Size: 2D FFT Size 4096



1. (CC) clang options: -fthread -O3 -fomit-frame-pointer -mtune=native -fstrict-aliasing -ffast-math -lm

FFTW 3.3.6

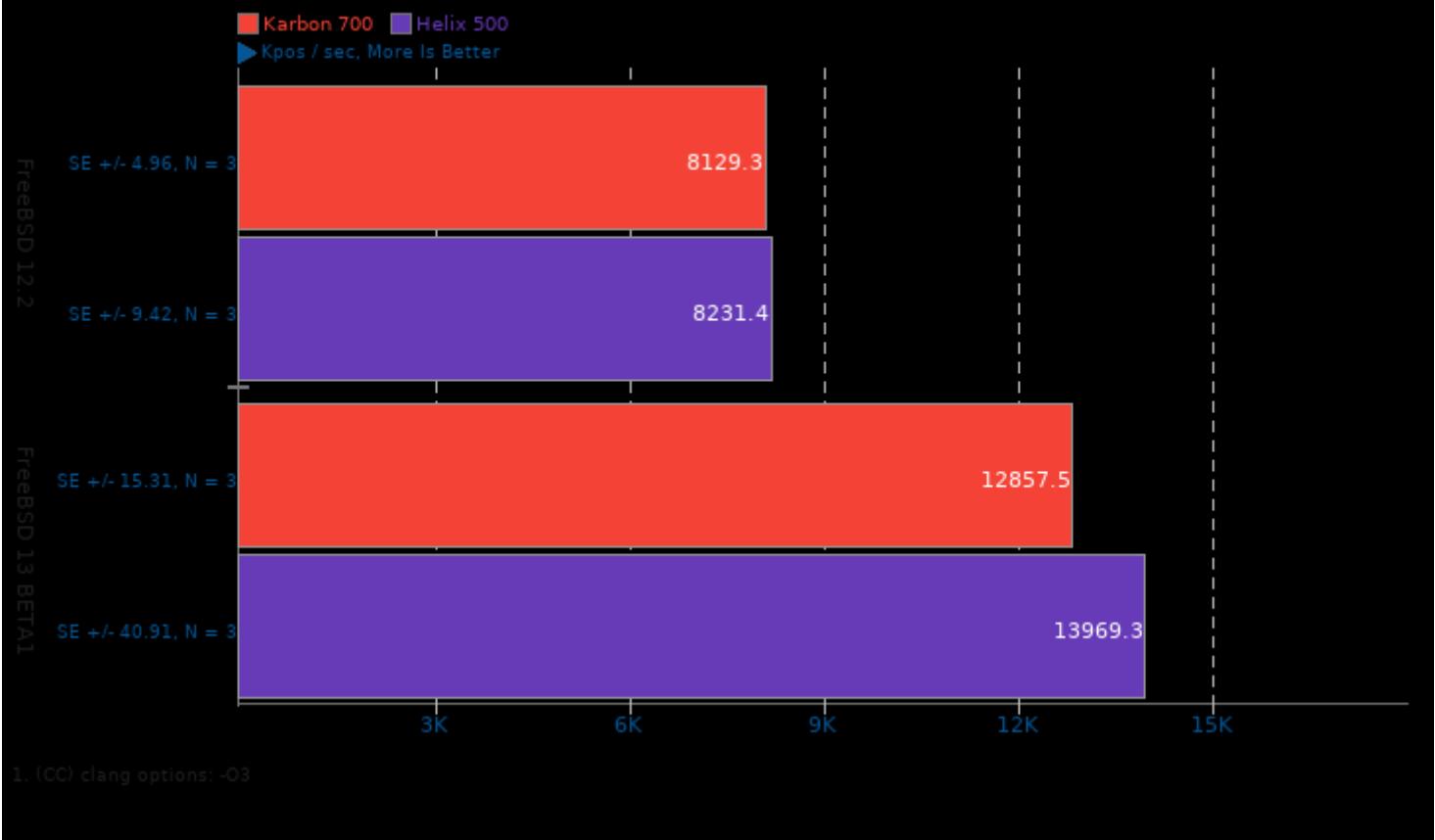
Build: Float + SSE - Size: 2D FFT Size 4096



1. (CC) clang options: -fthread -O3 -fomit-frame-pointer -mtune=native -fstrict-aliasing -ffast-math -lm

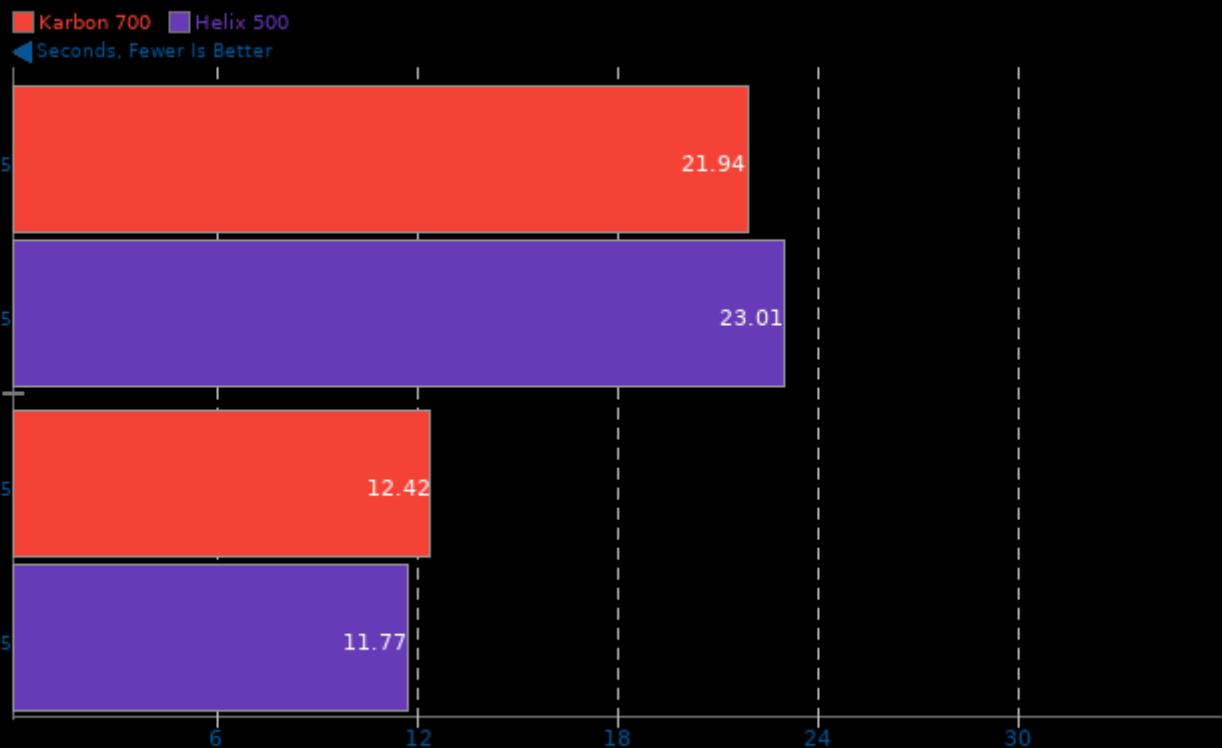
Fhourstones 3.1

Complex Connect-4 Solving



FLAC Audio Encoding 1.3.2

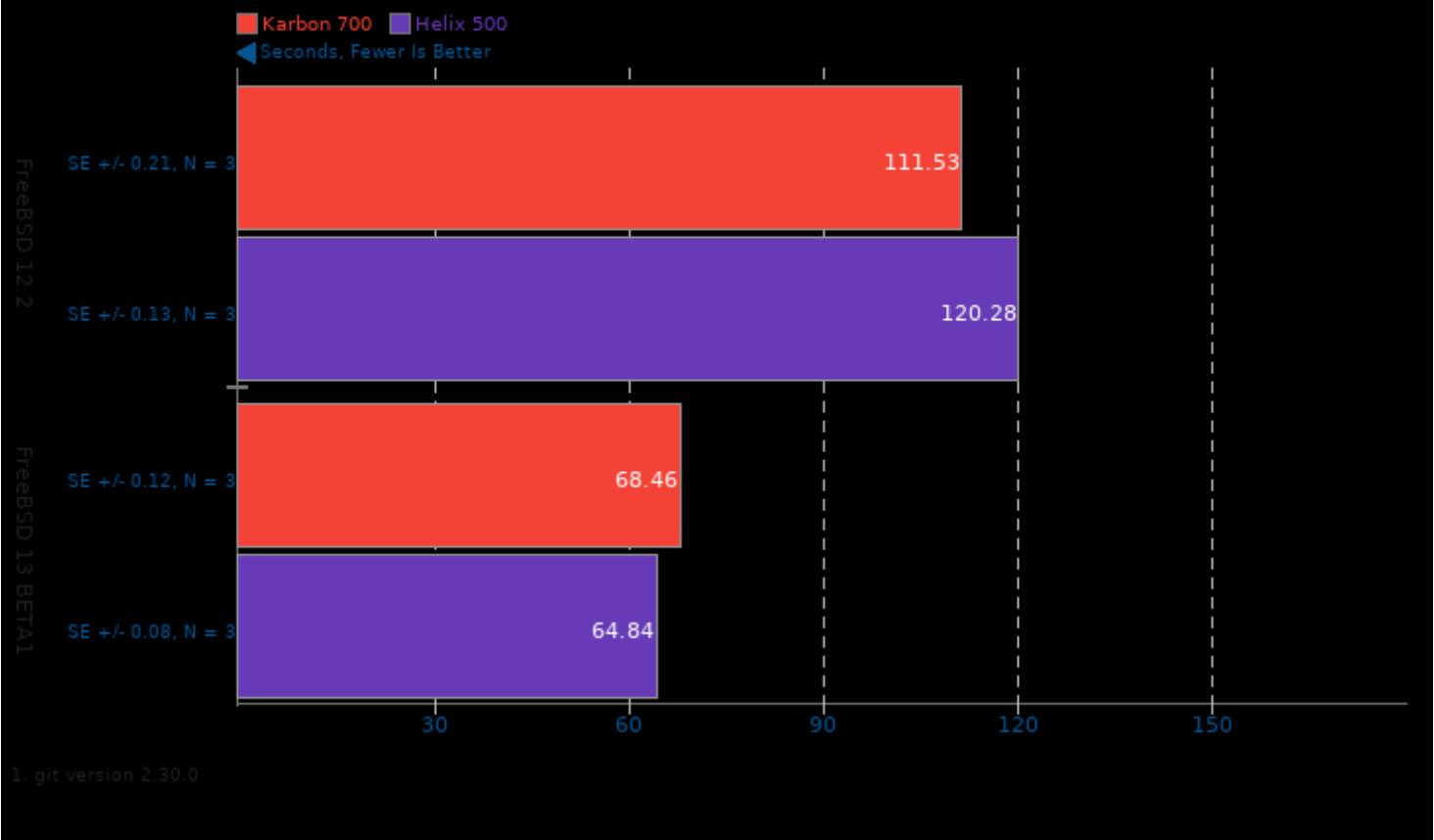
WAV To FLAC



1. (CXX) clang++ options: -O2 -lm

Git

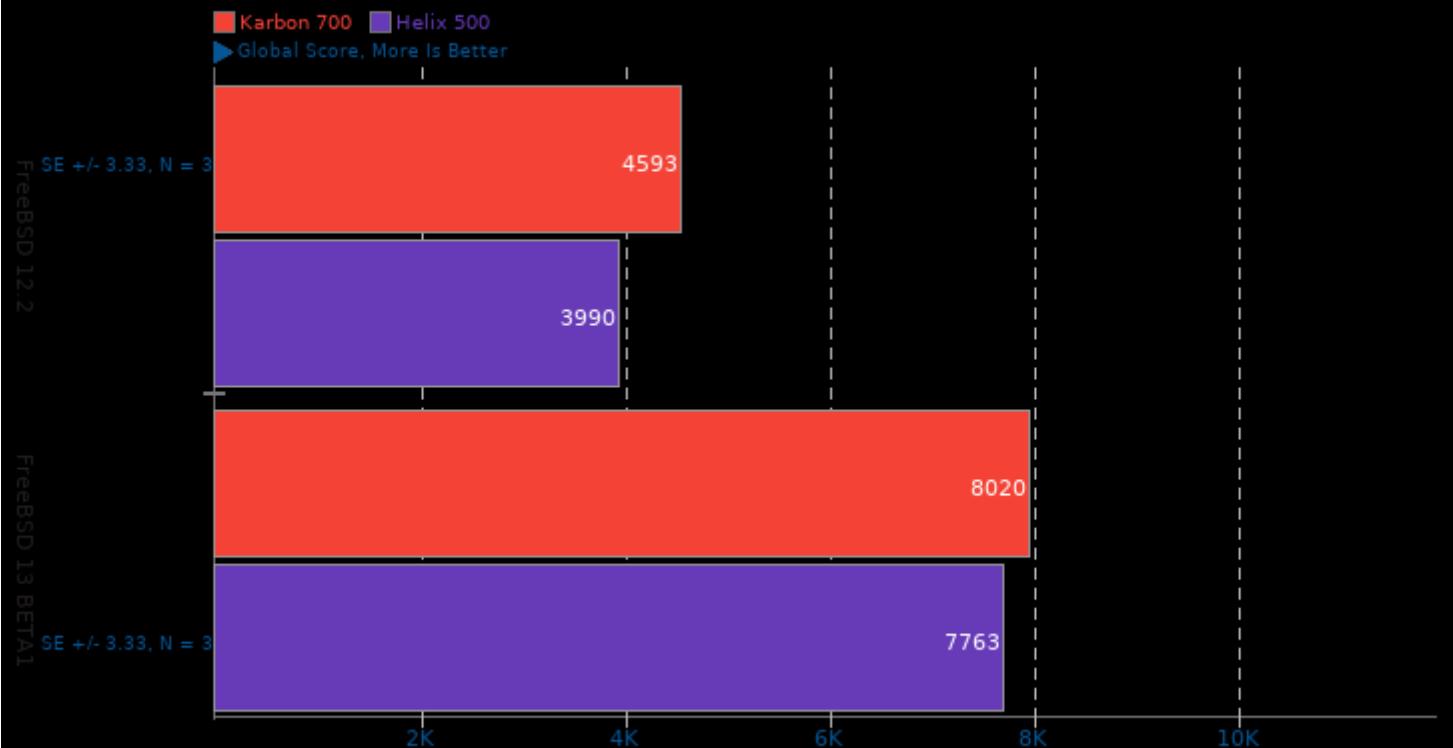
Time To Complete Common Git Commands



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

GNU MPC 1.1.0

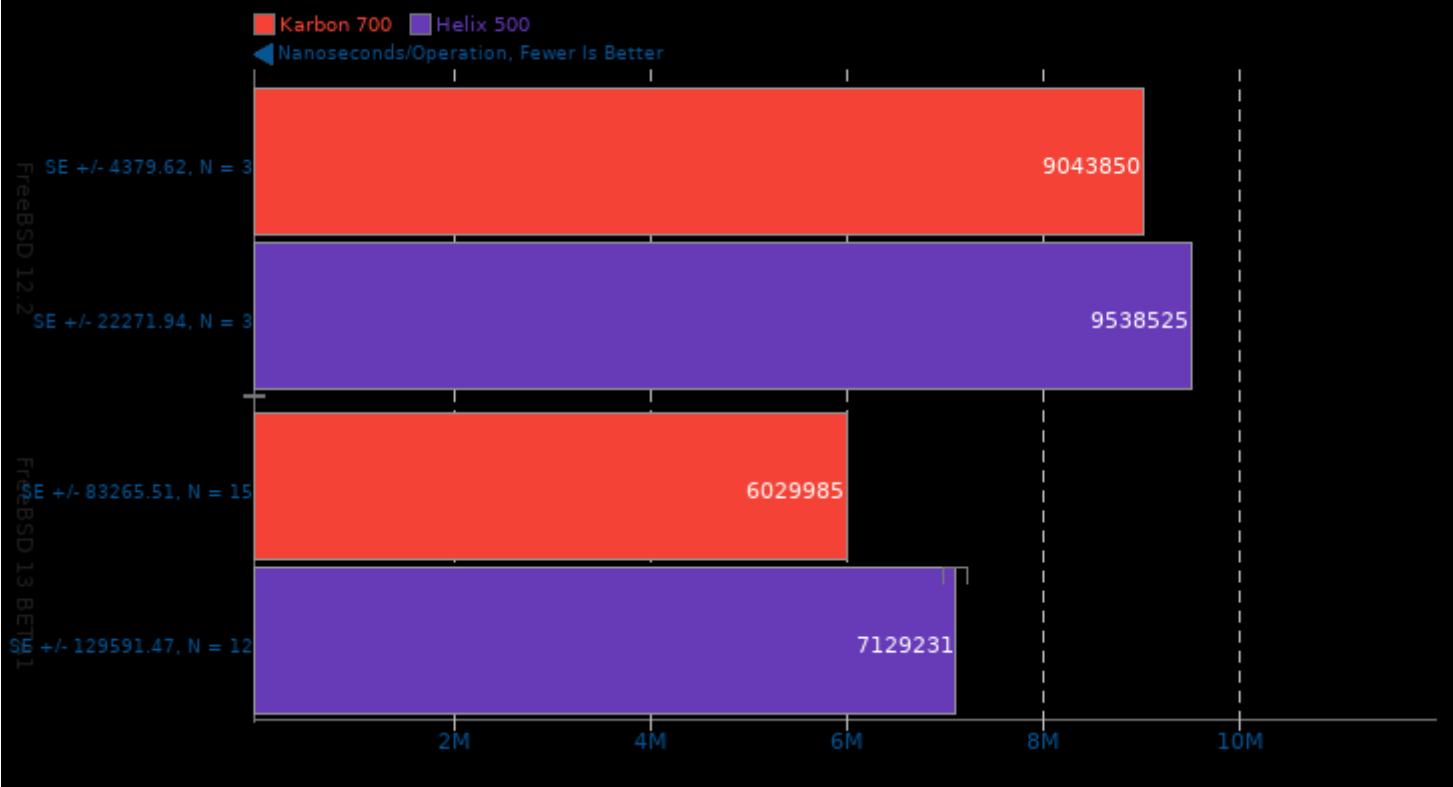
Multi-Precision Benchmark



1. (CC) clang options: -lm -O2 -MT -MD -MP -MF

Go Benchmarks

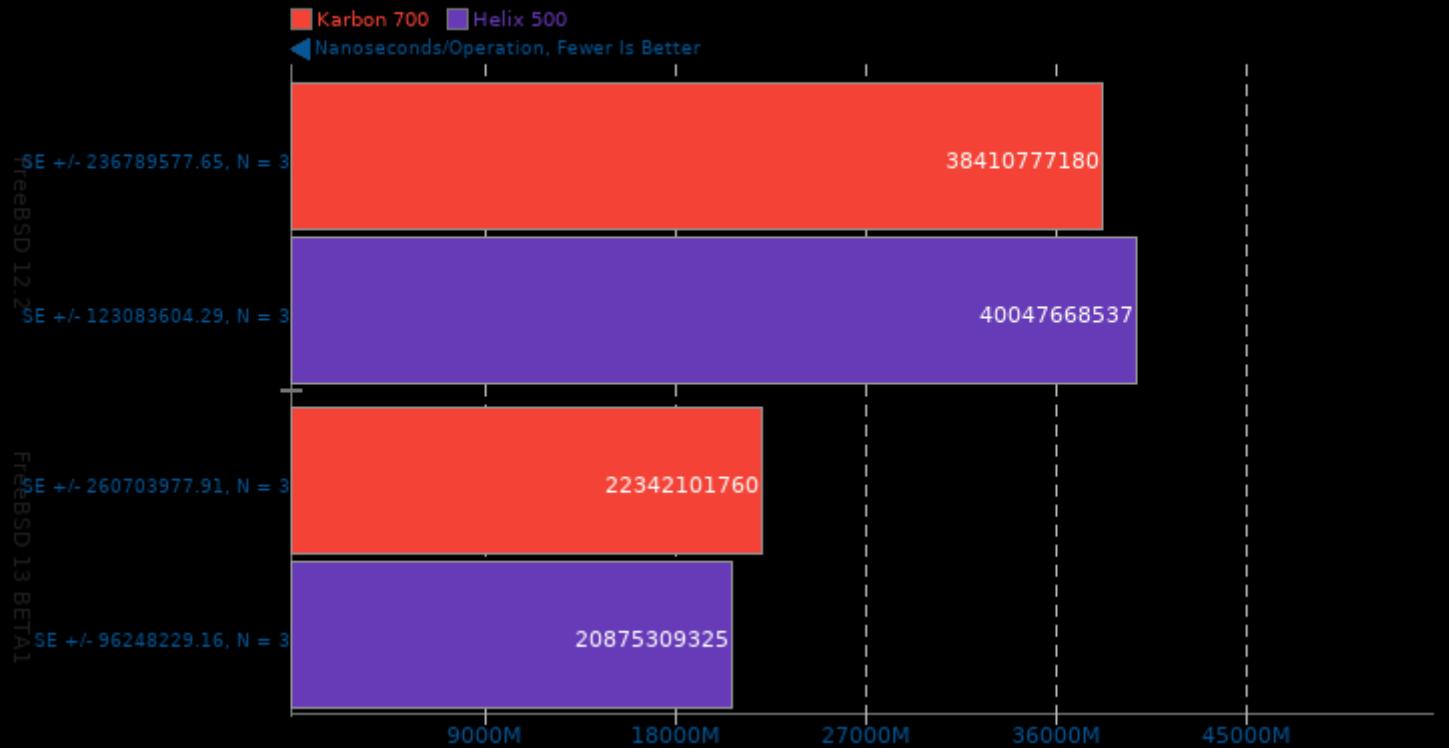
Test: json



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

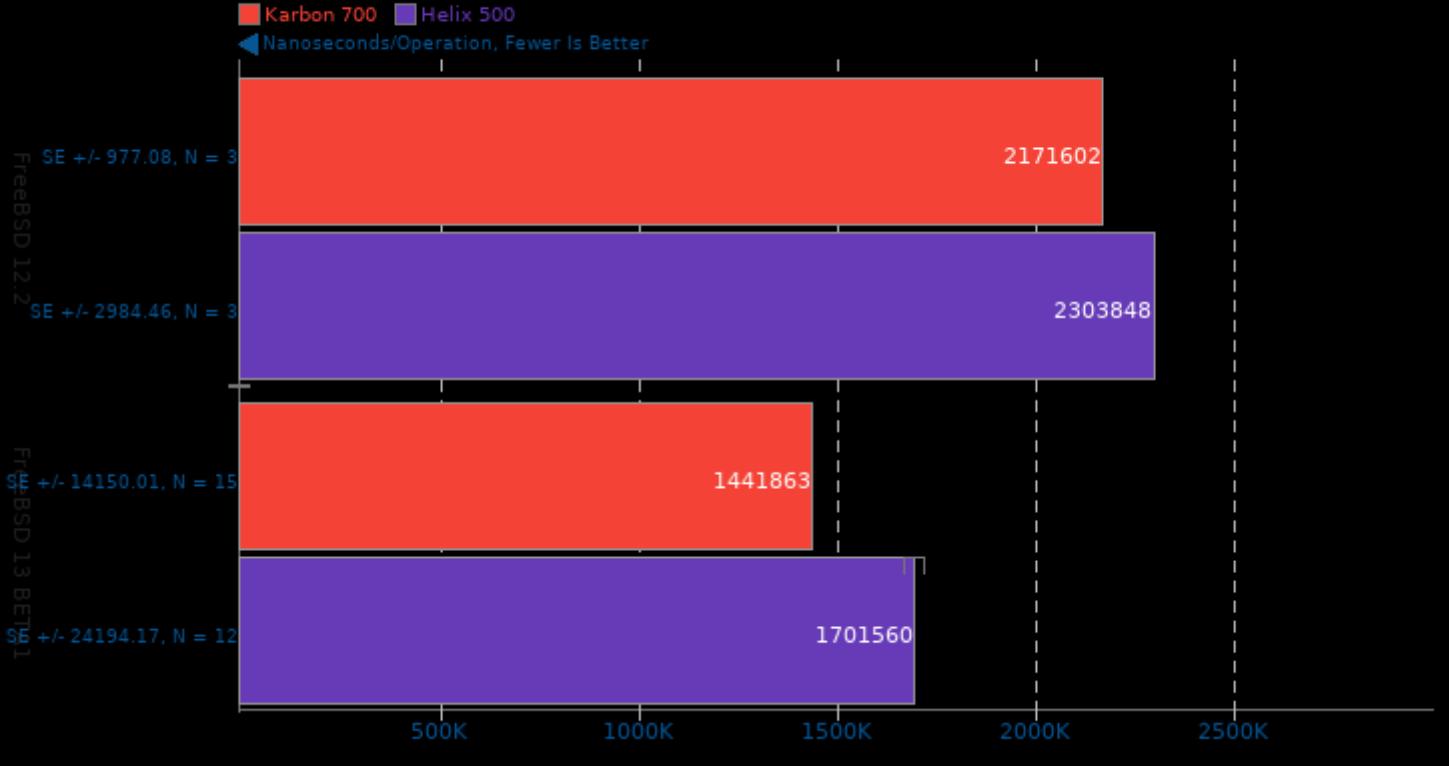
Go Benchmarks

Test: build



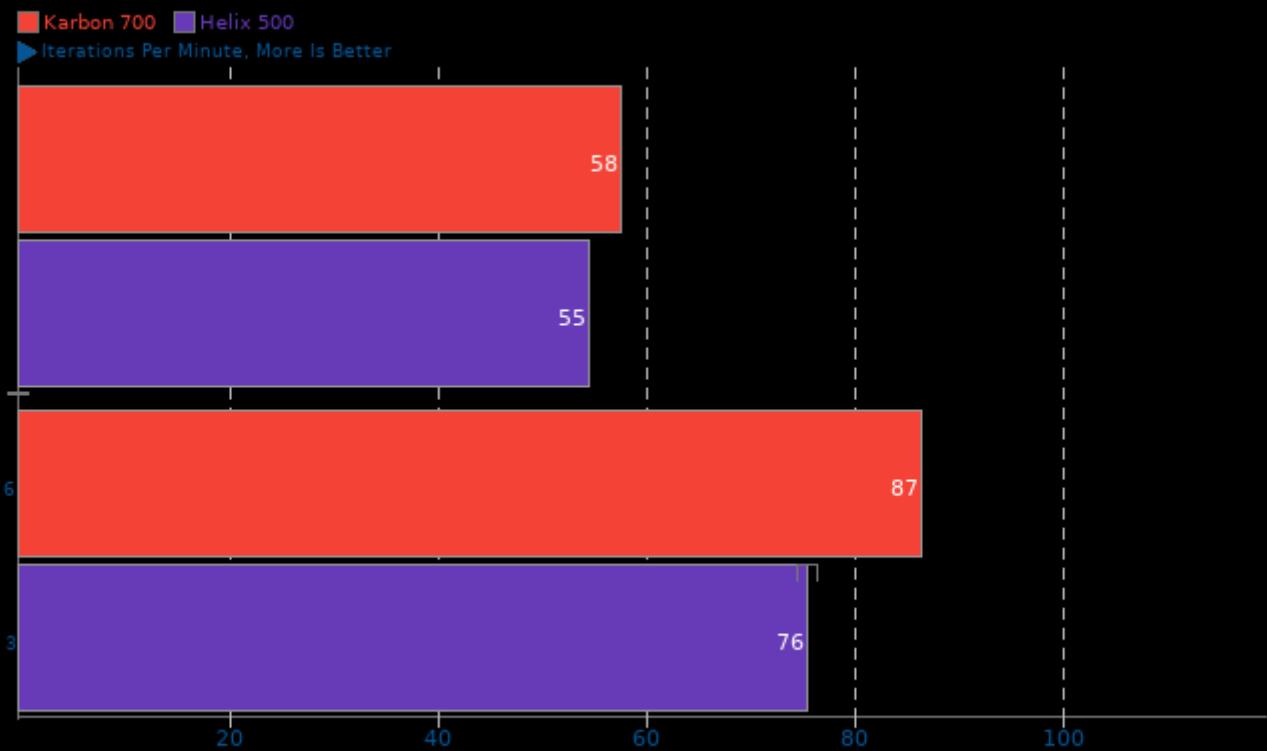
Go Benchmarks

Test: garbage



GraphicsMagick 1.3.33

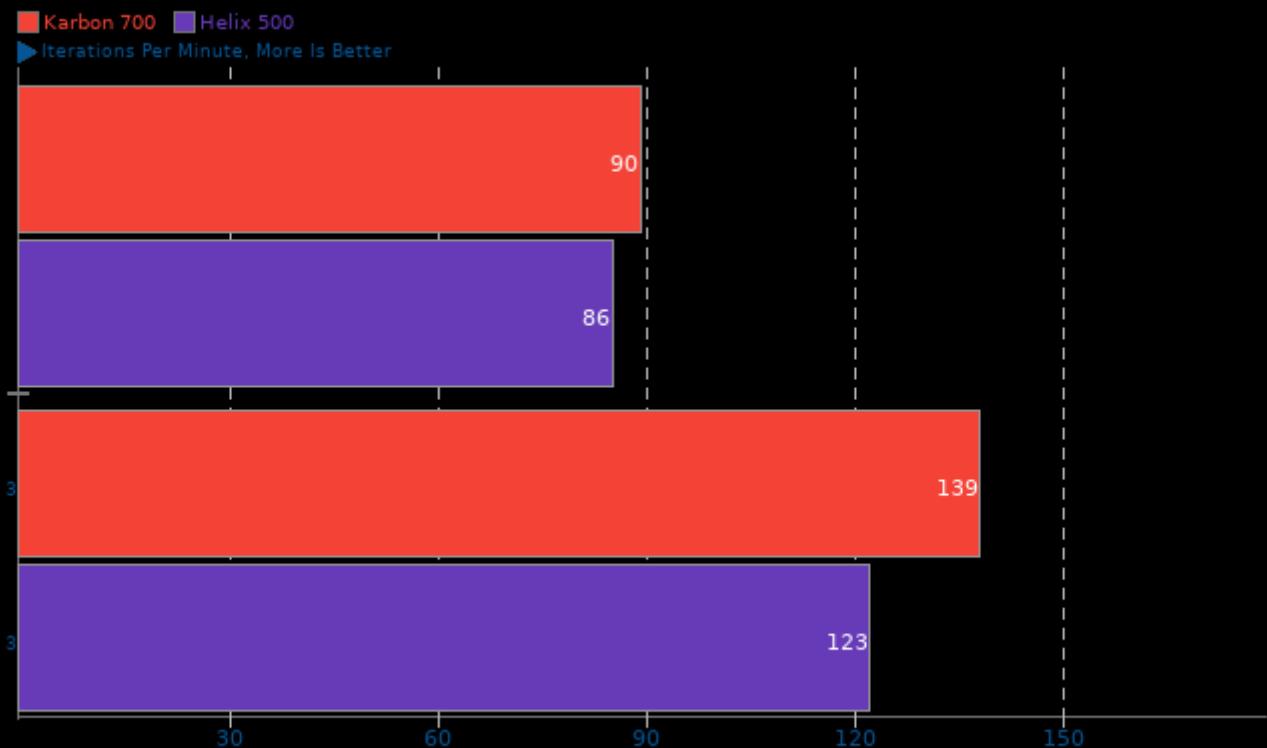
Operation: Sharpen



1. (CC) clang options: -fopenmp -O2 -pthread -ljbig -lcms2 -ltiff -lfreetype -jpeg -lXext -lSM -ICE -X11 -lzma -lbz2 -lxml2 -lz -lm -pthread

GraphicsMagick 1.3.33

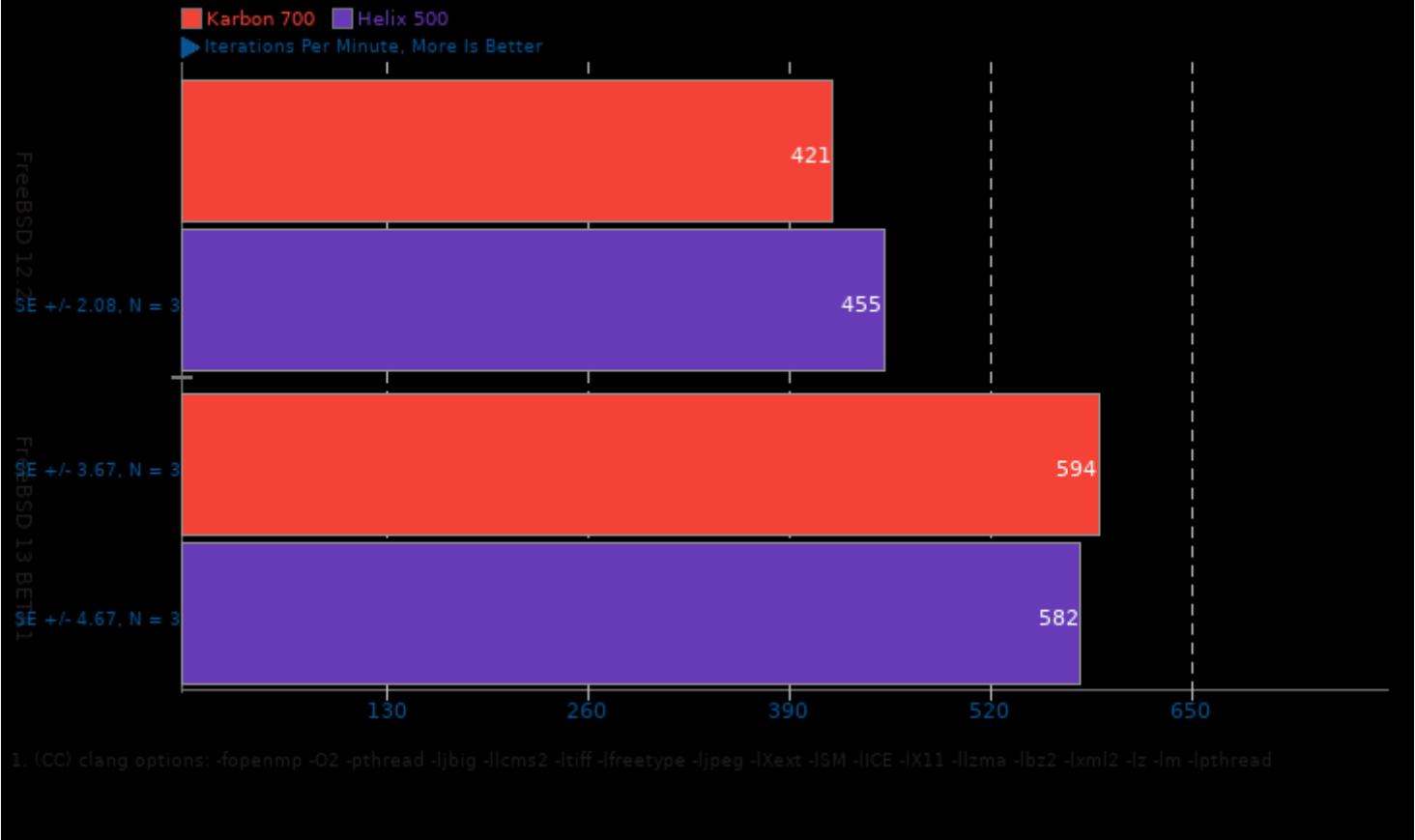
Operation: Enhanced



1. (CC) clang options: -fopenmp -O2 -pthread -ljbig -lcms2 -ltiff -lfreetype -jpeg -lXext -lSM -ICE -X11 -lzma -lbz2 -lxml2 -lz -lm -pthread

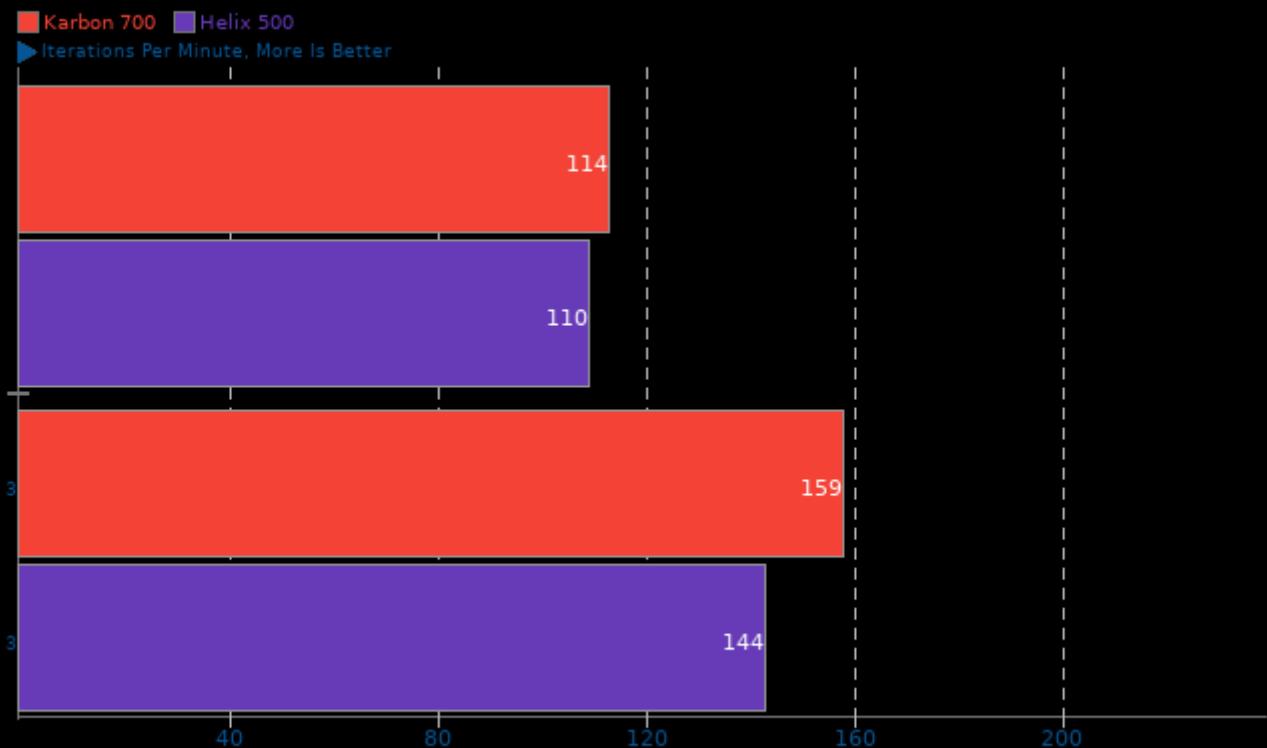
GraphicsMagick 1.3.33

Operation: Resizing



GraphicsMagick 1.3.33

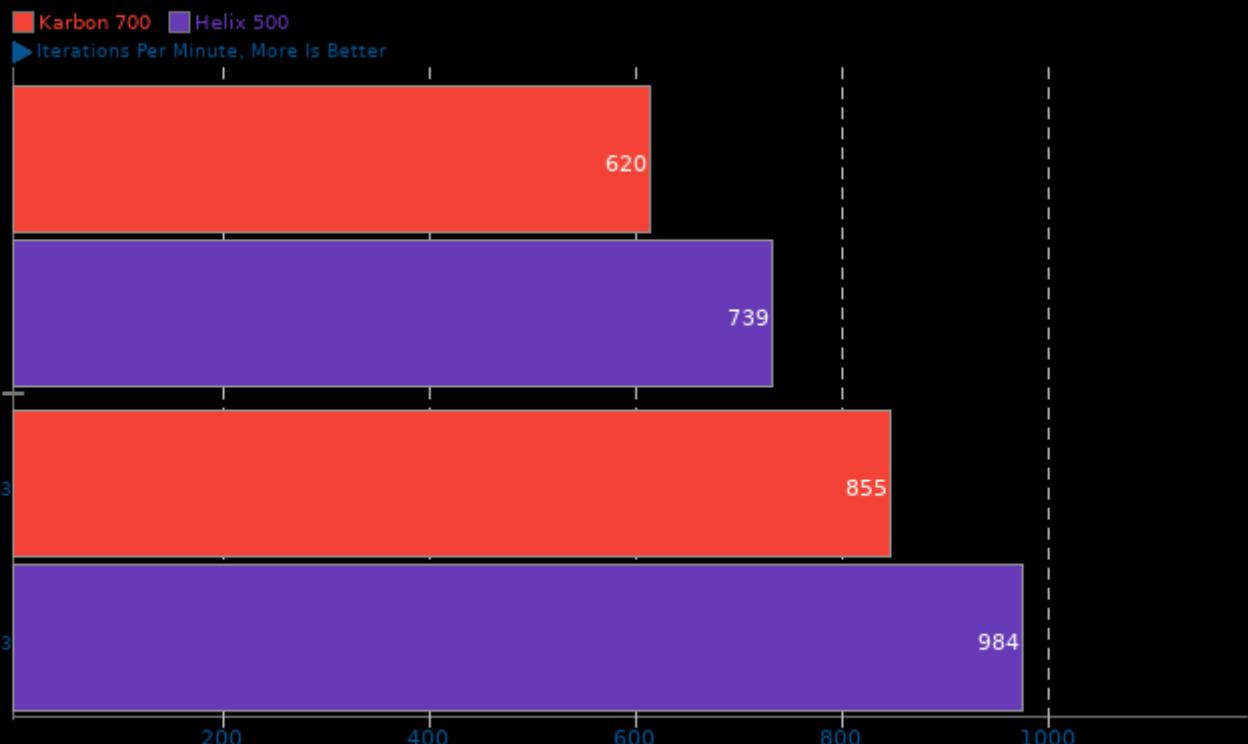
Operation: Noise-Gaussian



1. (CC) clang options: -fopenmp -O2 -pthread -ljbig -lcms2 -ltiff -lfreetype -jpeg -lXext -lSM -ICE -X11 -lzma -lbz2 -lxml2 -lz -lm -pthread

GraphicsMagick 1.3.33

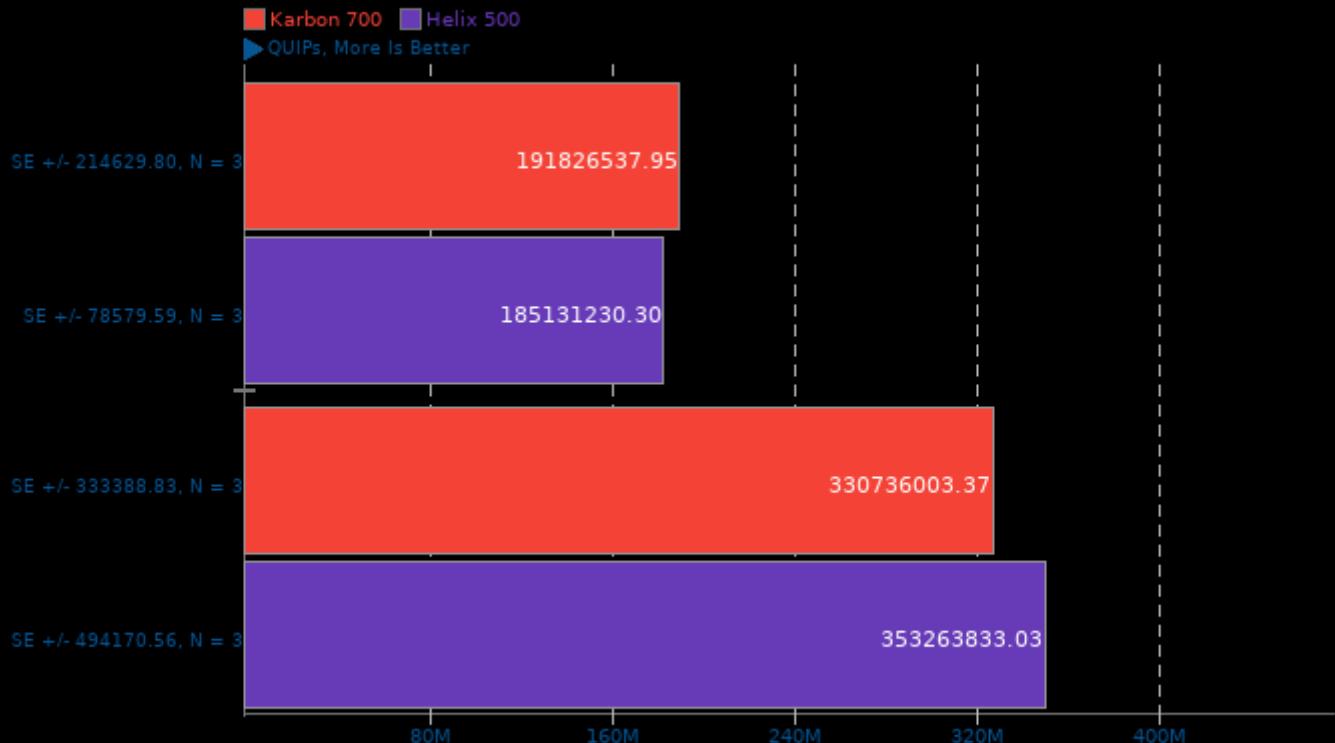
Operation: HWB Color Space



1. (CC) clang options: -fopenmp -O2 -pthread -ljbig -lcms2 -ltiff -lfreetype -jpeg -lXext -lSM -ICE -X11 -lzma -lbz2 -lxml2 -lz -lm -pthread

Hierarchical INTegration 1.0

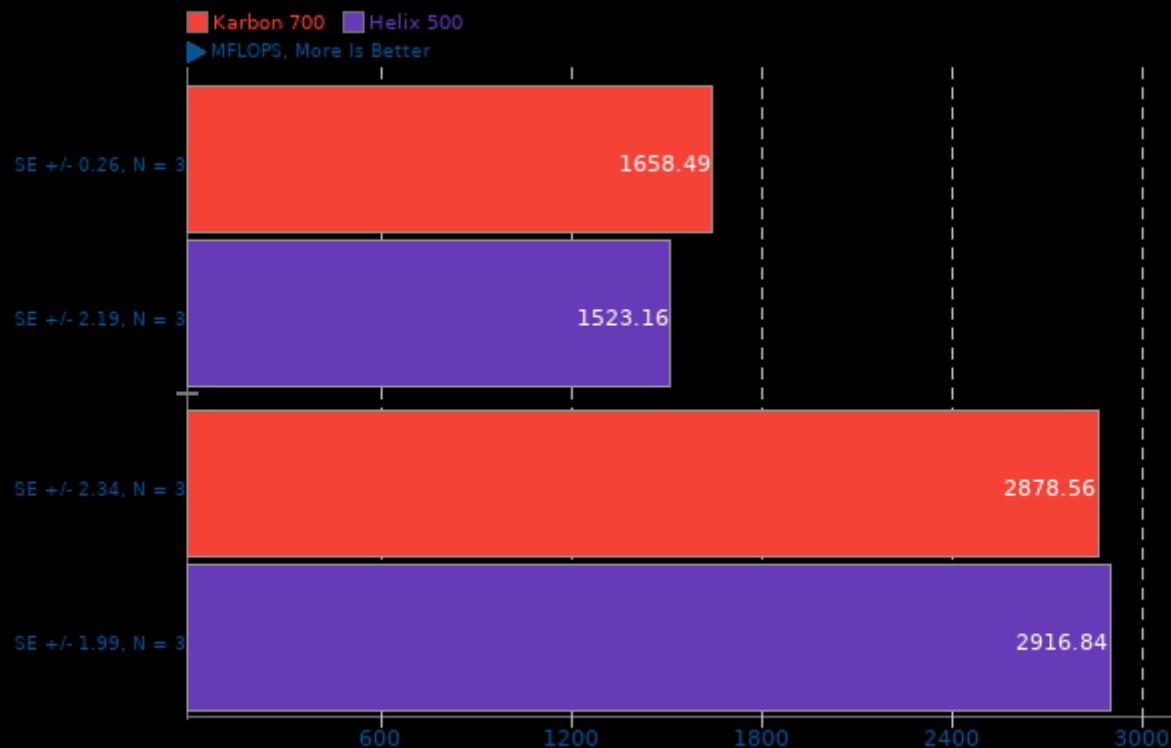
Test: FLOAT



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

Himeno Benchmark 3.0

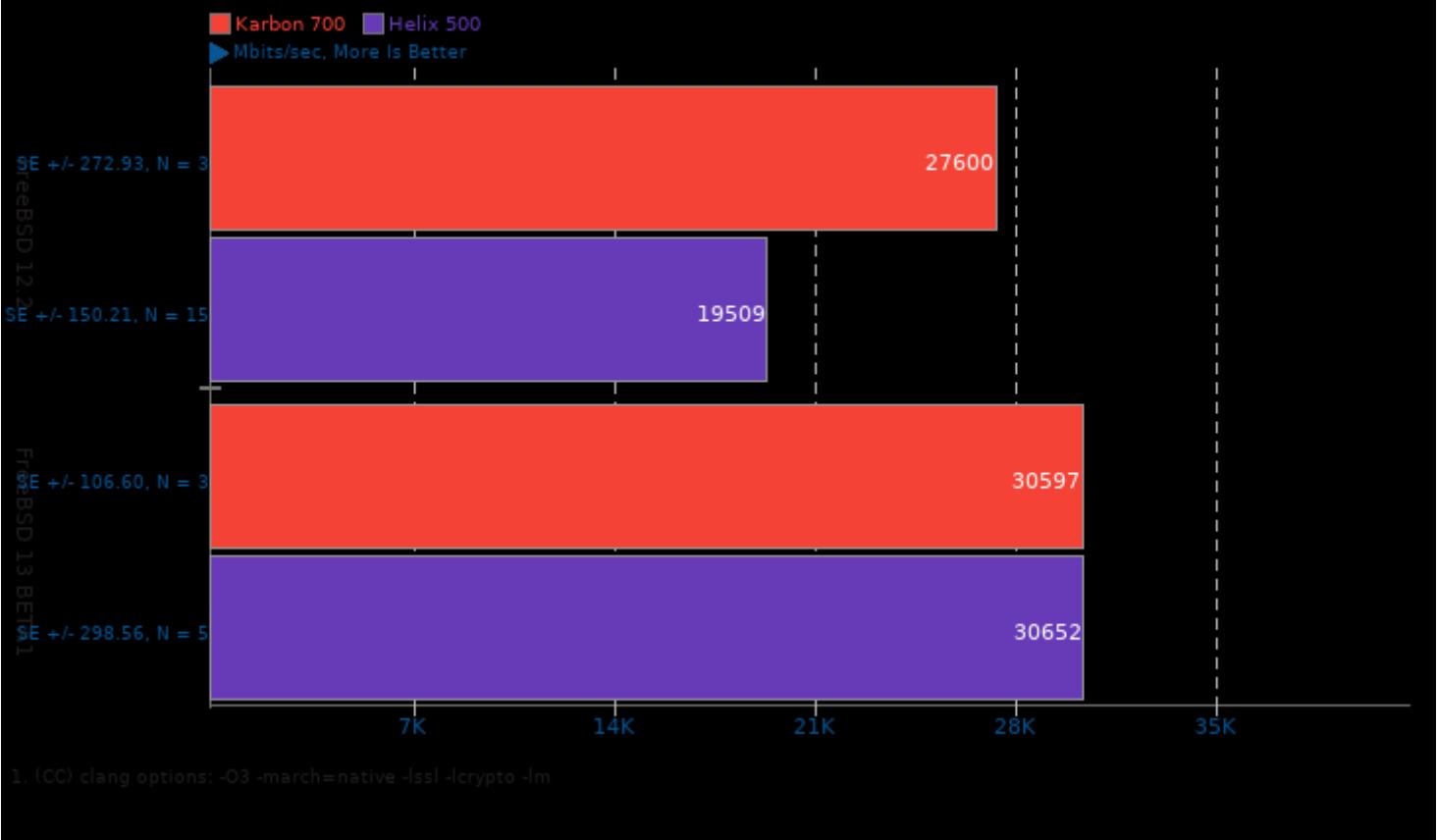
Poisson Pressure Solver



1. (CC) clang options: -O3

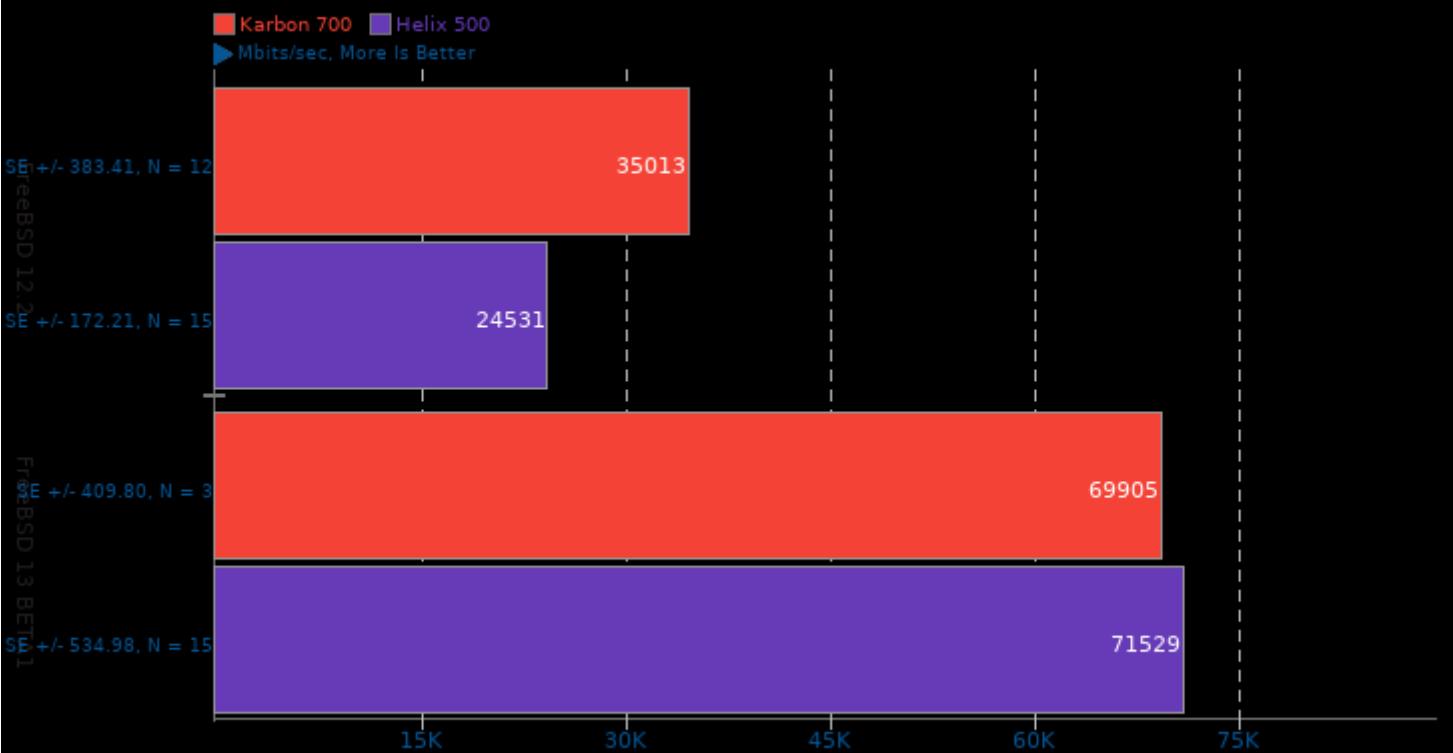
iPerf 3.7

Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: UDP - 1000Mbit Objective - Parallel: 32



iPerf 3.7

Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: TCP - Parallel: 1

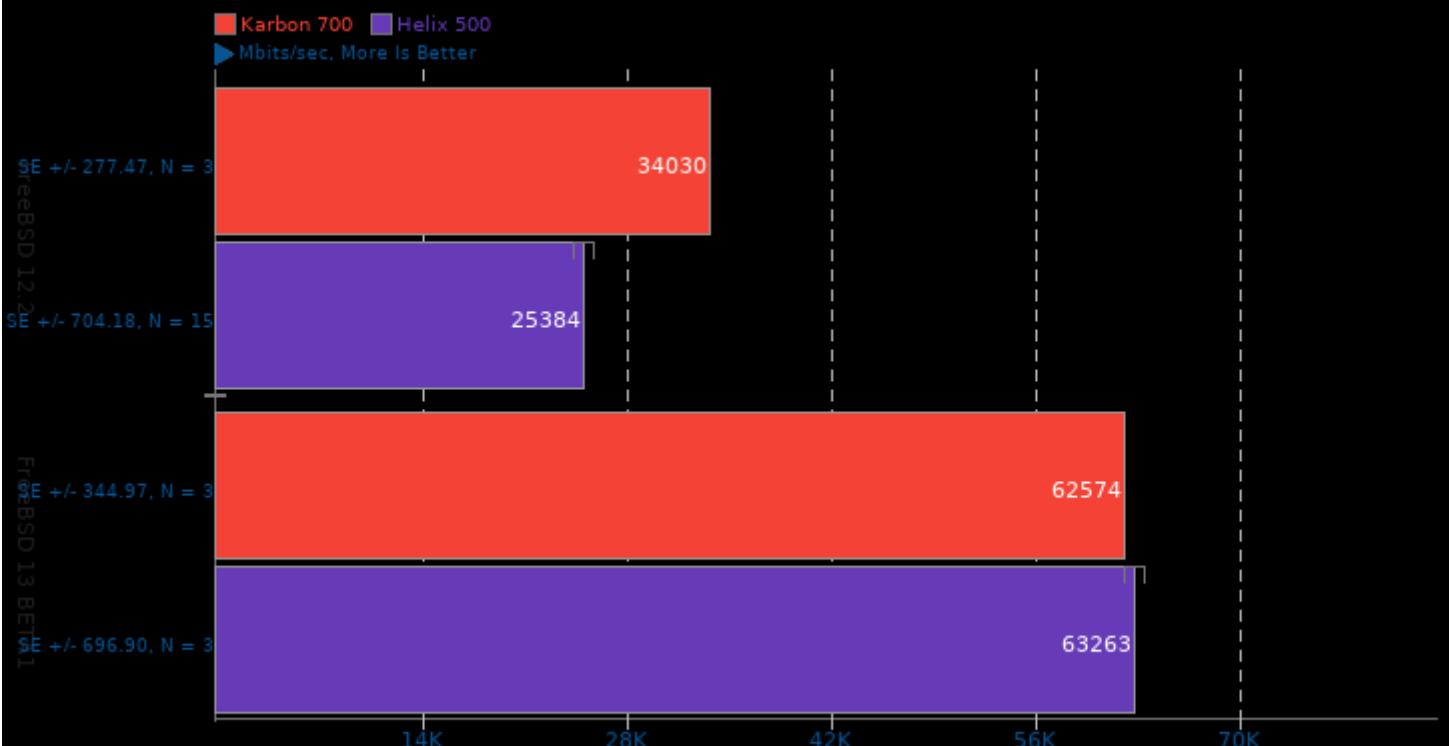


1. (CC) clang options: -O3 -march=native -lssl -lcrypto -lm

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

iPerf 3.7

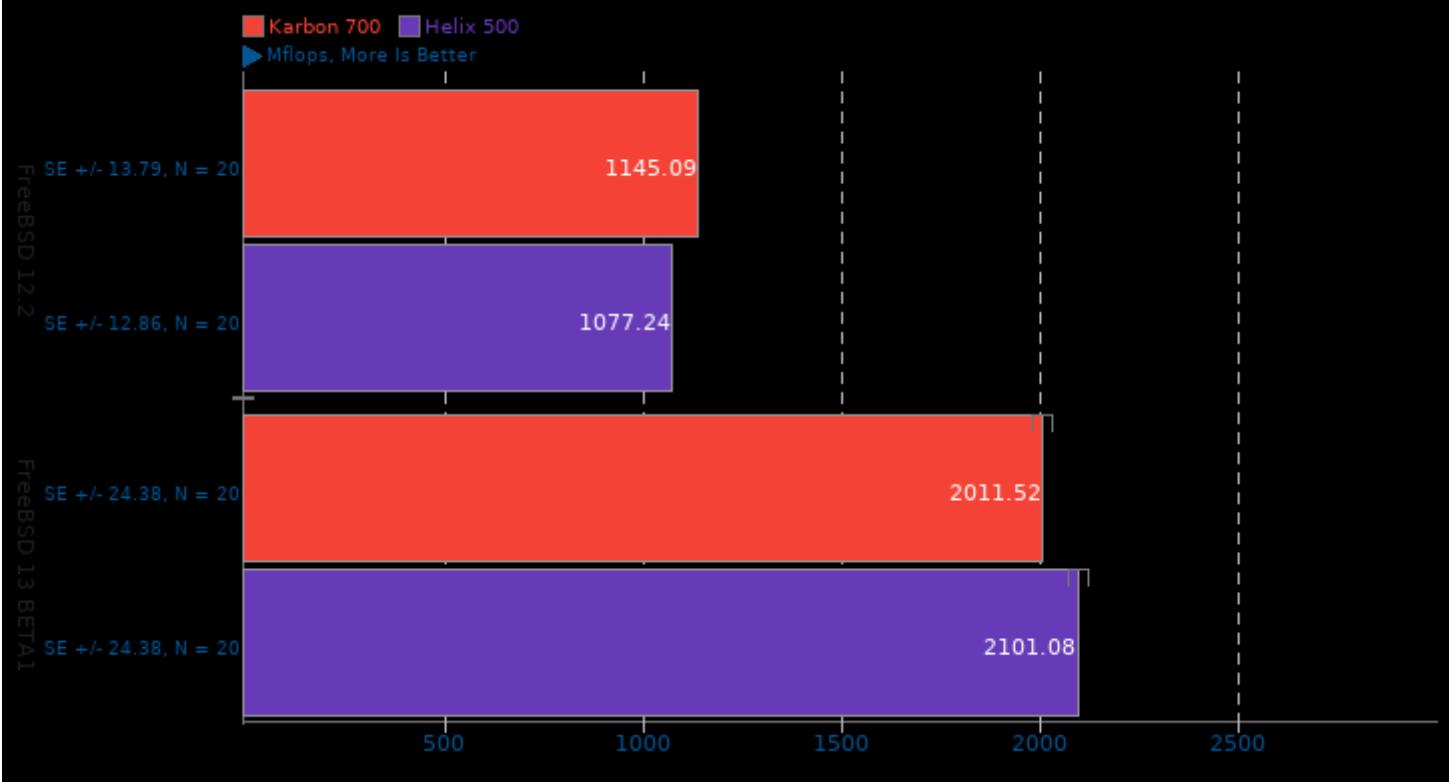
Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: TCP - Parallel: 32



1. (CC) clang options: -O3 -march=native -fssl -lcrypto -lm

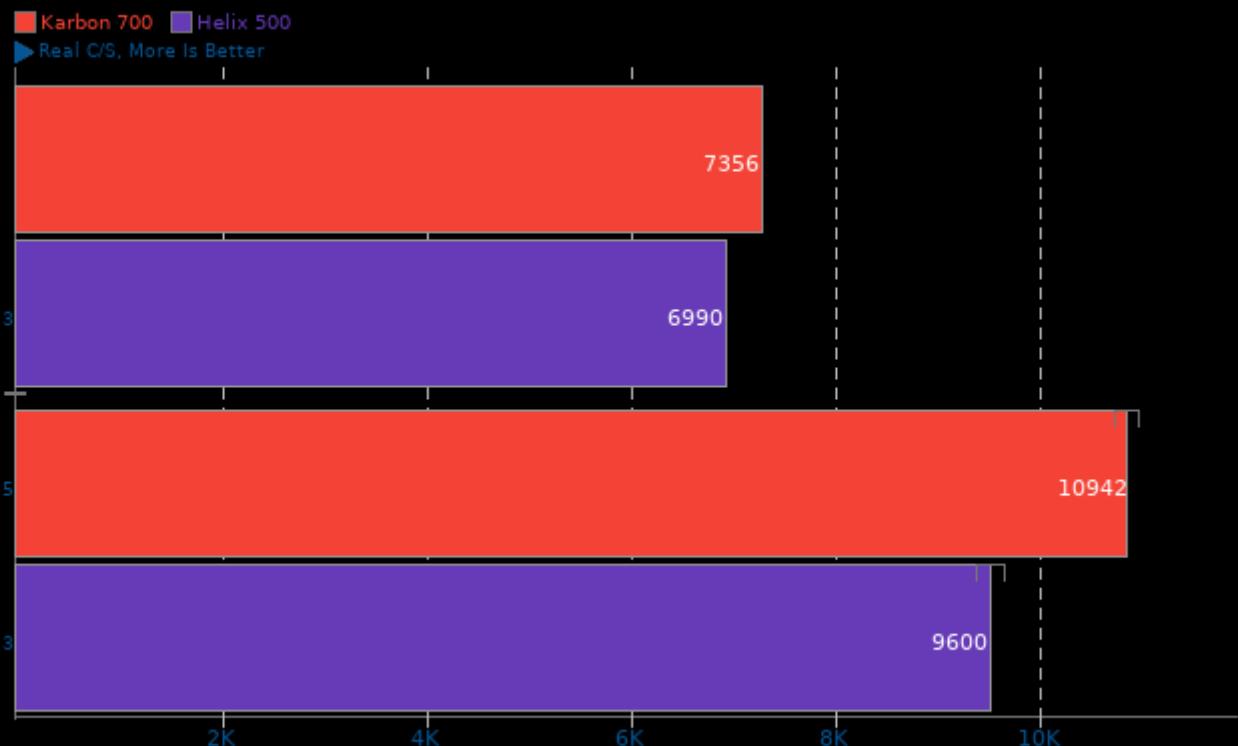
Java SciMark 2.0

Computational Test: Composite



John The Ripper 1.9.0-jumbo-1

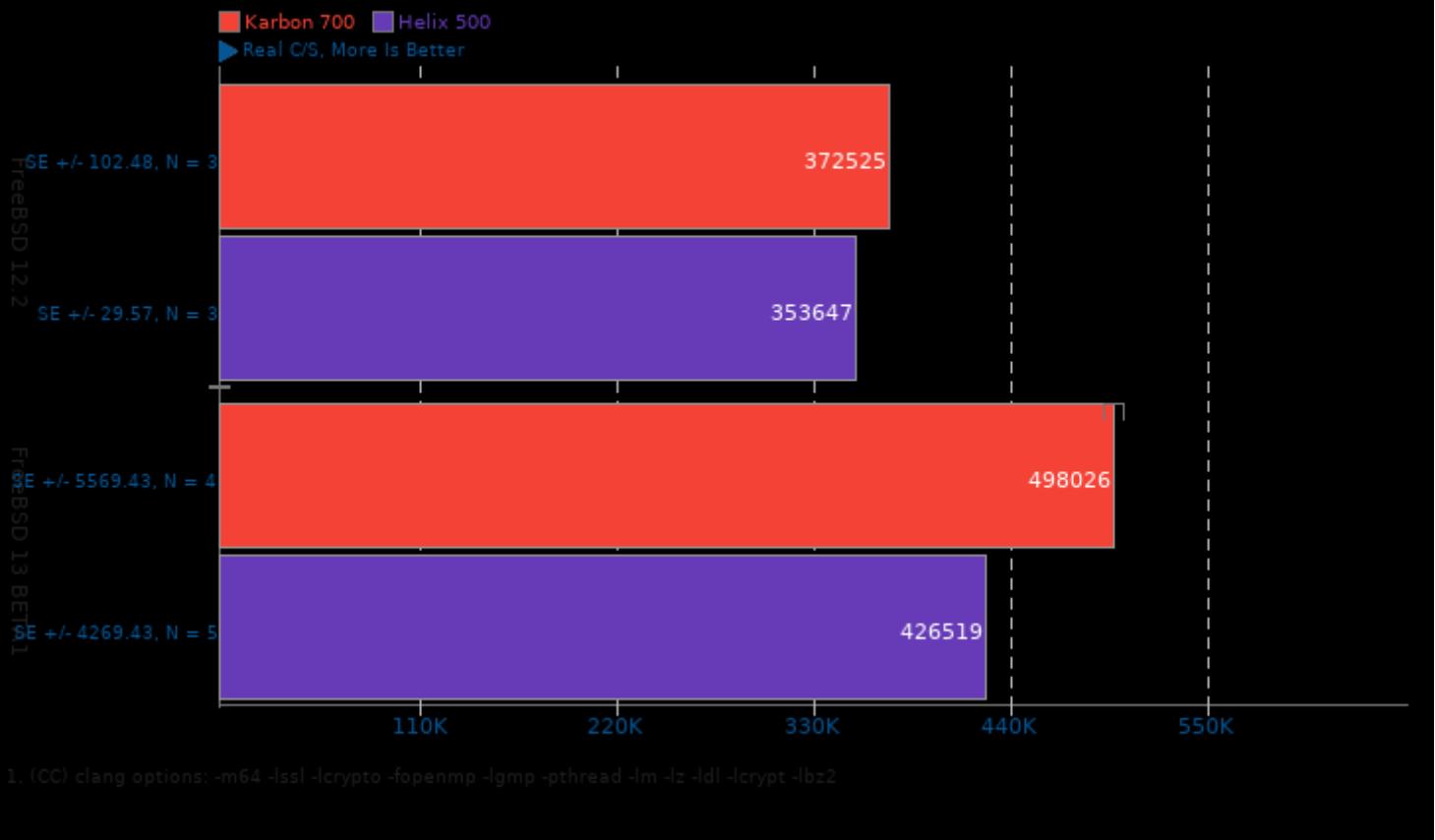
Test: Blowfish



1. (CC) clang options: -m64 -fssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

John The Ripper 1.9.0-jumbo-1

Test: MD5



LAME MP3 Encoding 3.100

WAV To MP3



1. (CC) clang options: -O3 -pipe -Lincurses -lm

libavif avifenc 0.7.3

Encoder Speed: 8



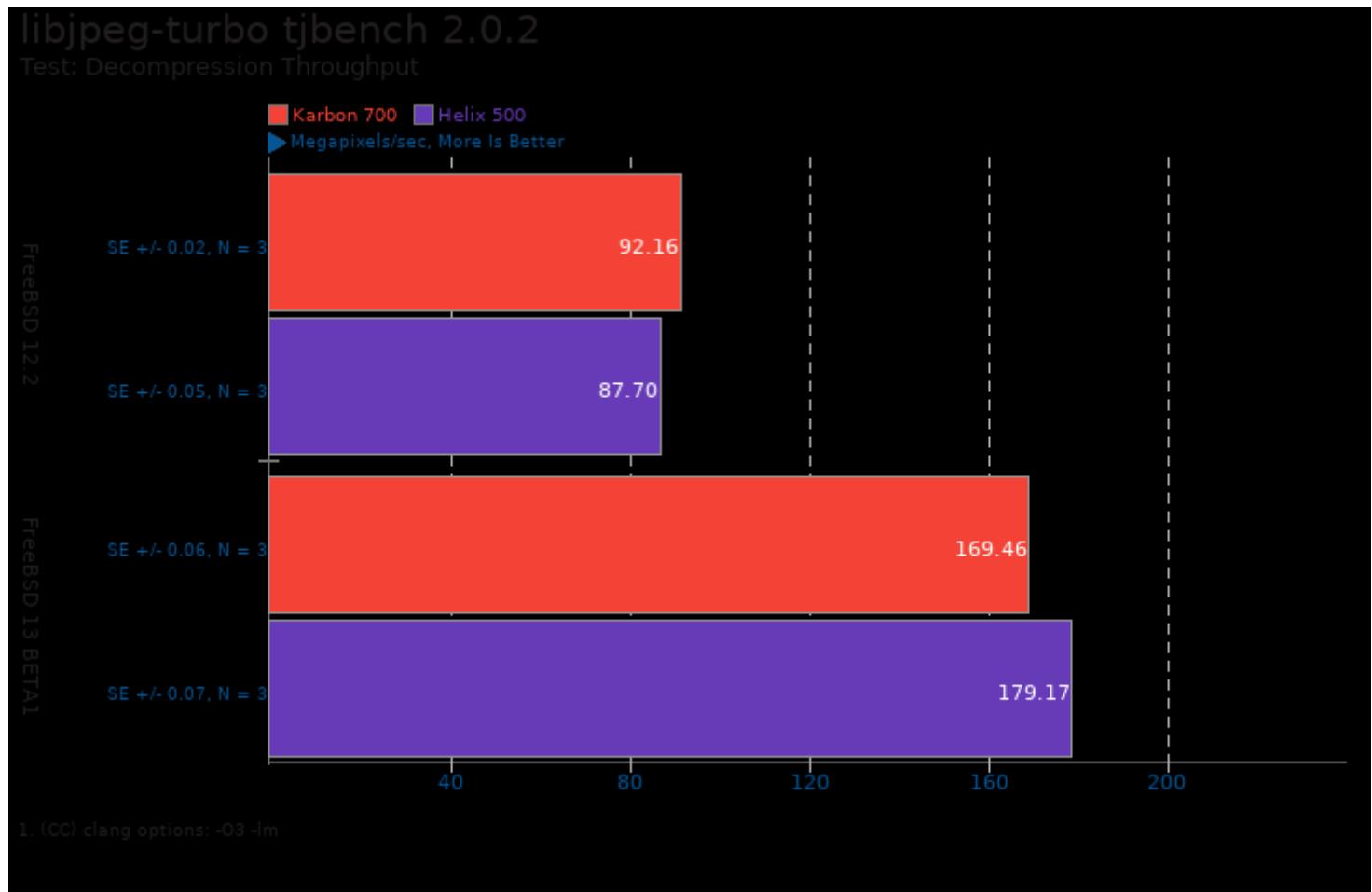
1. (CXX) clang++ options: -O3 -fPIC

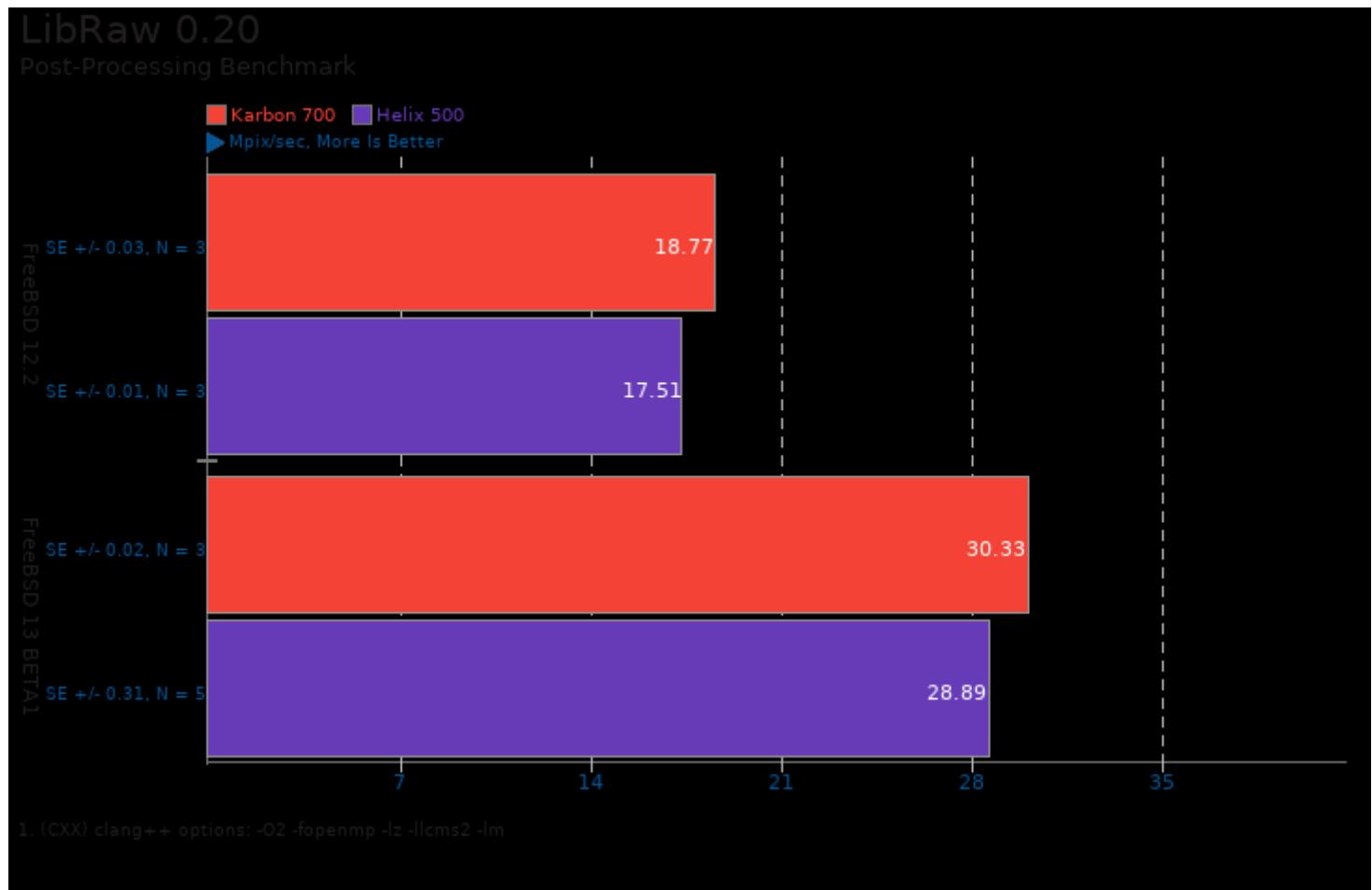
libavif avifenc 0.7.3

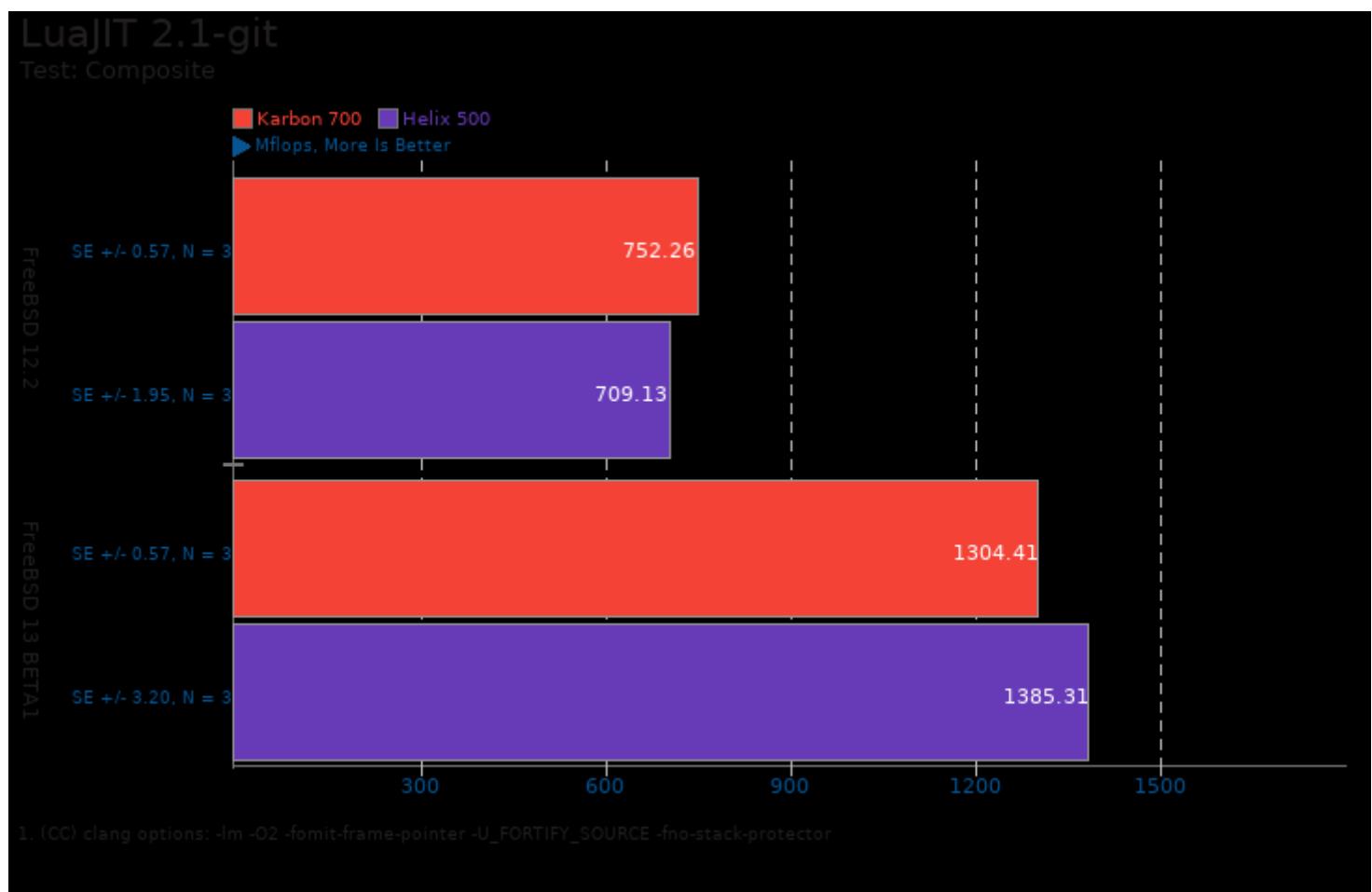
Encoder Speed: 10



1. (CXX) clang++ options: -O3 -fPIC

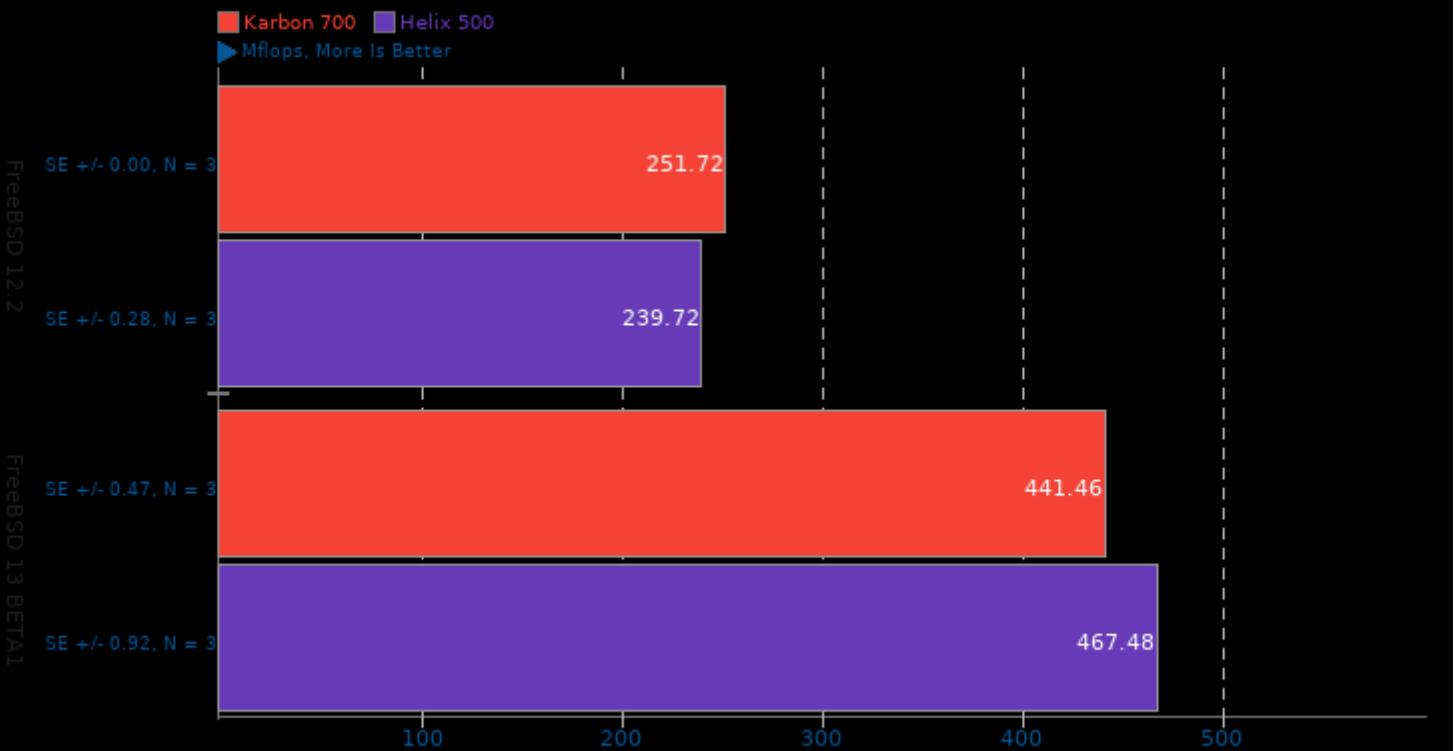






LuaJIT 2.1-git

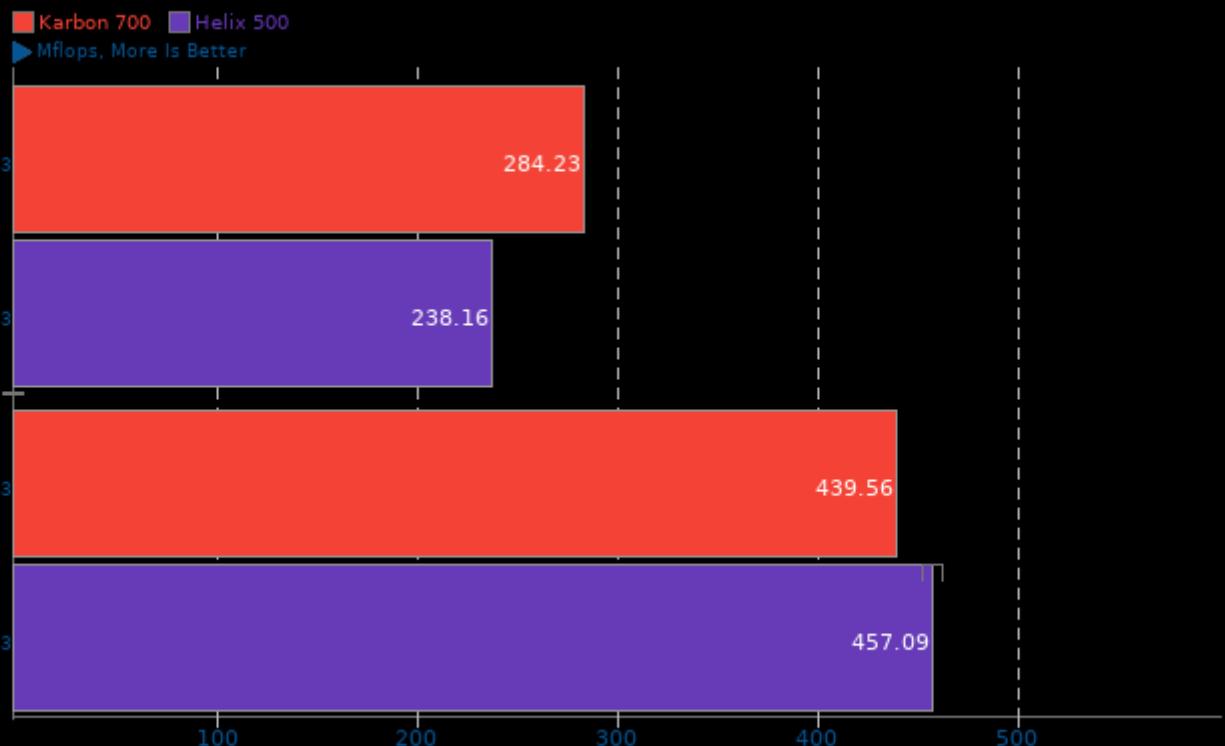
Test: Monte Carlo



1. (CC) clang options: -lm -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuaJIT 2.1-git

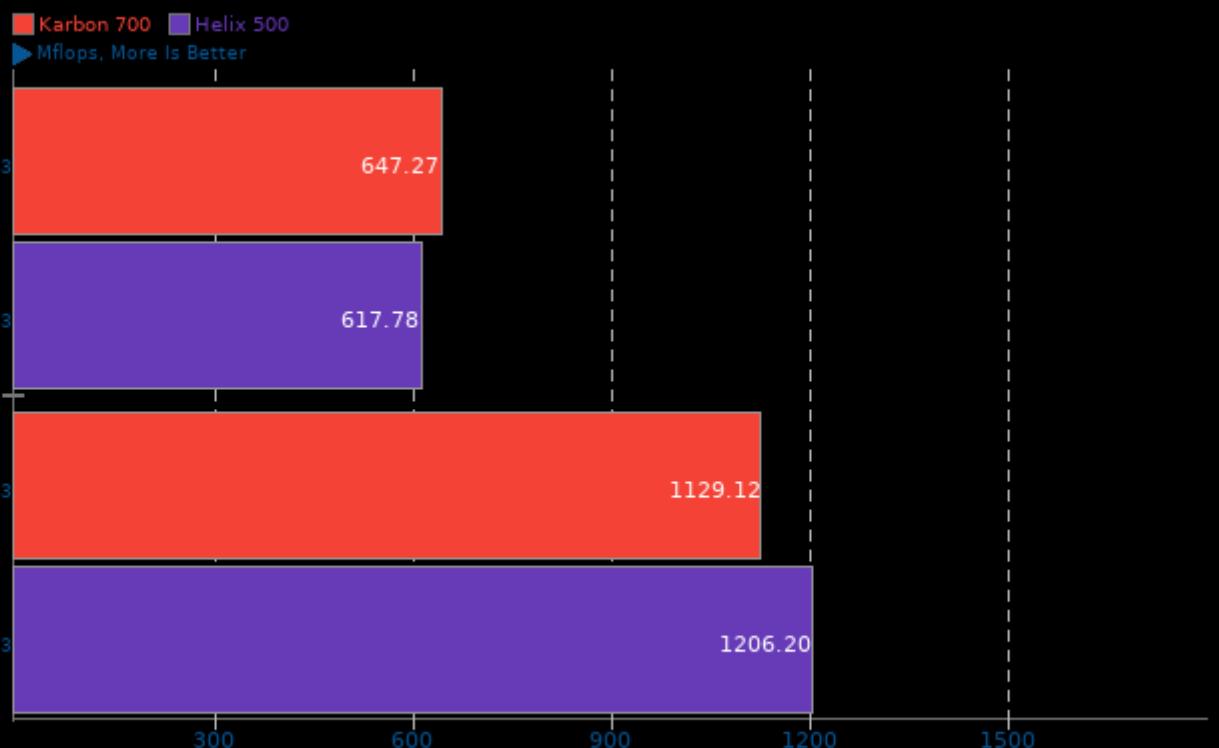
Test: Fast Fourier Transform



1. (CC) clang options: -lm -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuaJIT 2.1-git

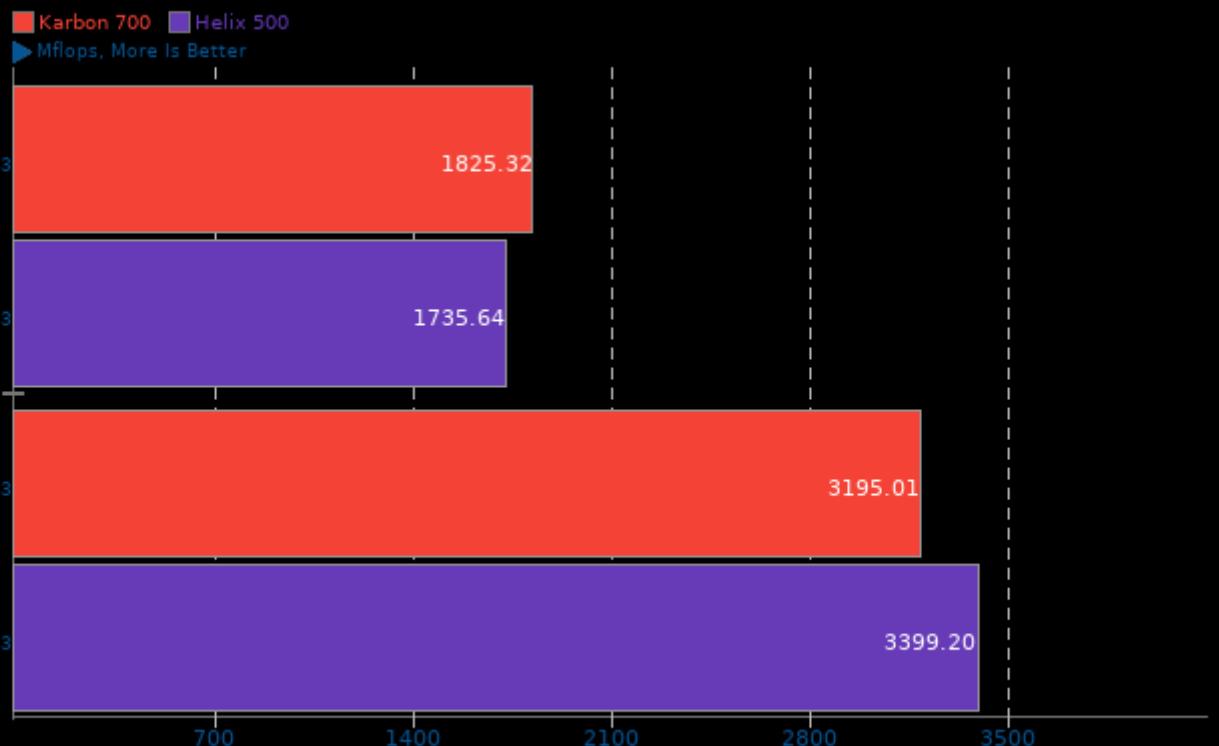
Test: Sparse Matrix Multiply



1. (CC) clang options: -lm -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuaJIT 2.1-git

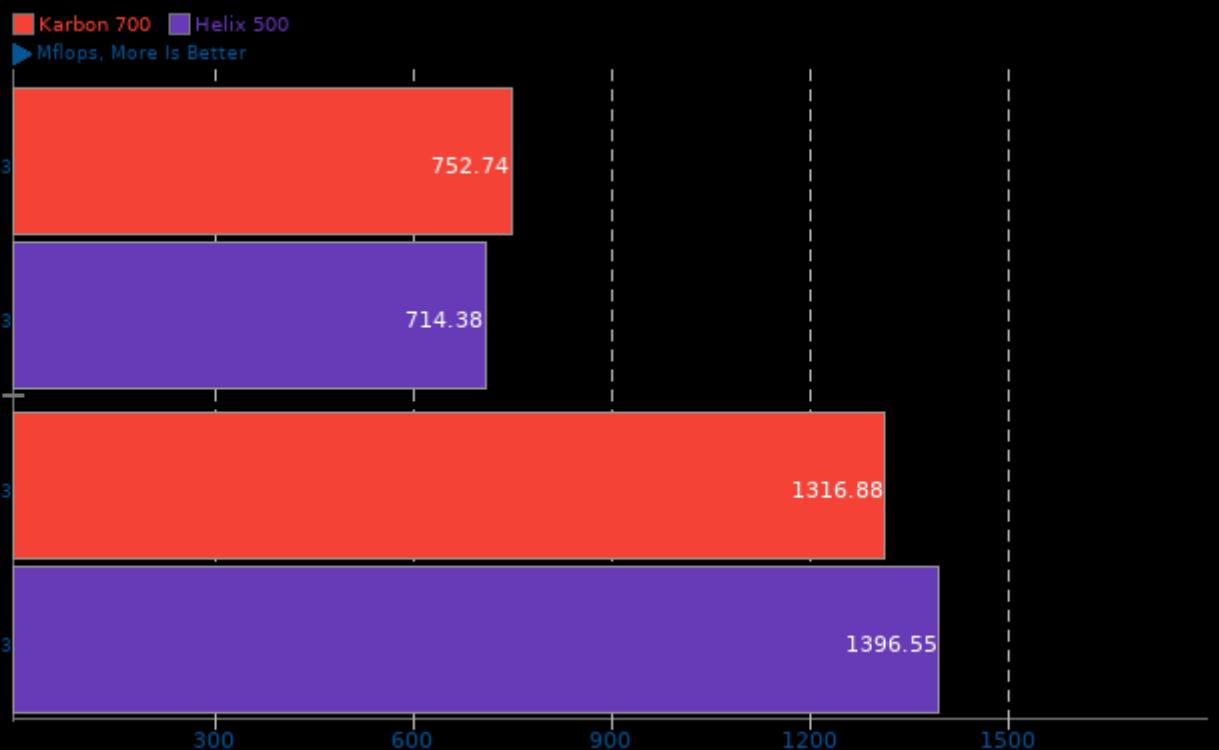
Test: Dense LU Matrix Factorization



1. (CC) clang options: -lm -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuaJIT 2.1-git

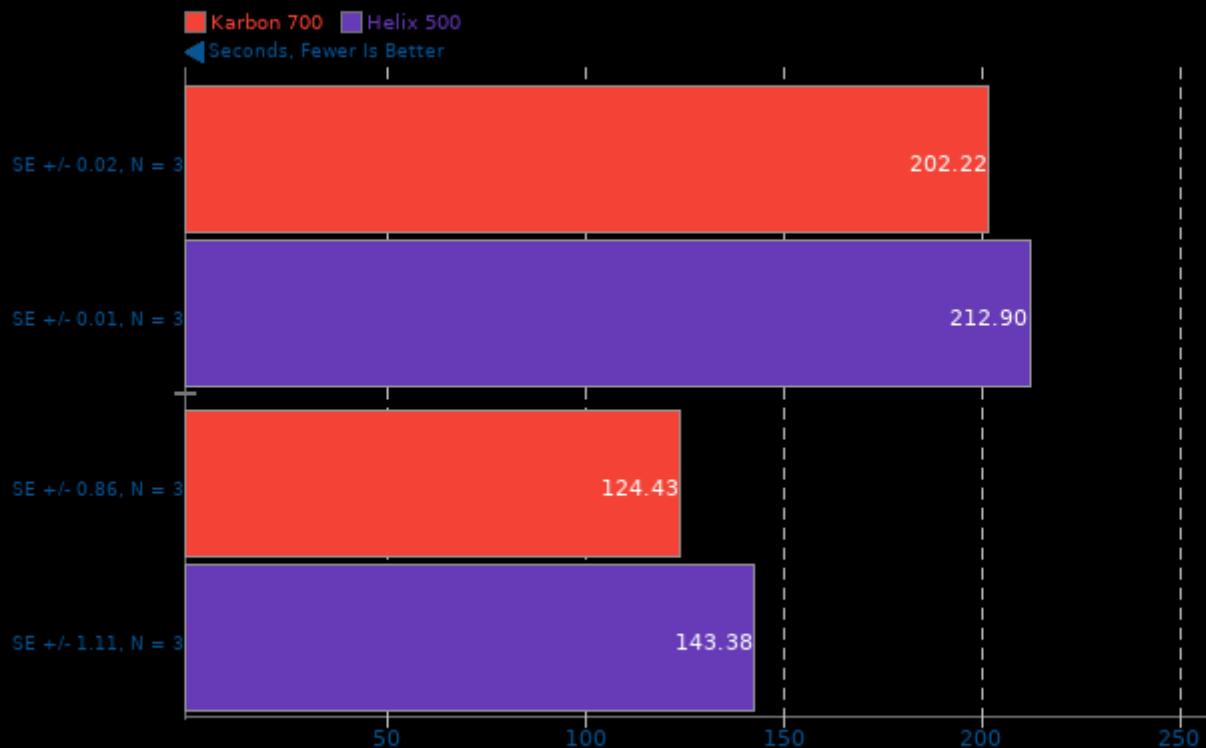
Test: Jacobi Successive Over-Relaxation



1. (CC) clang options: -lm -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

m-queens 1.2

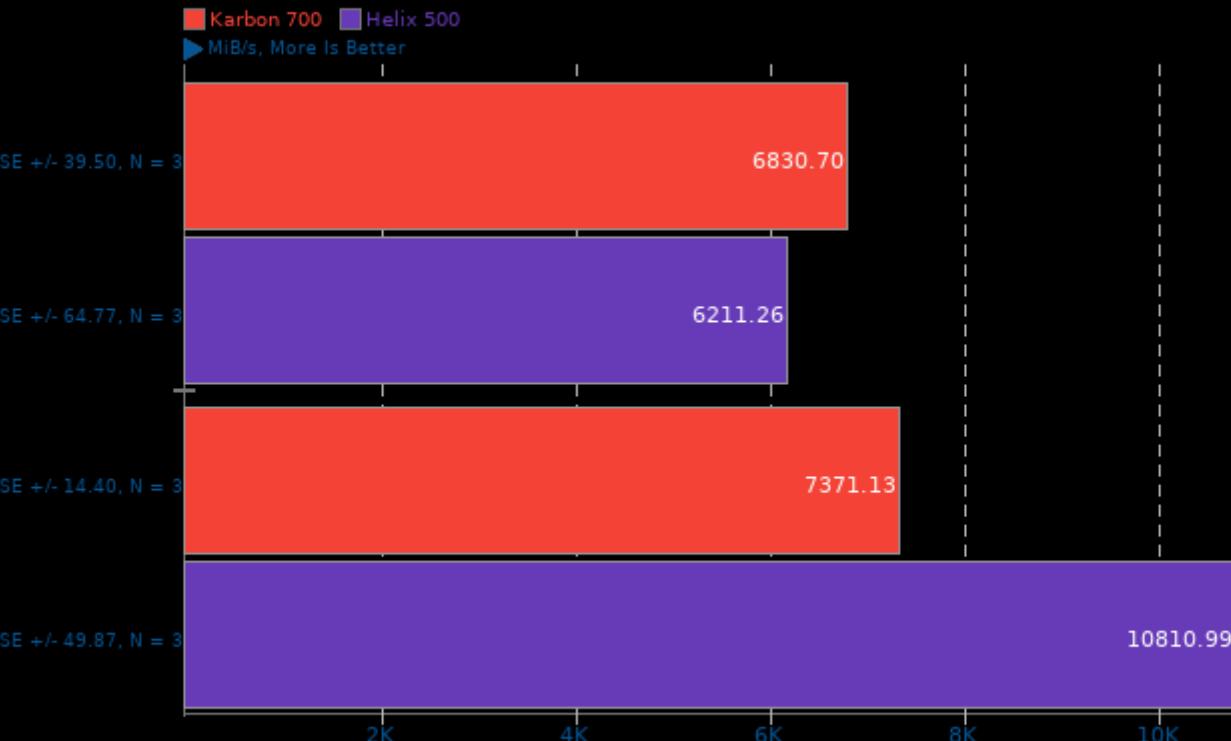
Time To Solve



1. (CXX) clang++ options: -fopenmp -O2 -march=native

MBW 2018-09-08

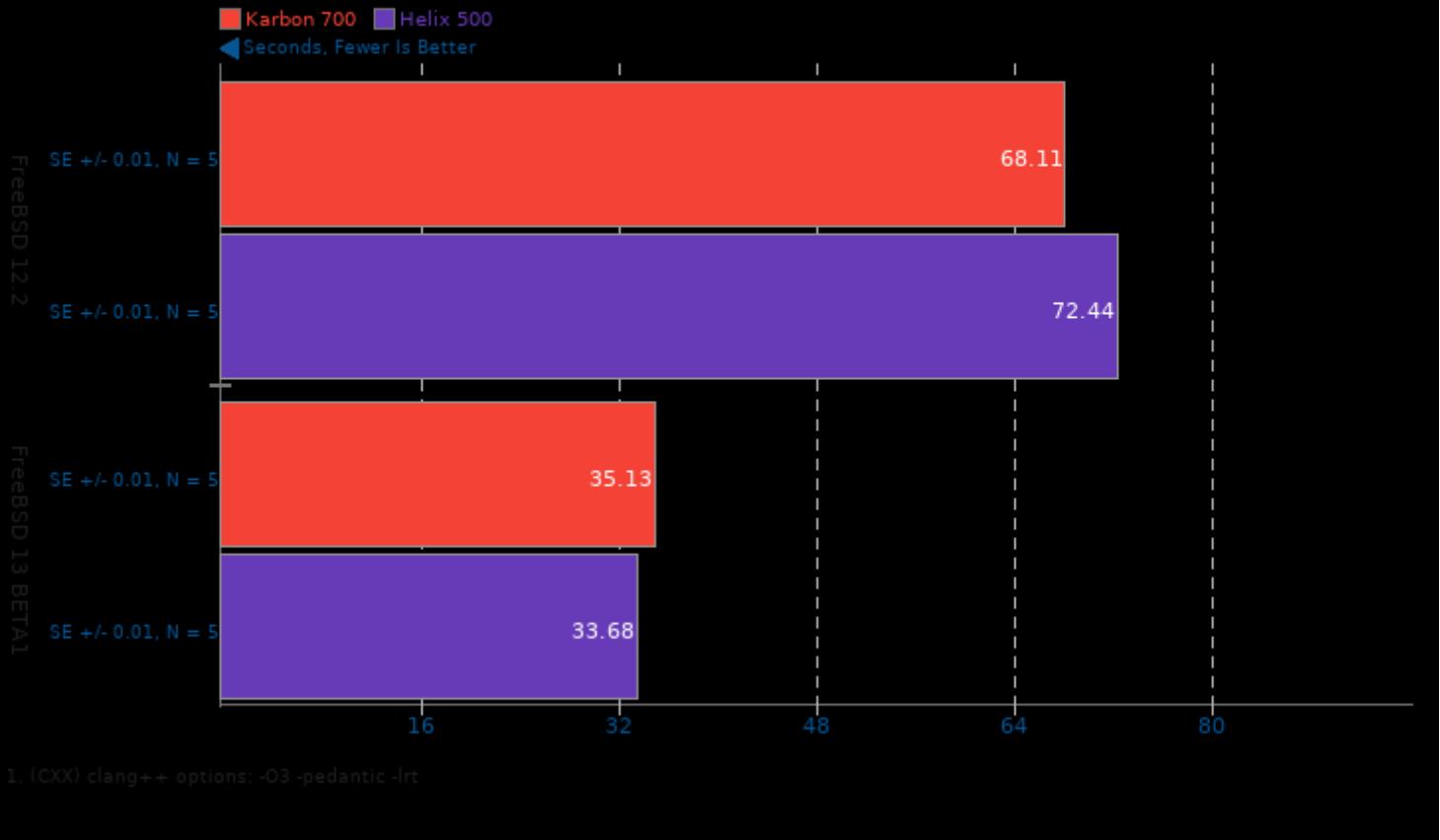
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



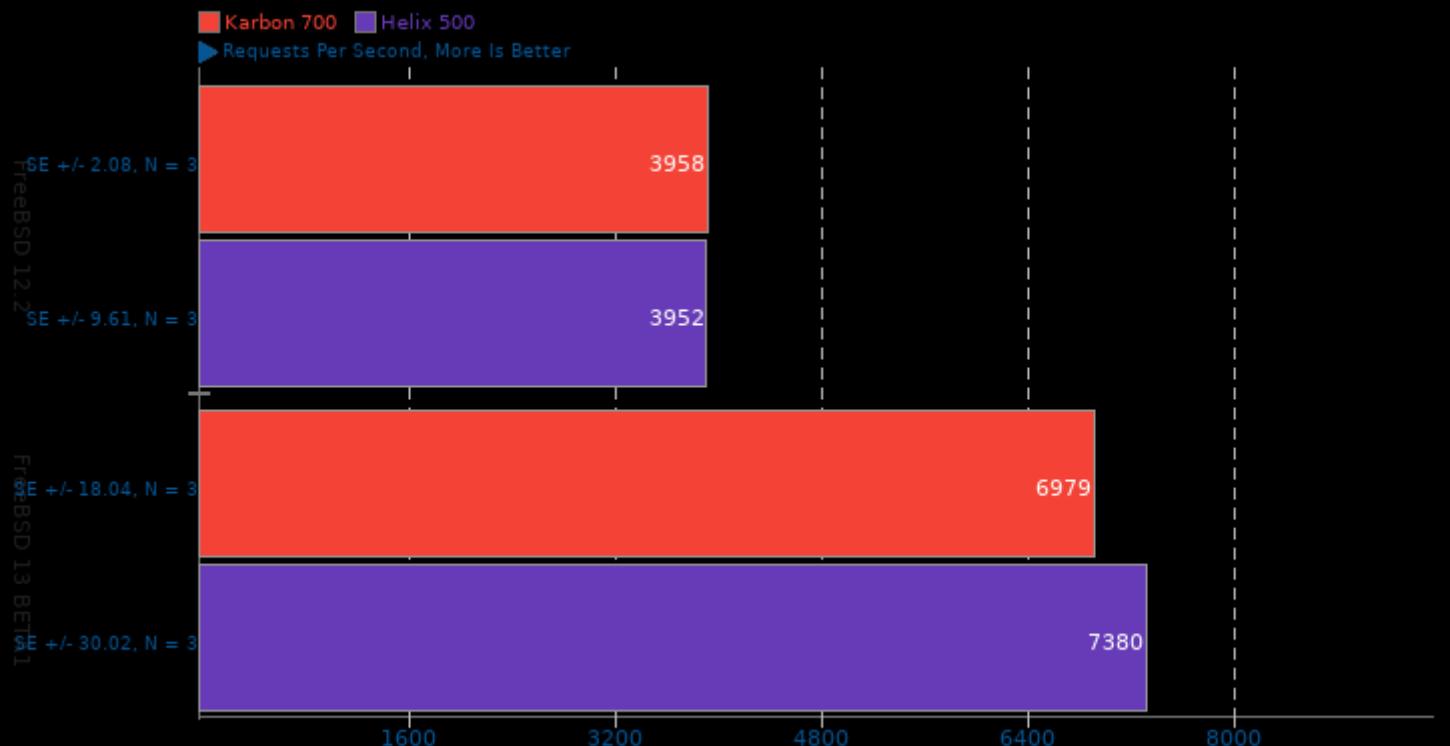
1. (CC) clang options: -O3 -march=native

Monkey Audio Encoding 3.99.6

WAV To APE

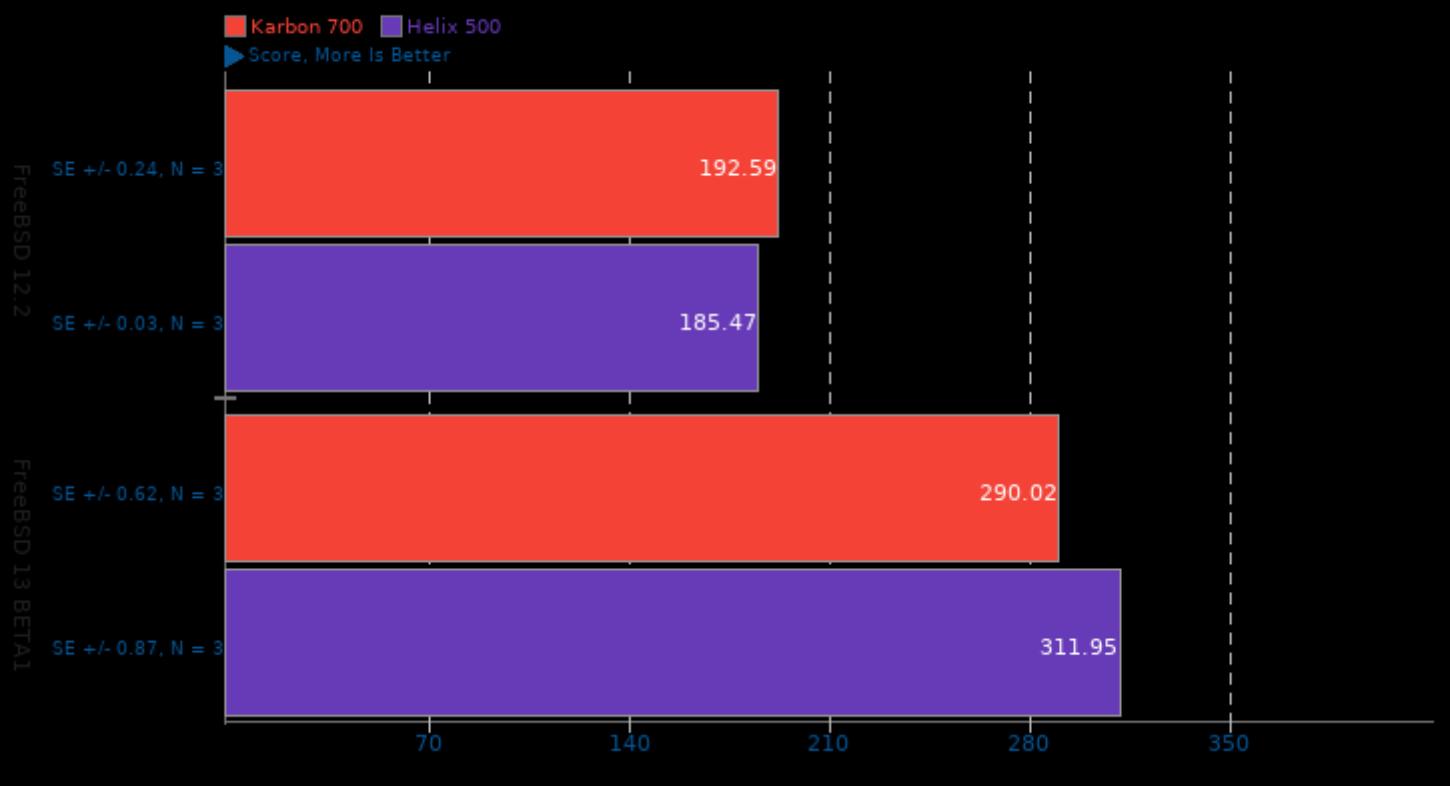


Node.js Express HTTP Load Test



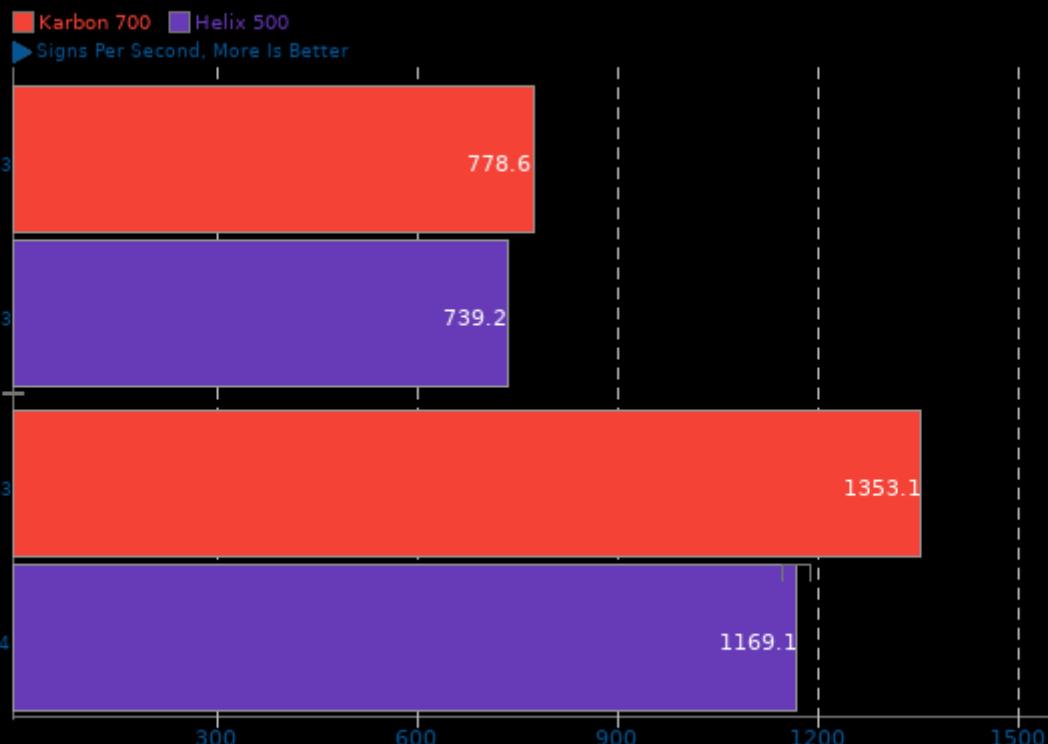
1. Nodejs

Numpy Benchmark



OpenSSL 1.1.1

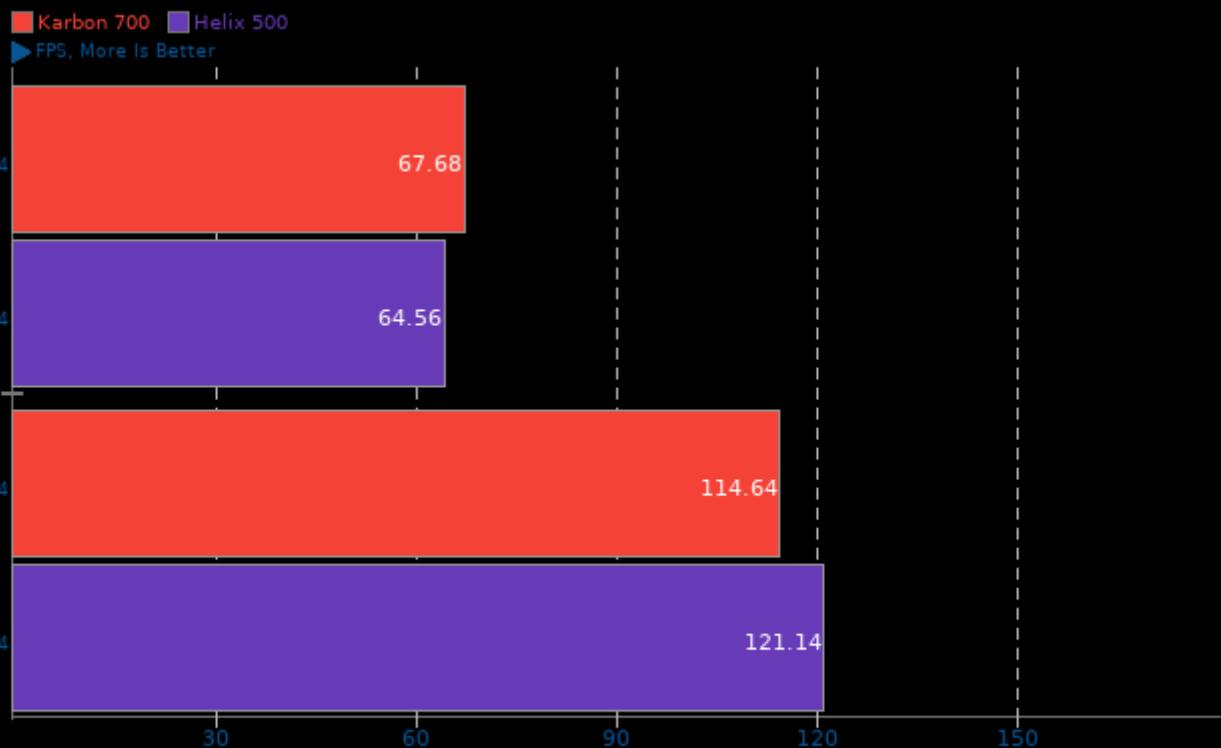
RSA 4096-bit Performance



1. (CC) clang options: -fthread -funused-arguments -O3 -lssl -lcrypto

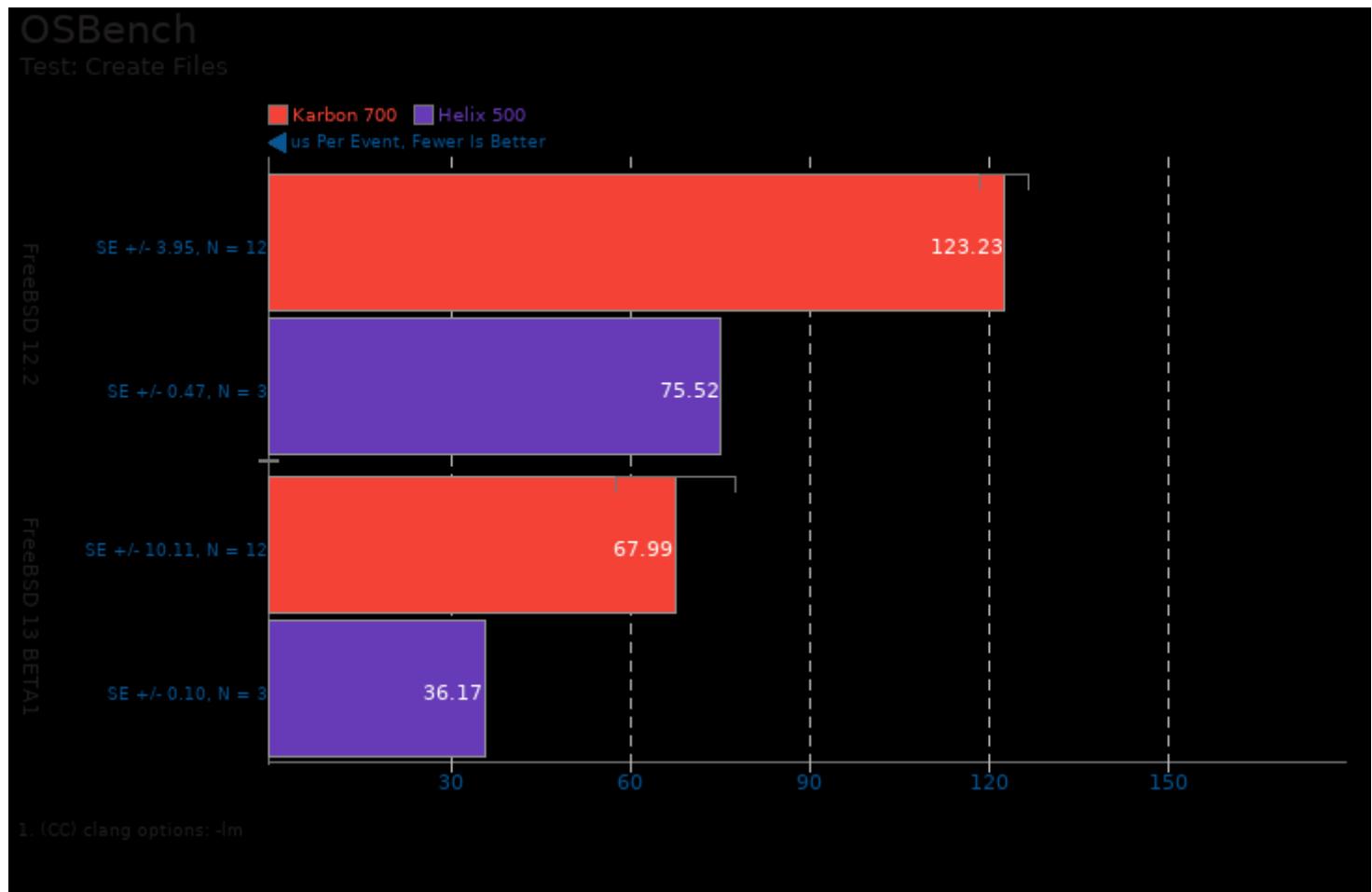
Optcarrot

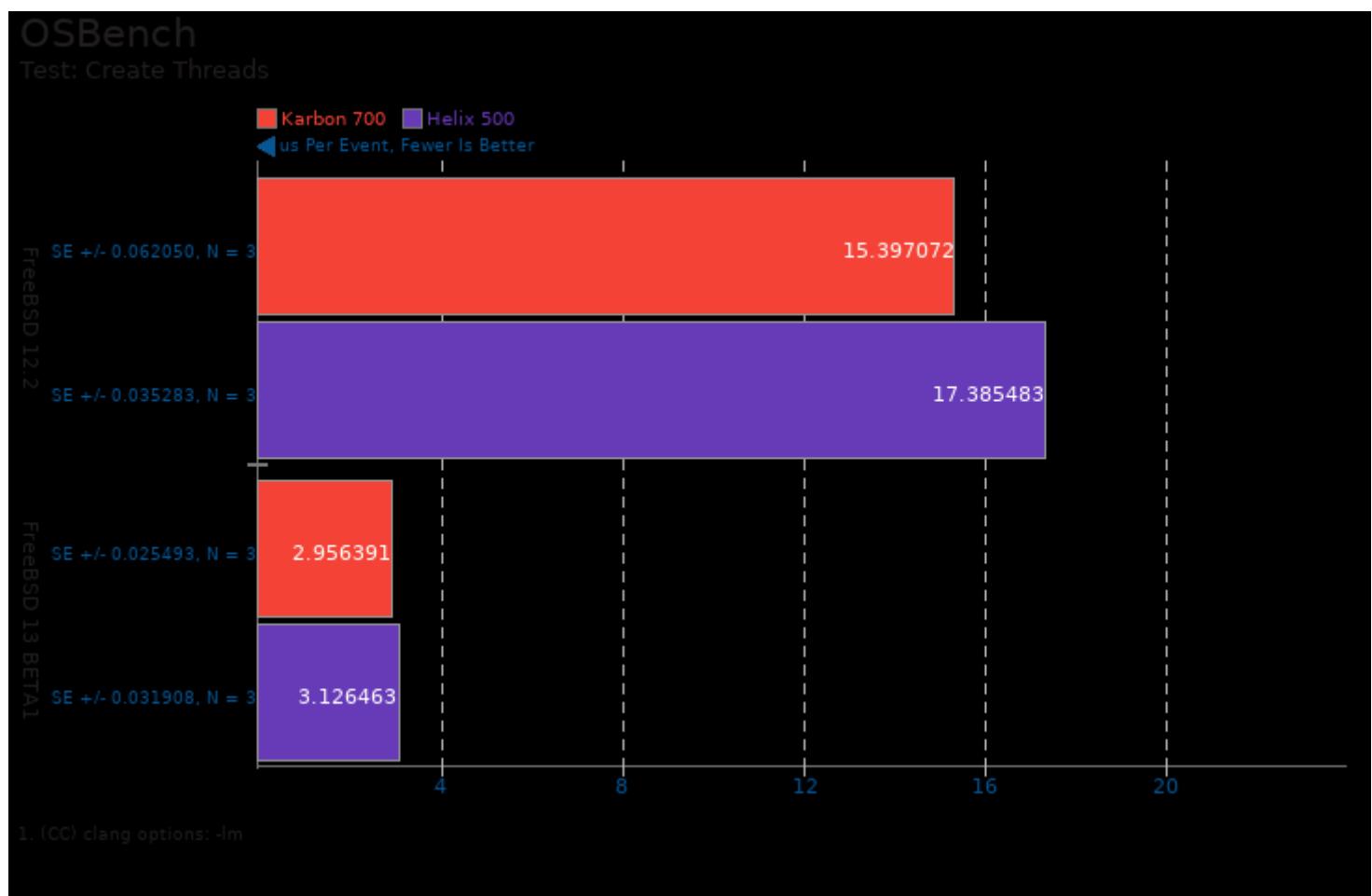
Optimized Benchmark



1. FreeBSD 12.2: ruby 2.7.2p137 (2020-10-01 revision 5445e04352) [amd64-freebsd12]

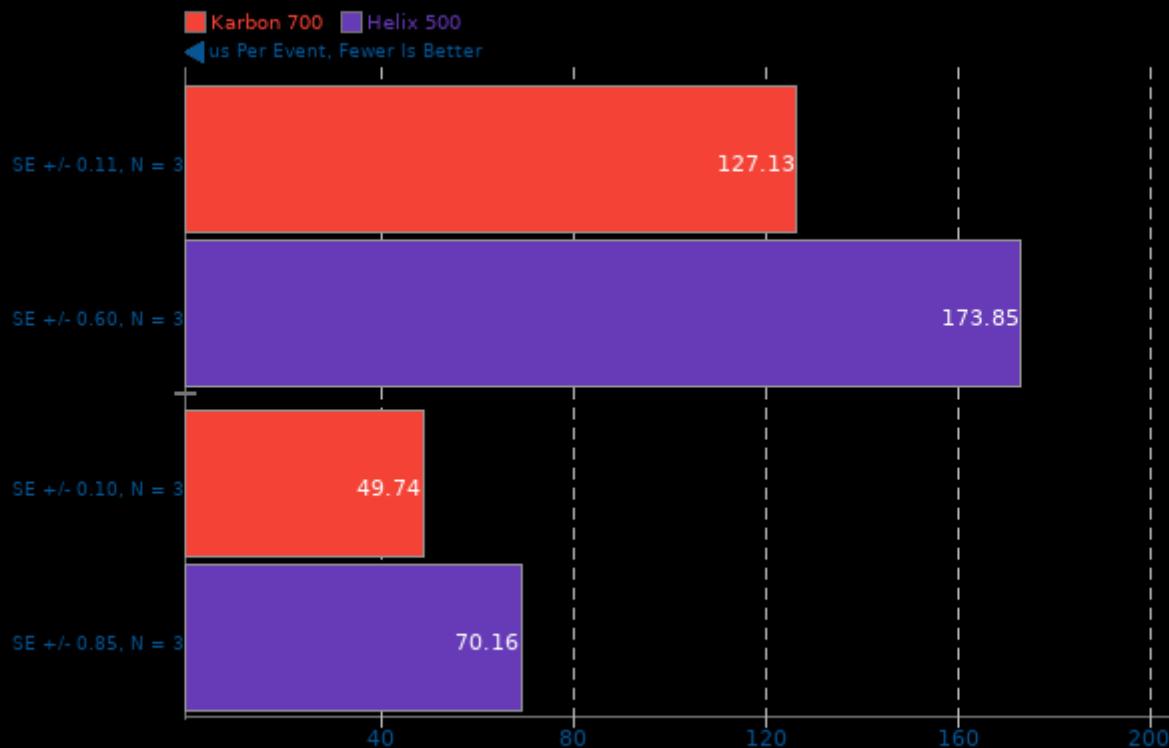
2. FreeBSD 13 BETA1: ruby 2.7.2p137 (2020-10-01 revision 5445e04352) [amd64-freebsd13]





OSBench

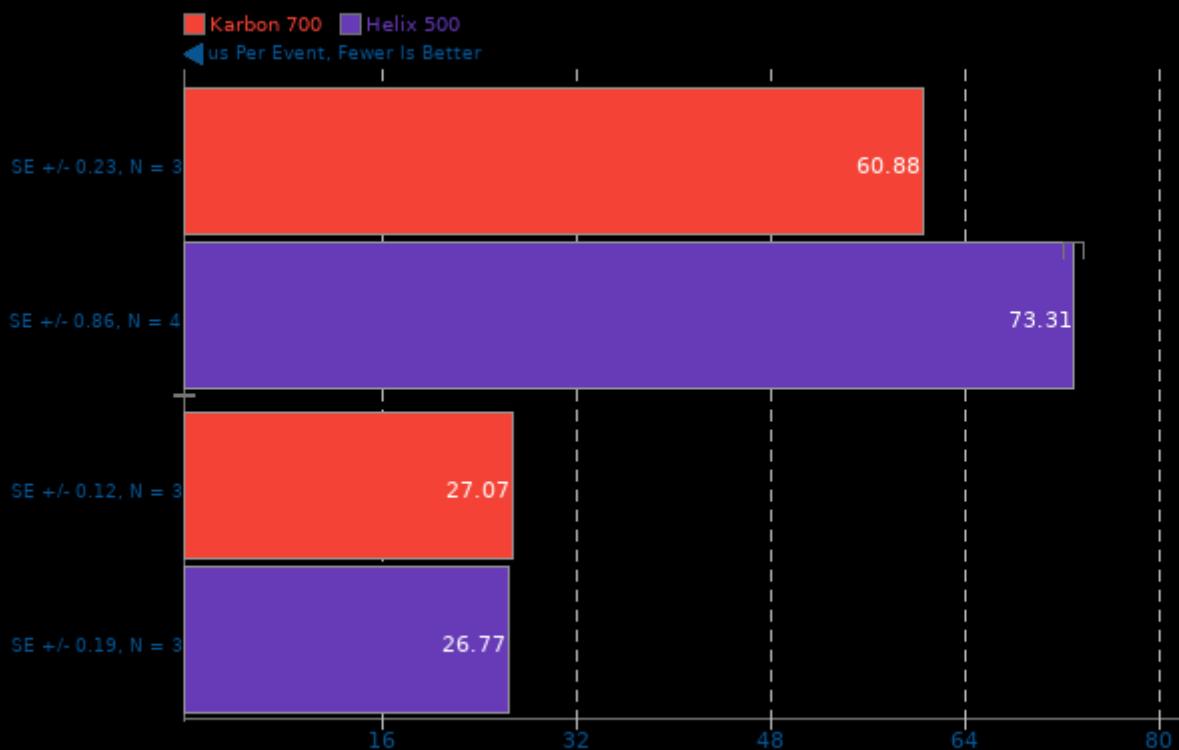
Test: Launch Programs



1. (CC) clang options: -lm

OSBench

Test: Create Processes

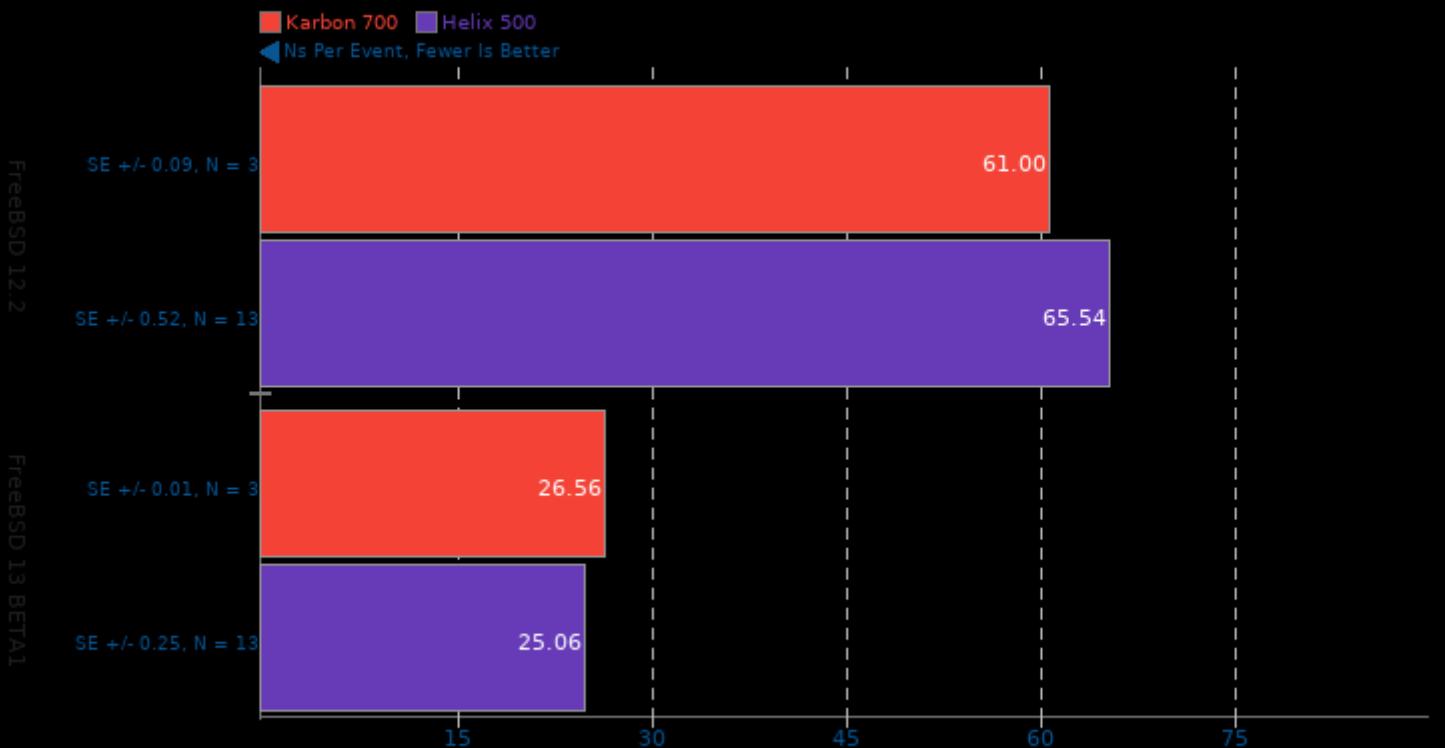


1. (CC) clang options: -lm

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

OSBench

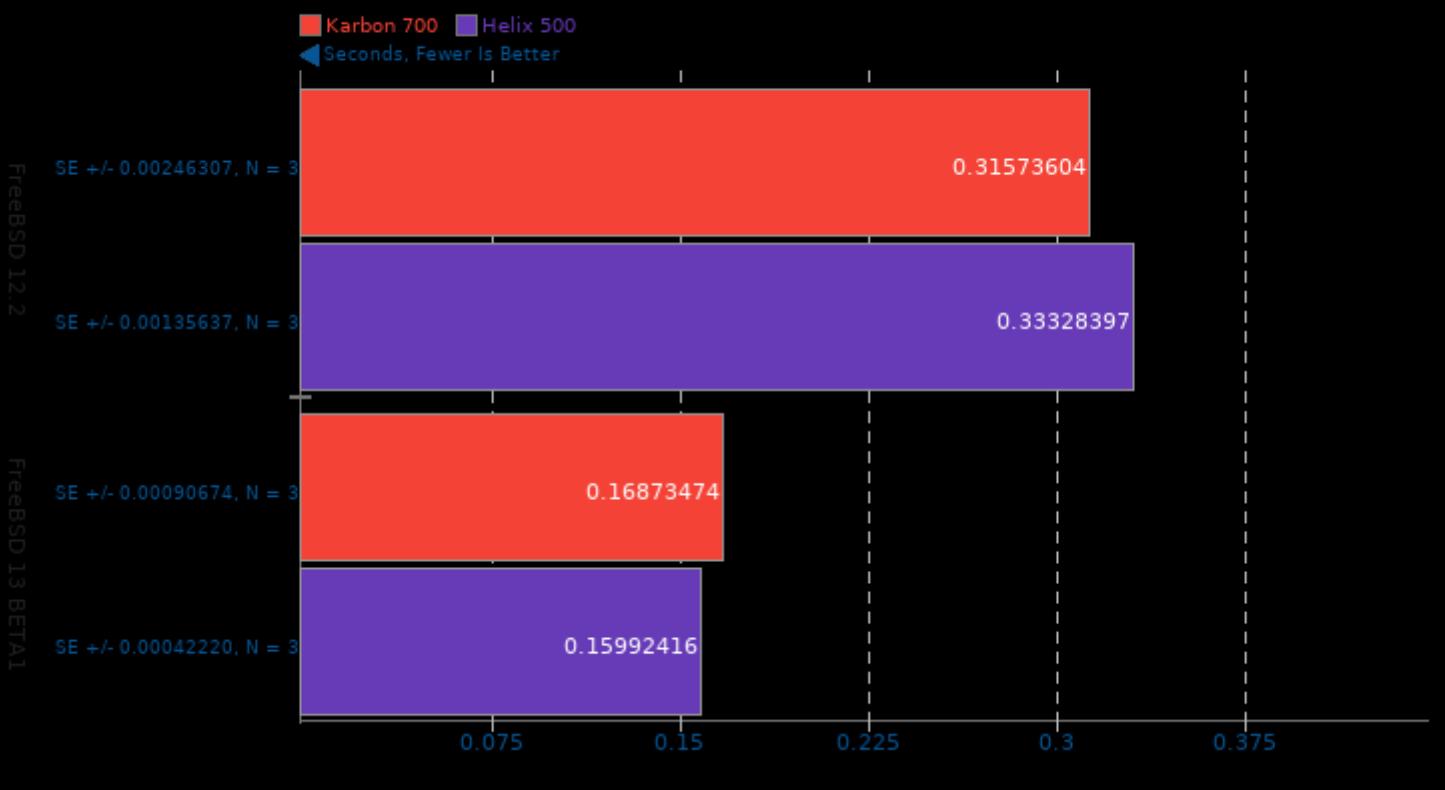
Test: Memory Allocations



1. (CC) clang options: -lm

Perl Benchmarks

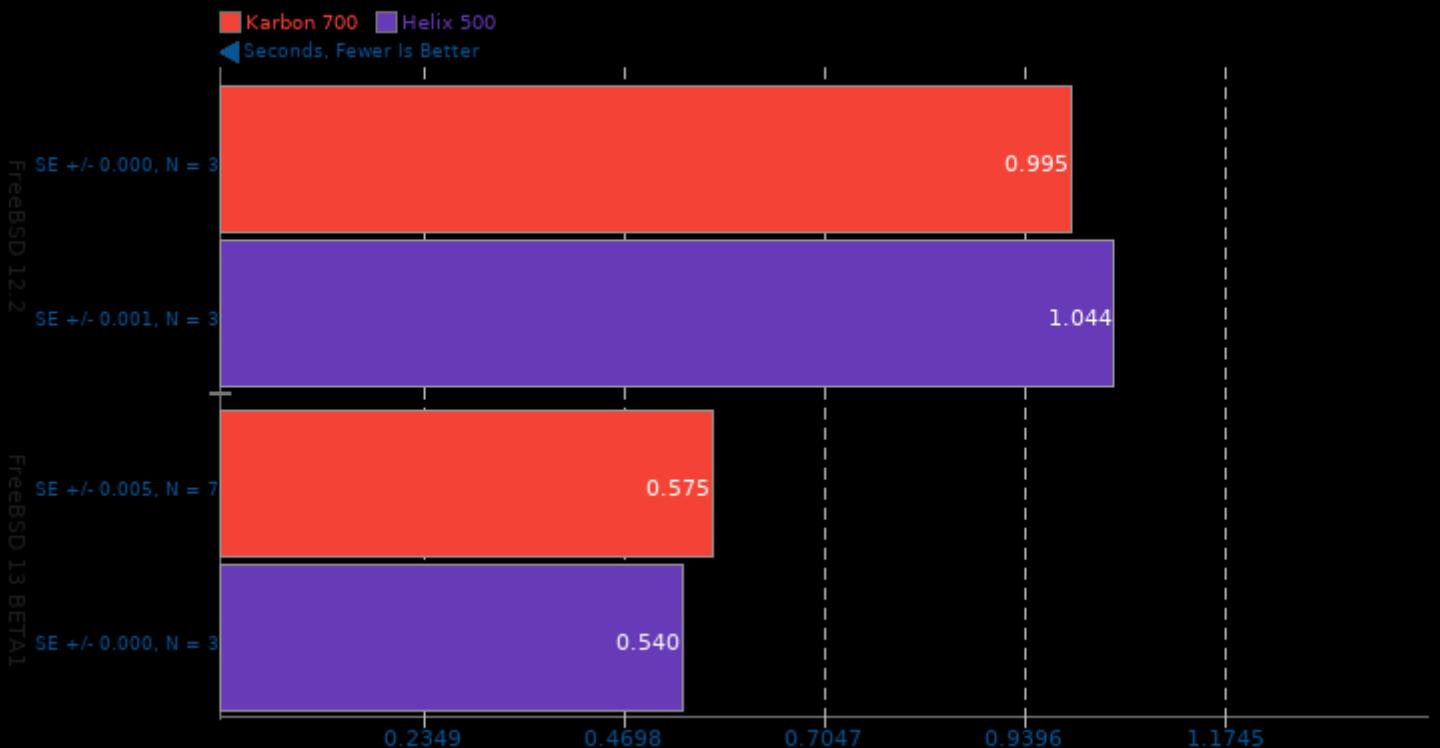
Test: Pod2html



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

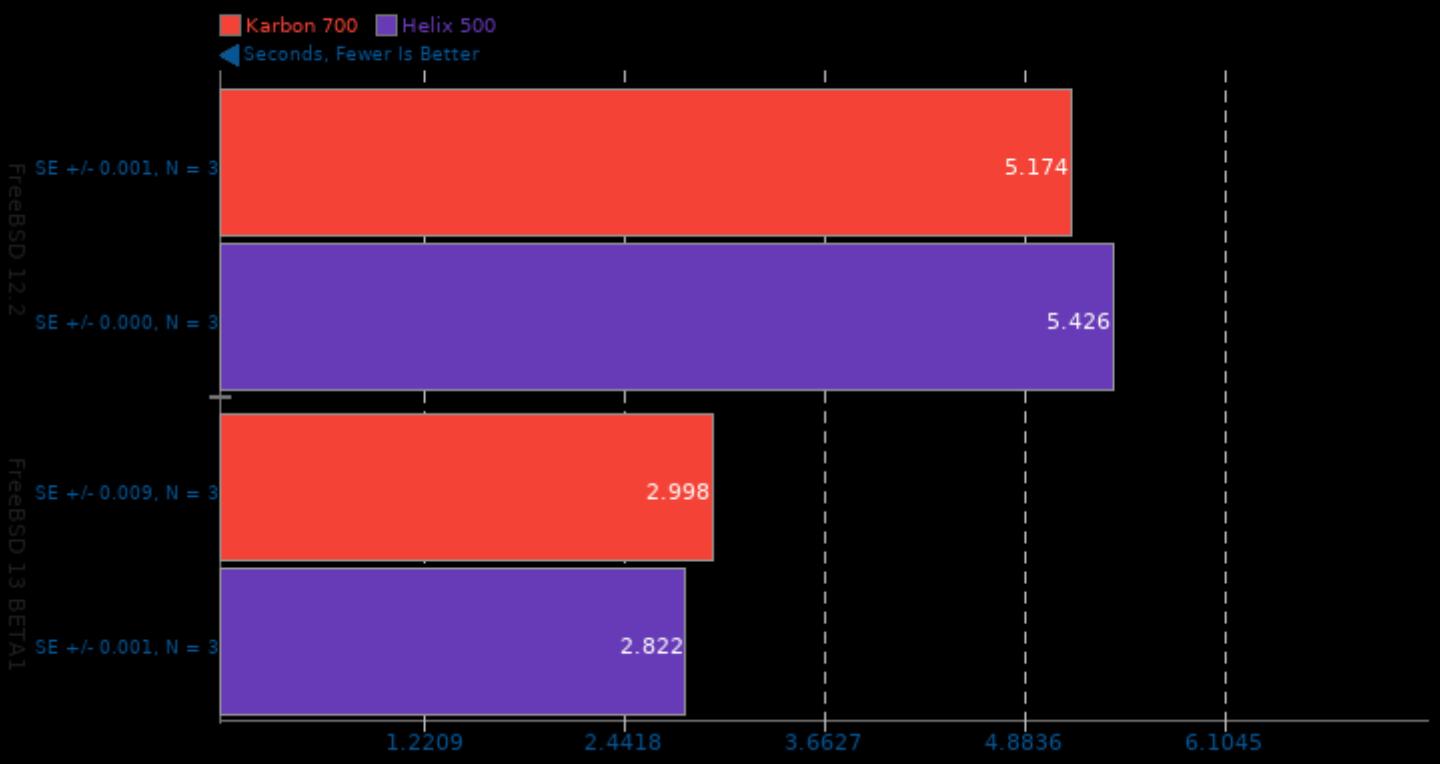
PHP Micro Benchmarks

Test: Zend bench



PHP Micro Benchmarks

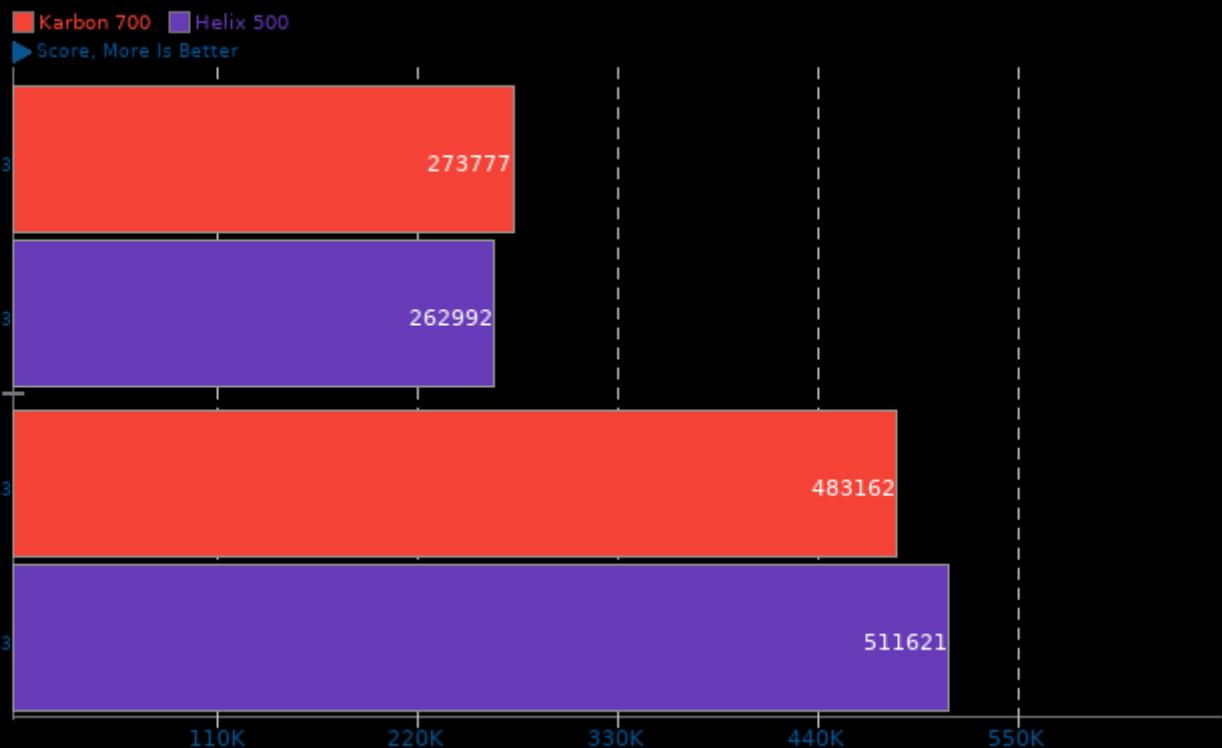
Test: Zend micro_bench



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

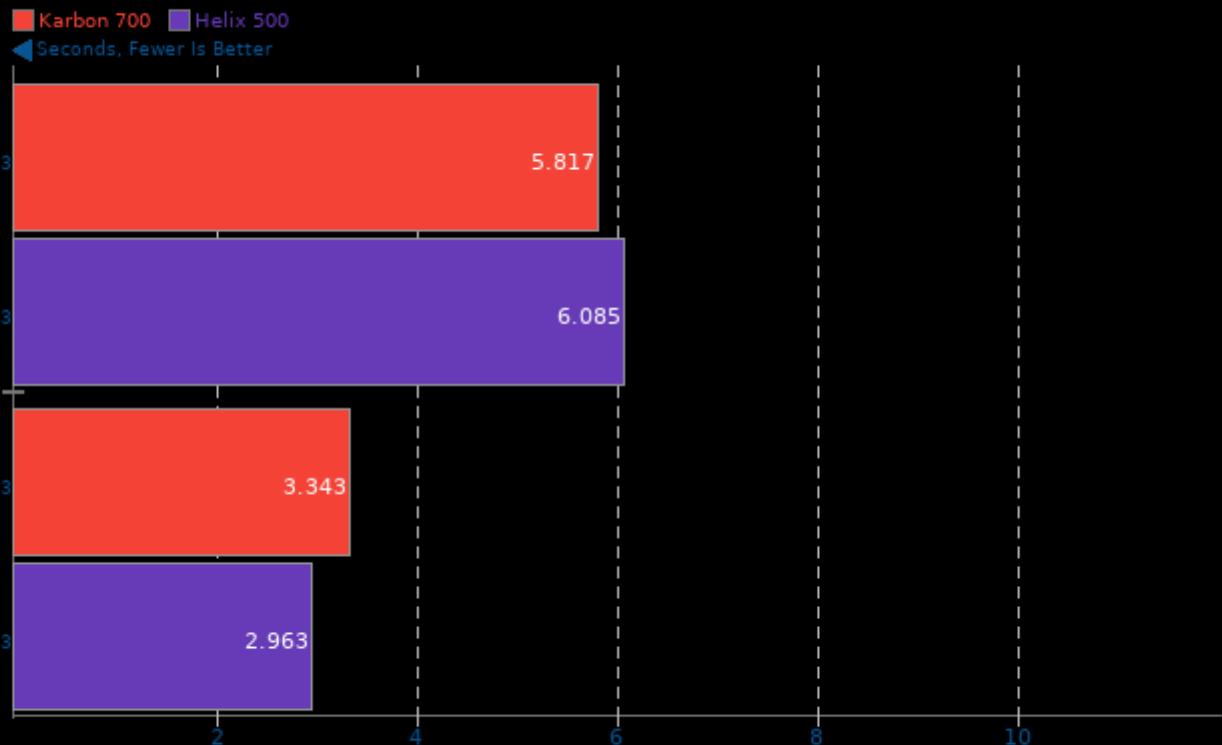
PHPBench 0.8.1

PHP Benchmark Suite



PolyBench-C 4.2

Test: 3 Matrix Multiplications

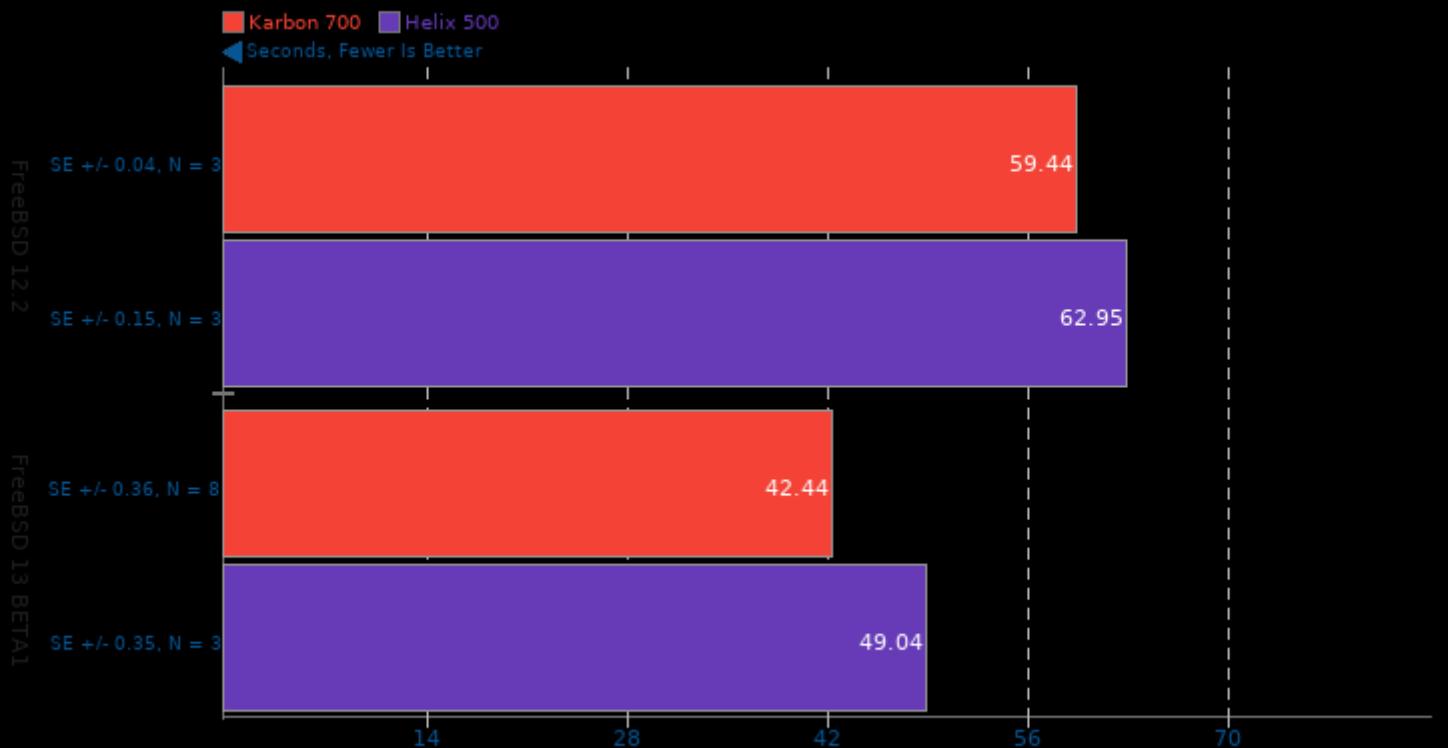


1. (CC) clang options: -O3 -march=native

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Primesieve 7.4

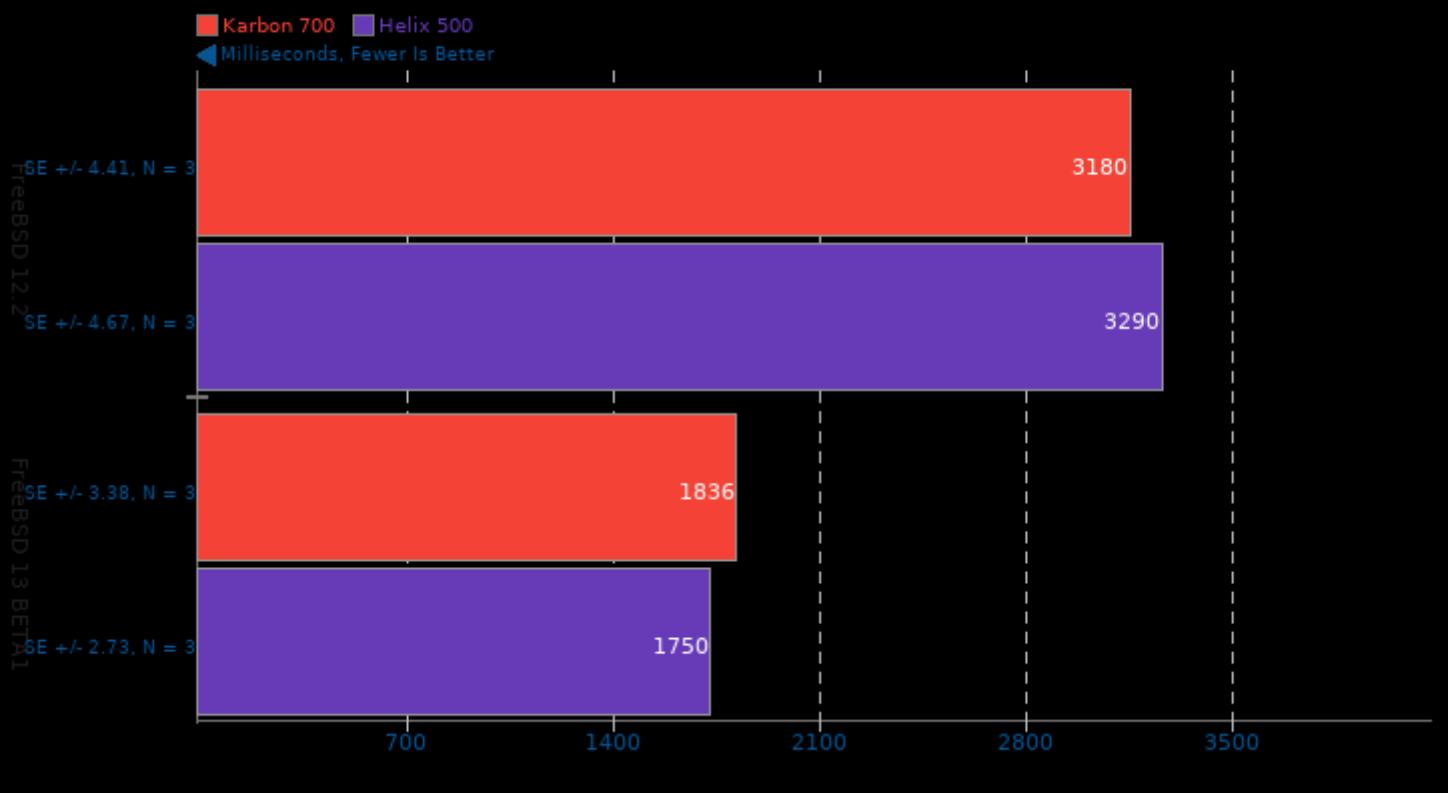
1e12 Prime Number Generation



1. (CXX) clang++ options: -O3 -lpthread

PyBench 2018-02-16

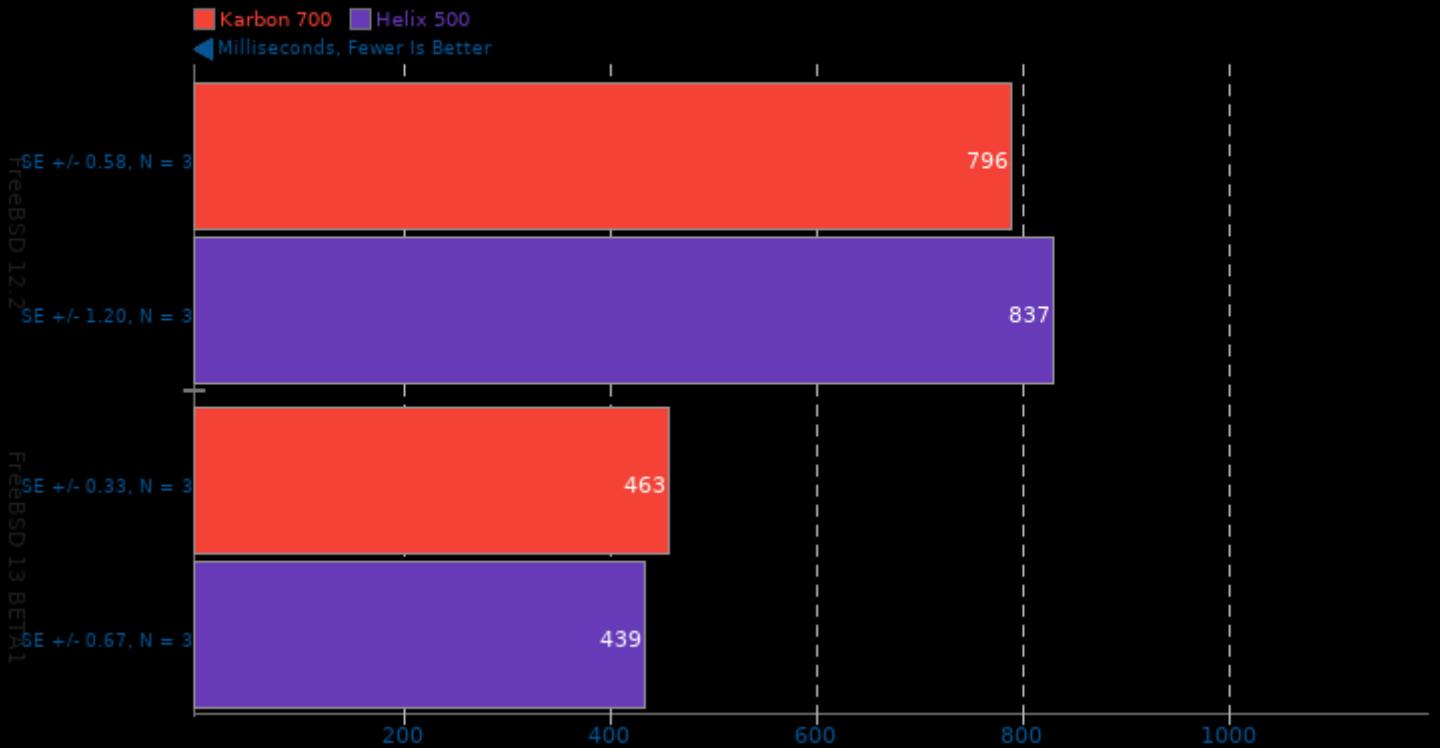
Total For Average Test Times



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

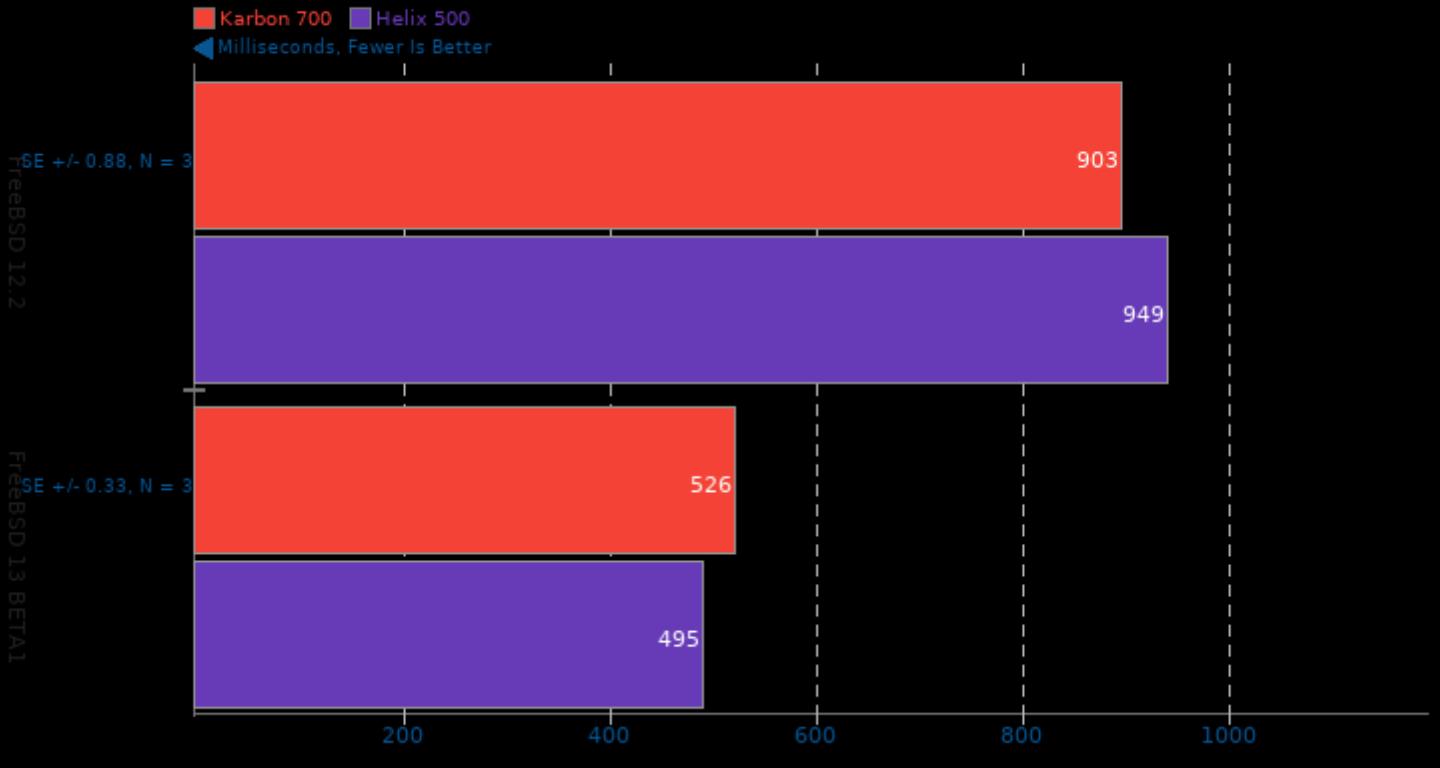
PyPerformance 1.0.0

Benchmark: go



PyPerformance 1.0.0

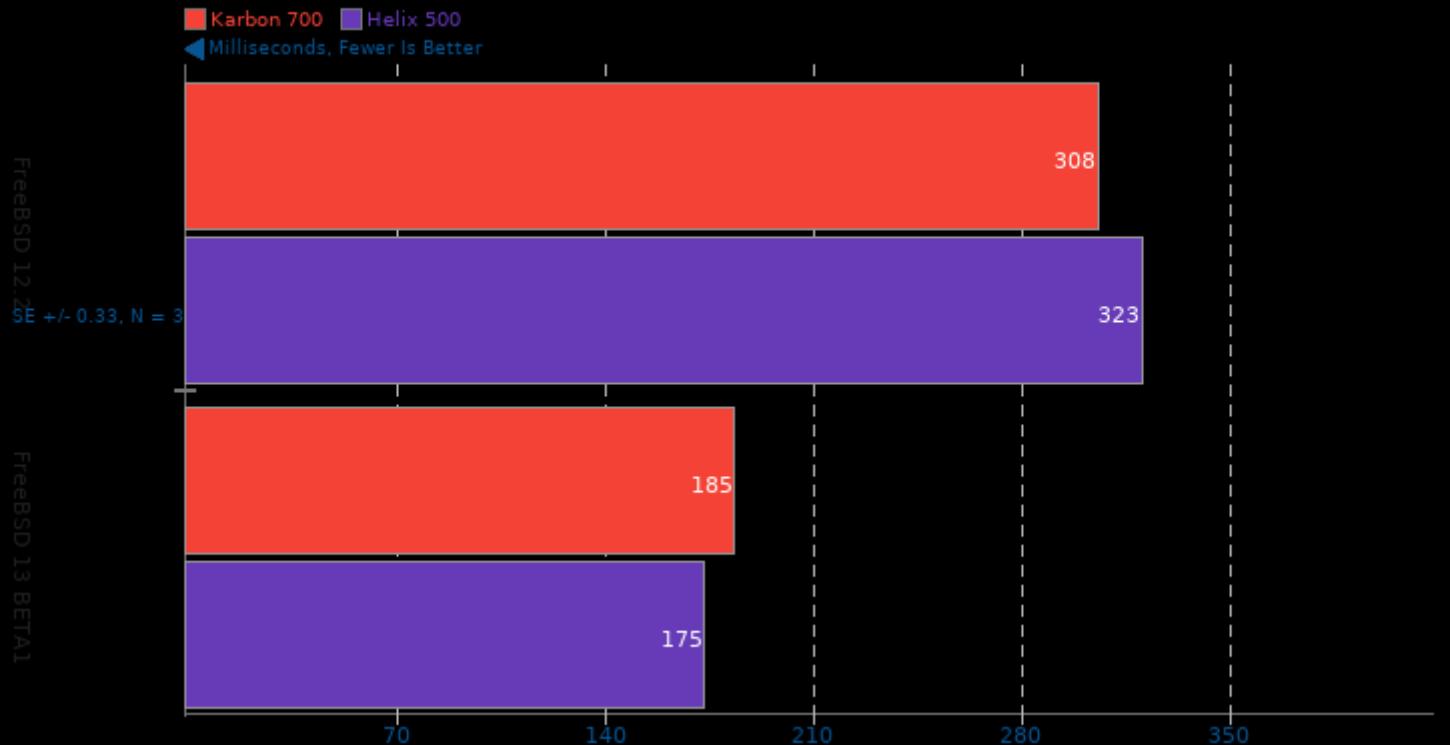
Benchmark: 2to3



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

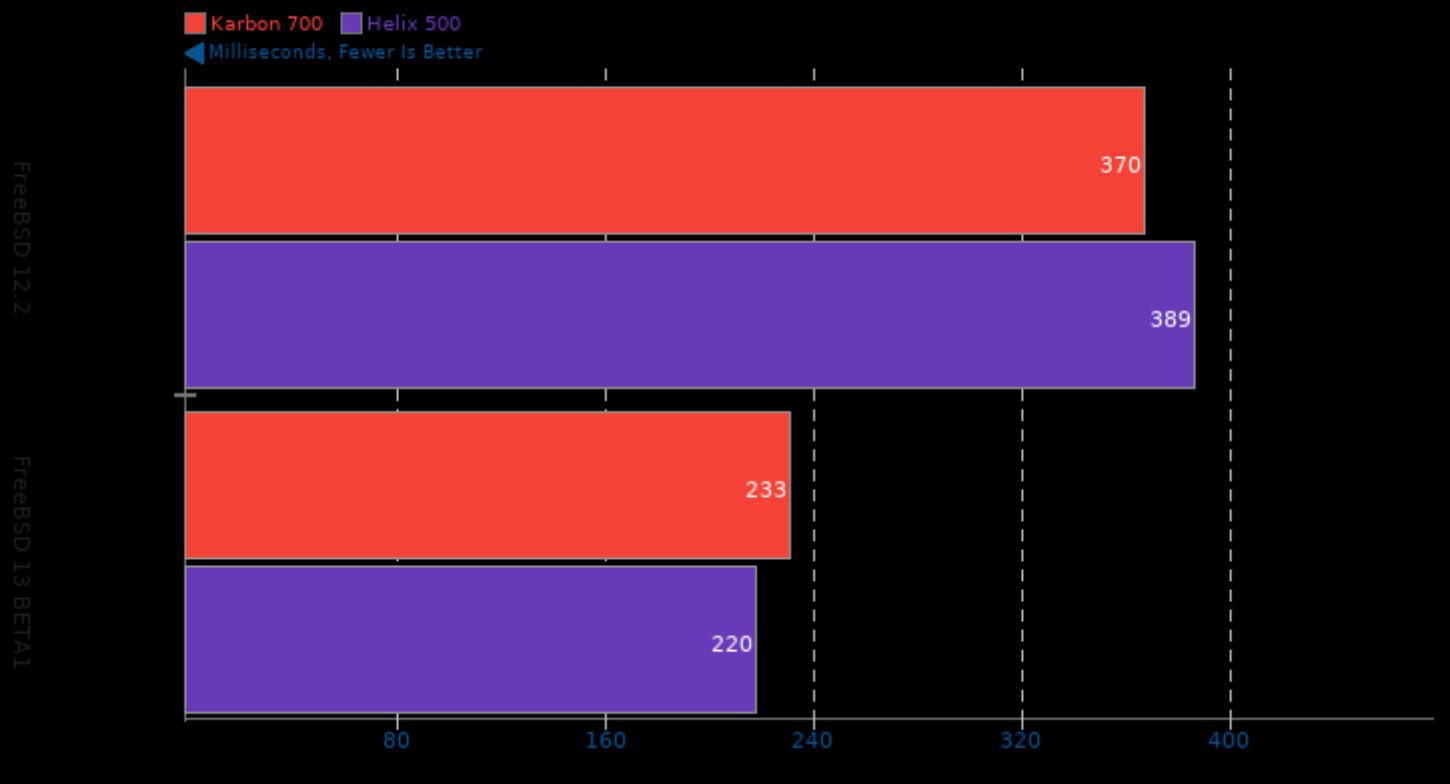
PyPerformance 1.0.0

Benchmark: float



PyPerformance 1.0.0

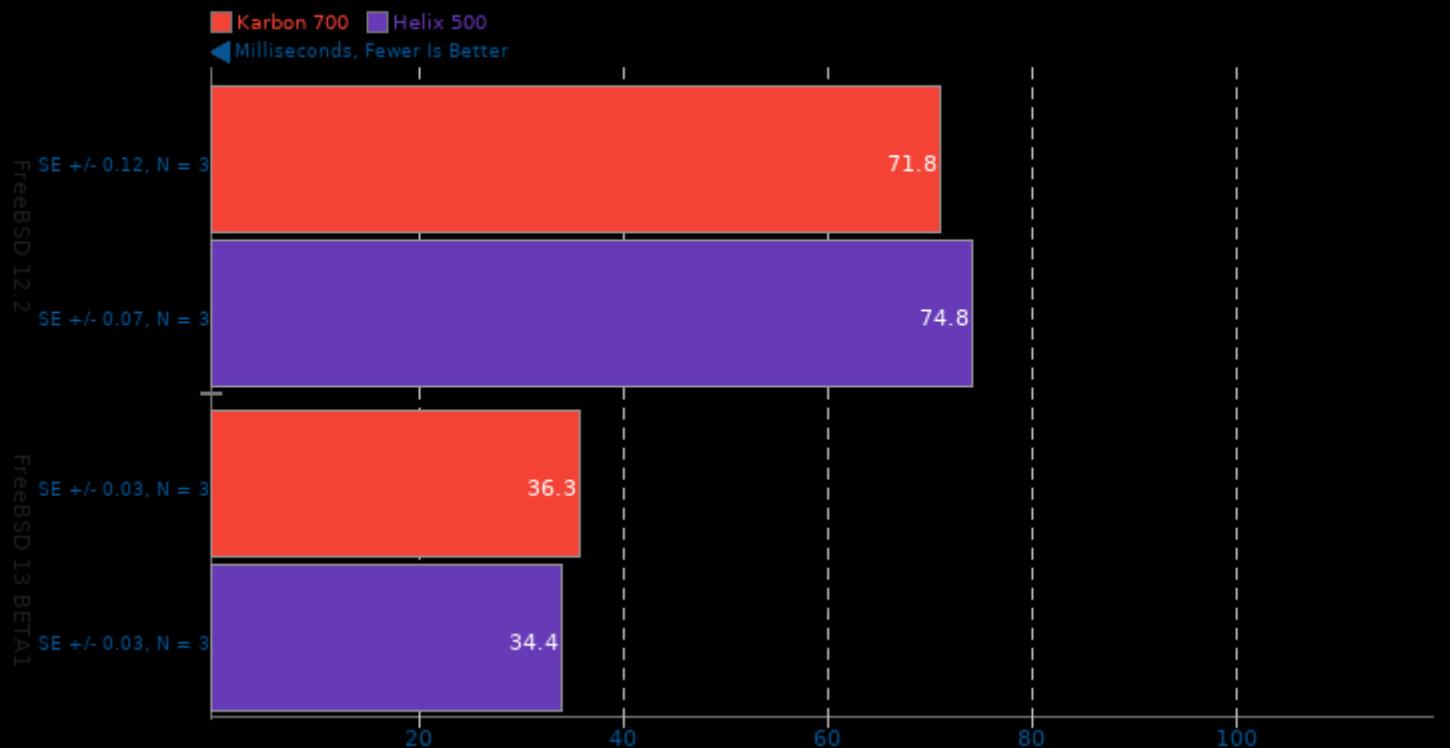
Benchmark: nbody



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

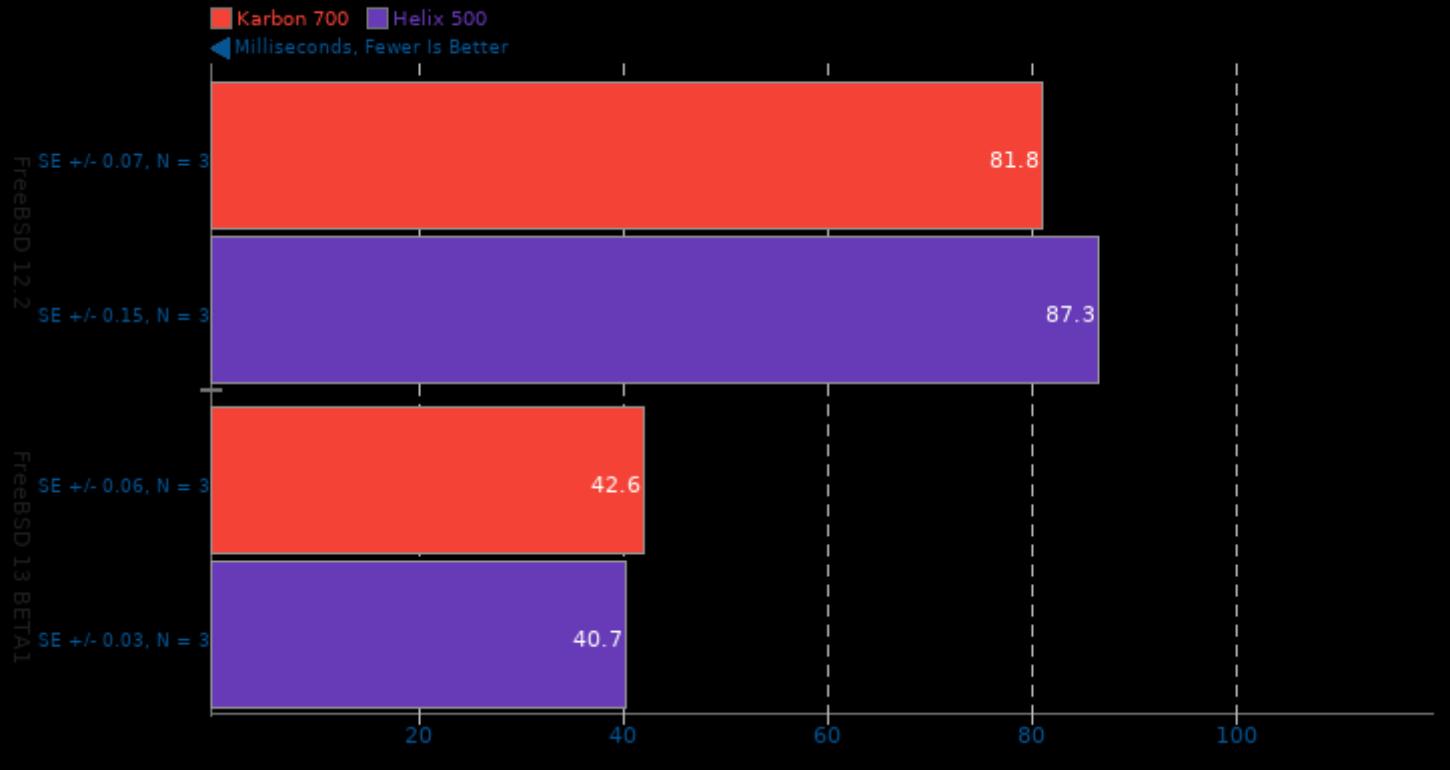
PyPerformance 1.0.0

Benchmark: pathlib



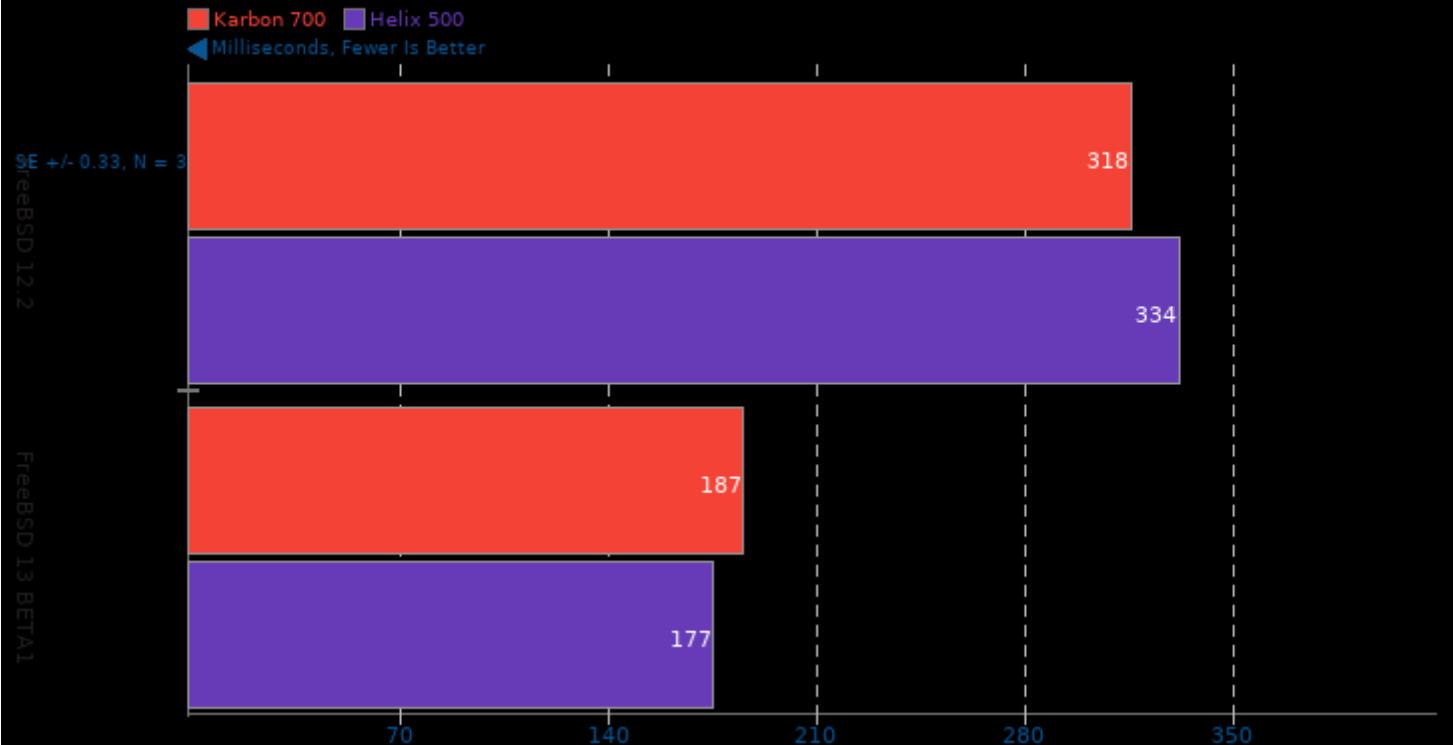
PyPerformance 1.0.0

Benchmark: json.loads



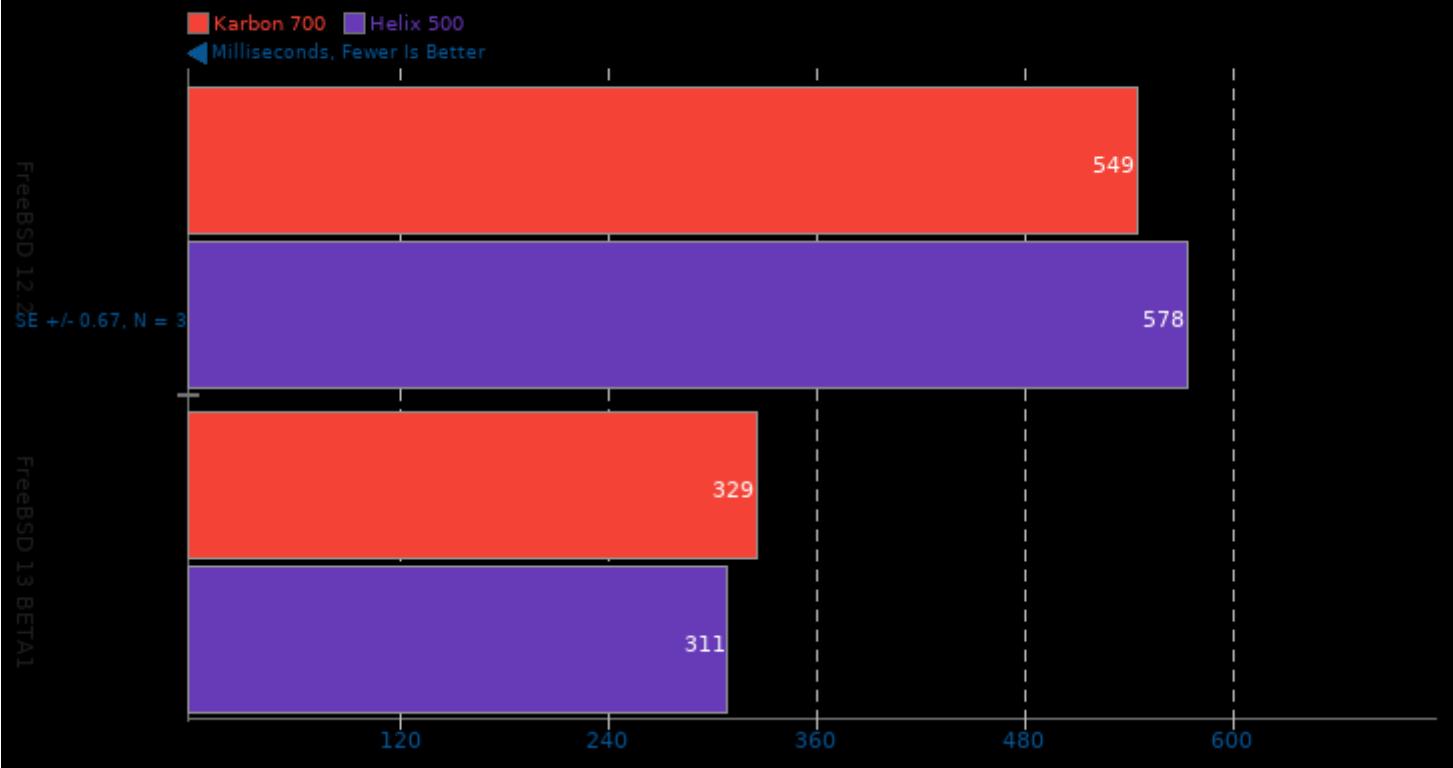
PyPerformance 1.0.0

Benchmark: crypto_pyaes



PyPerformance 1.0.0

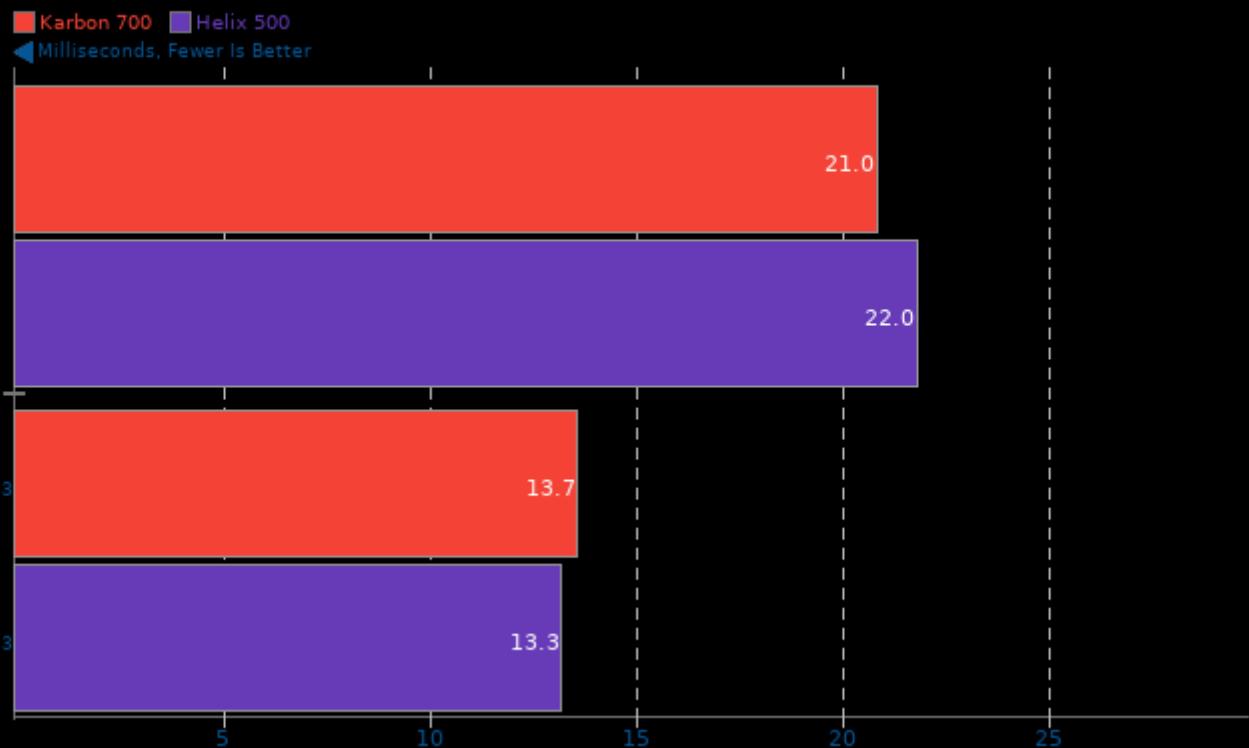
Benchmark: regex_compile



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

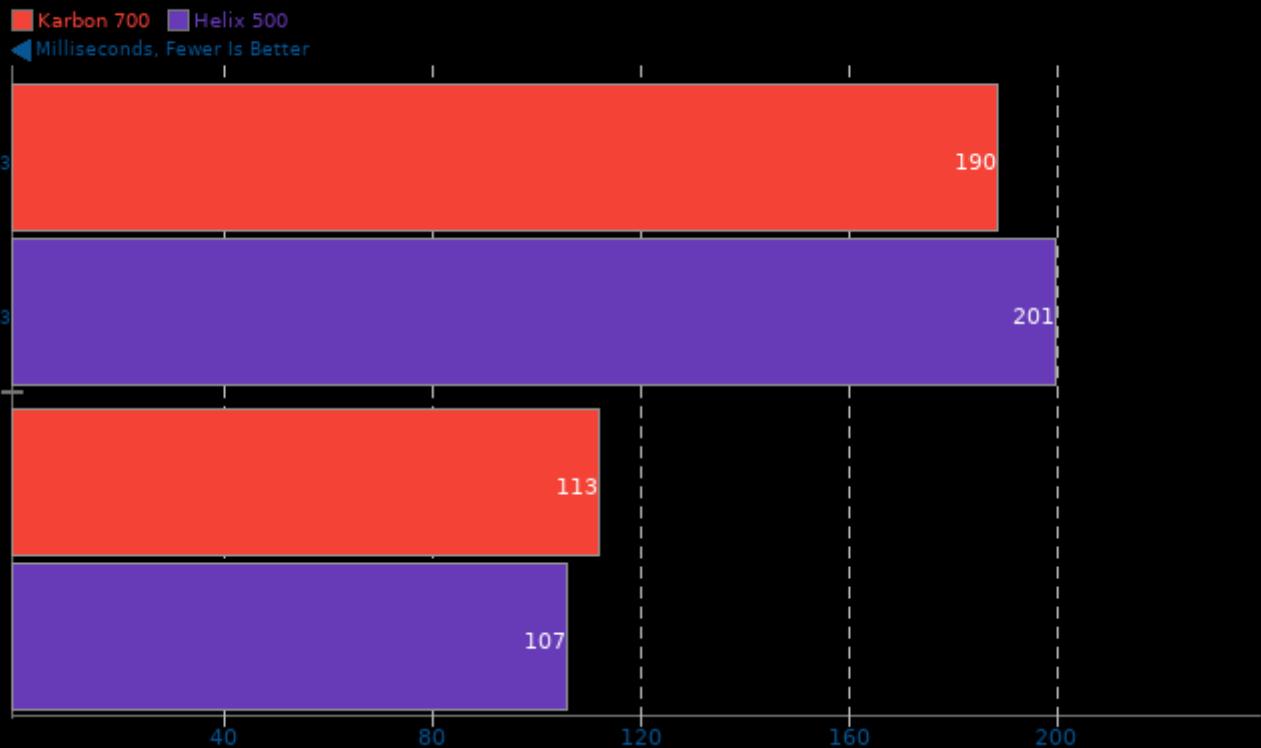
PyPerformance 1.0.0

Benchmark: python_startup



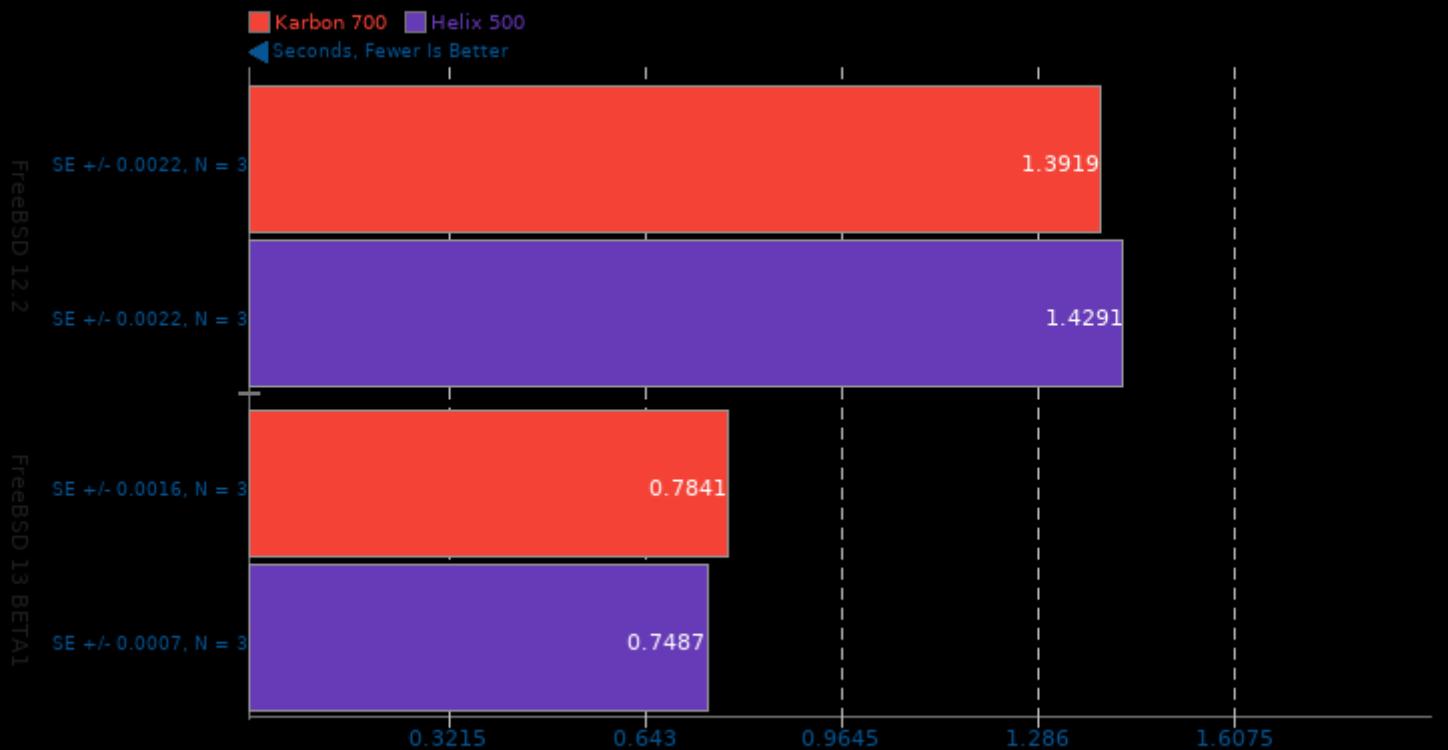
PyPerformance 1.0.0

Benchmark: djangotemplate



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

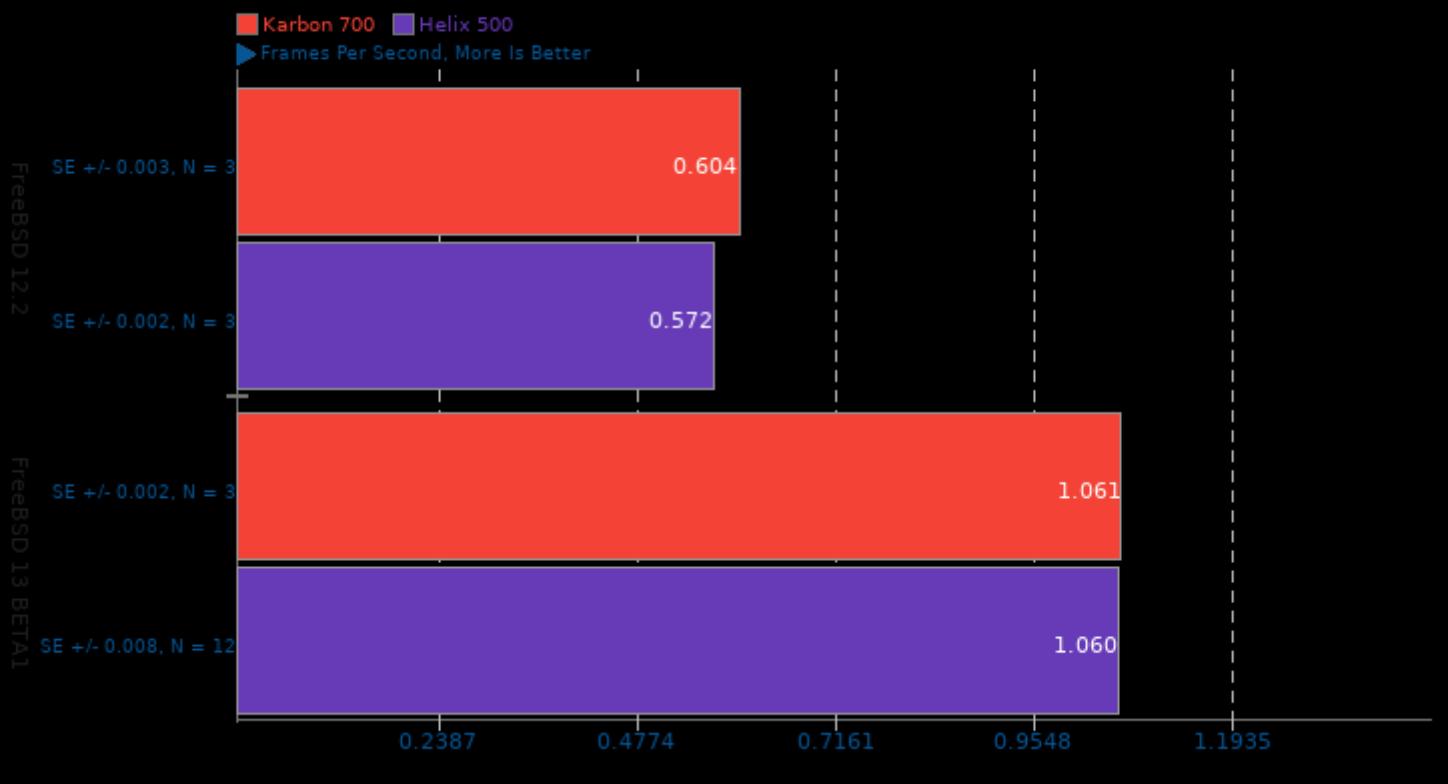
R Benchmark



1. R scripting front-end version 4.0.3 (2020-10-10)

ravle 0.4

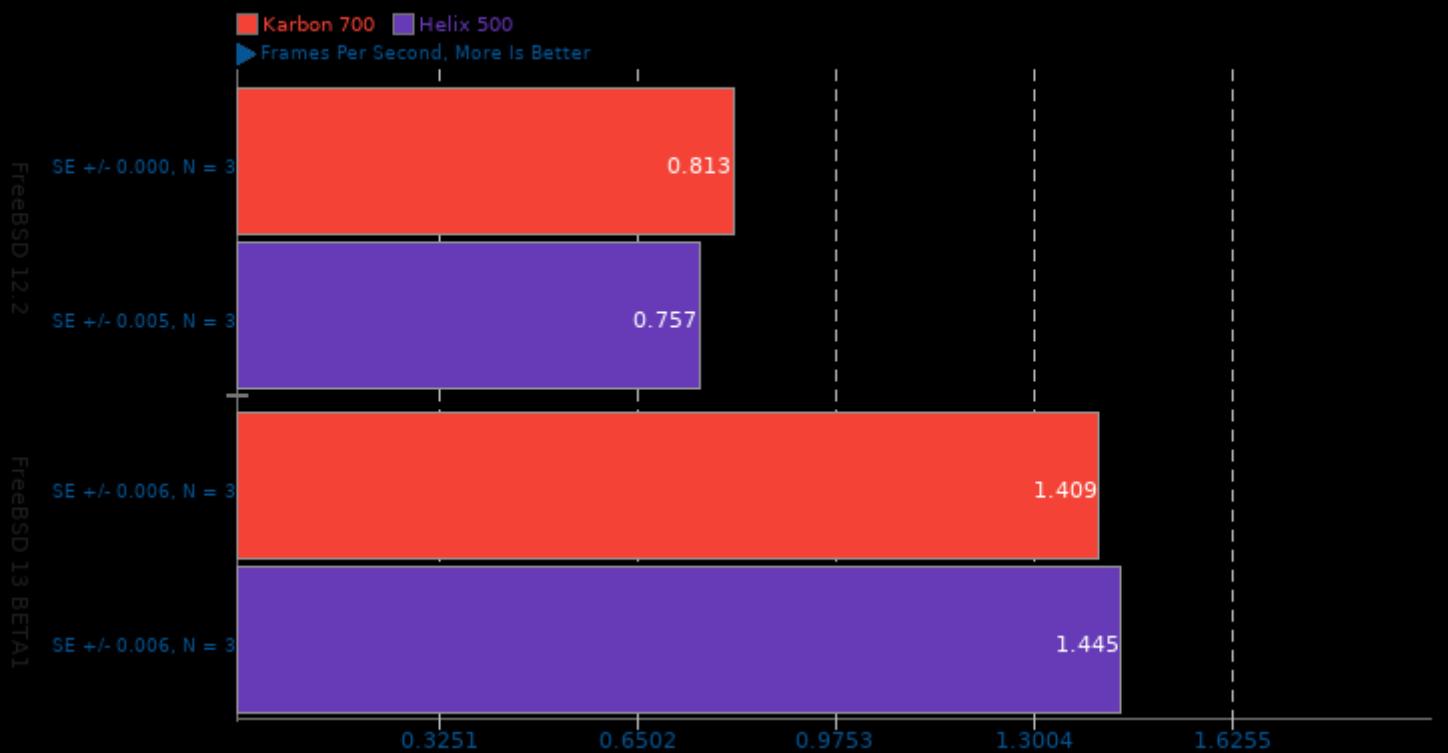
Speed: 5



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

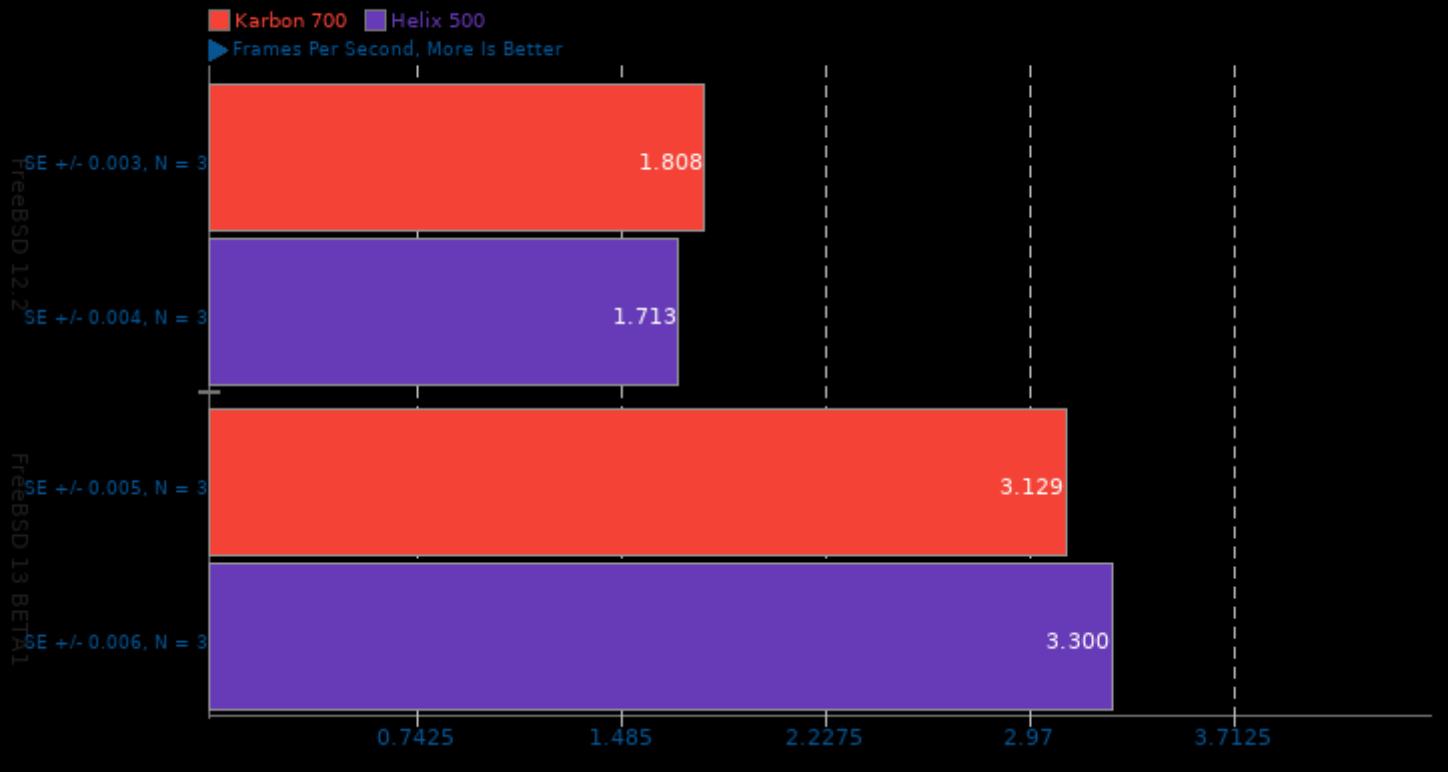
rav1e 0.4

Speed: 6



rav1e 0.4

Speed: 10



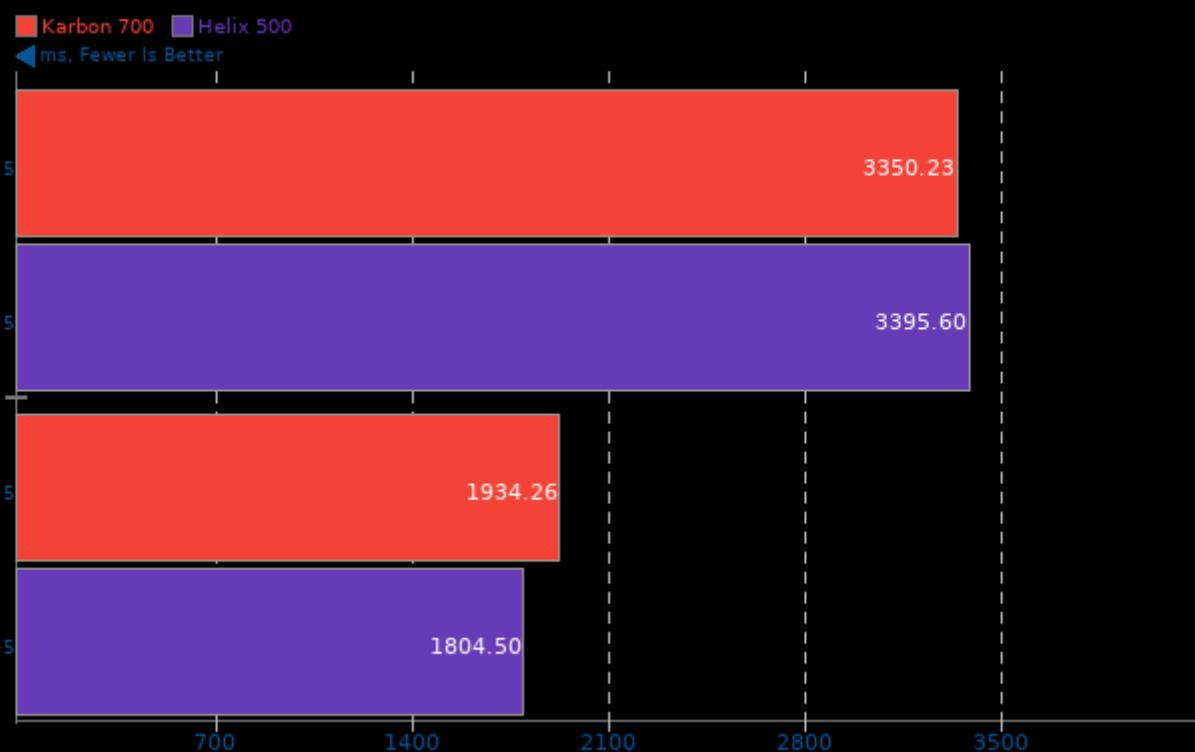
FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Renaissance 0.10.0

Test: Scala Dotty

FreeBSD 12.2

FreeBSD 13 BETA1



Renaissance 0.10.0

Test: Savina Reactors.IO

FreeBSD 12.2

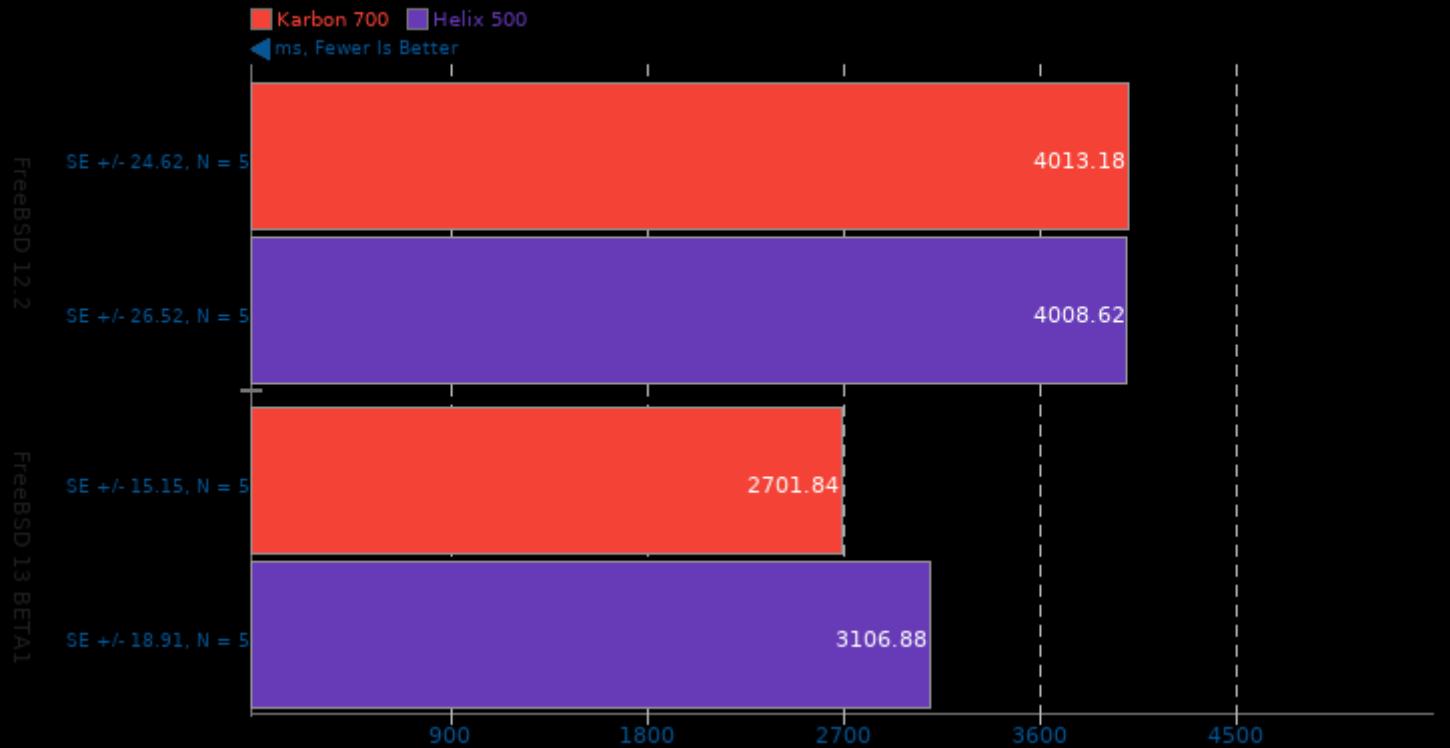
FreeBSD 13 BETA1



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

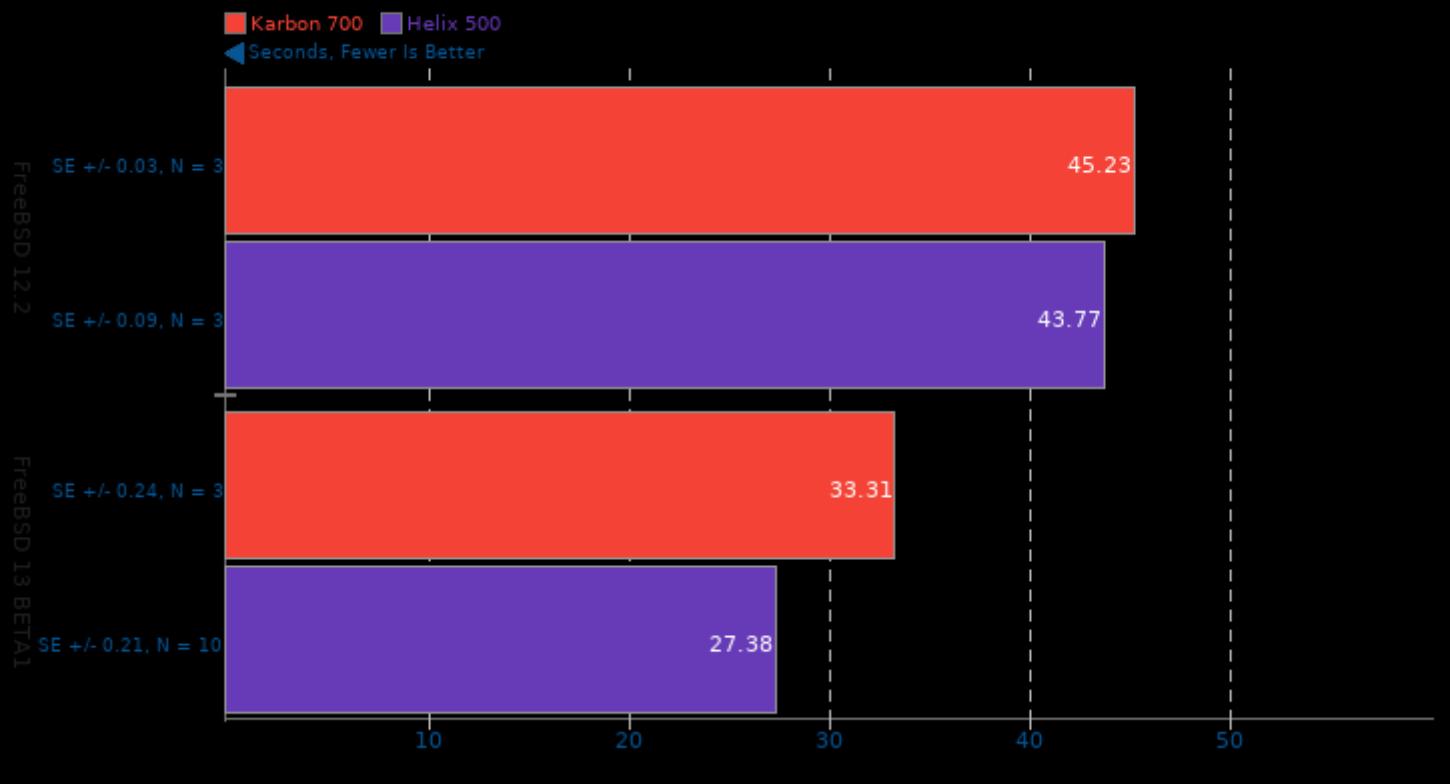
Renaissance 0.10.0

Test: Twitter HTTP Requests



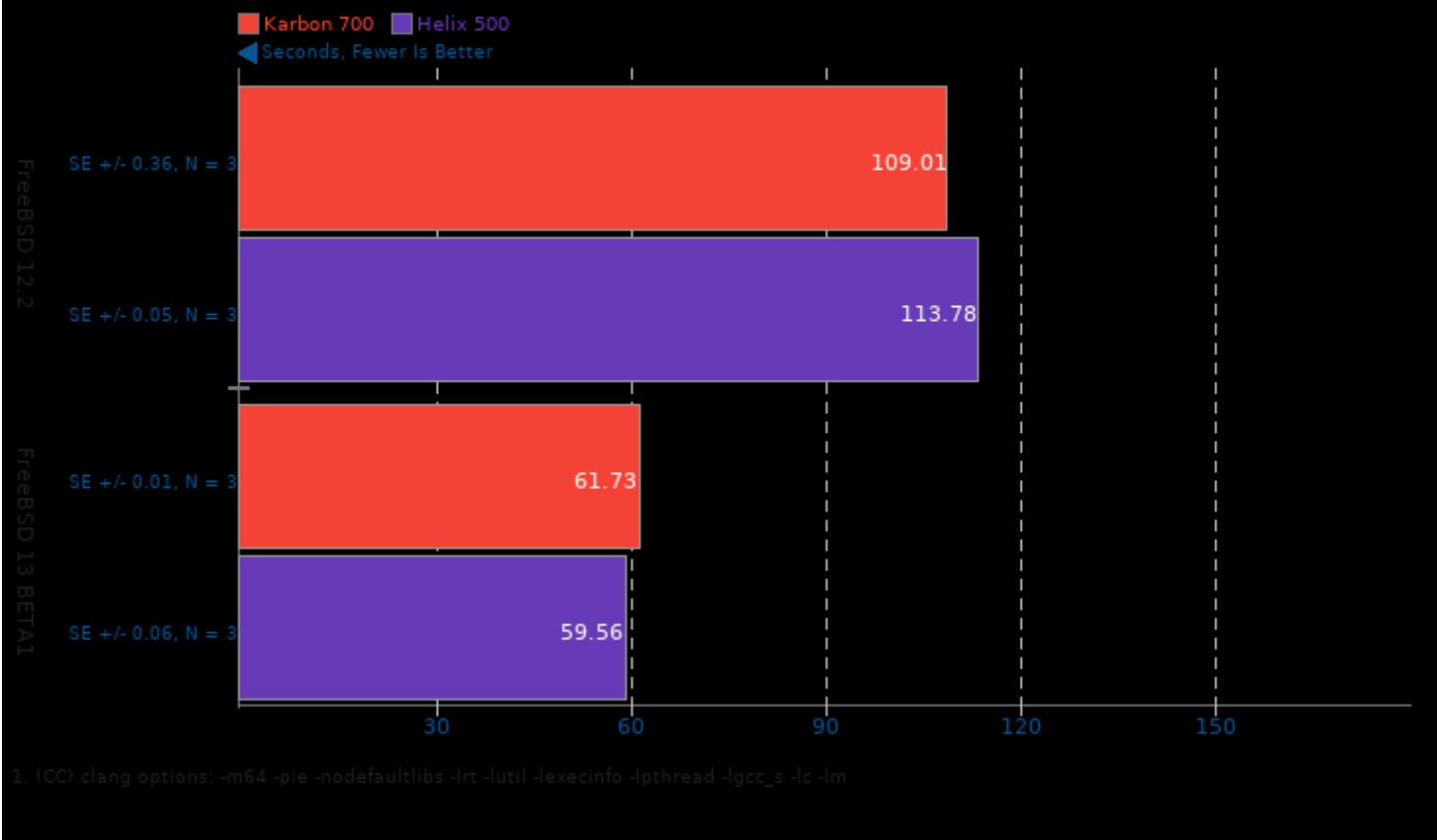
Rodinia 3.1

Test: OpenMP CFD Solver



Rust Mandelbrot

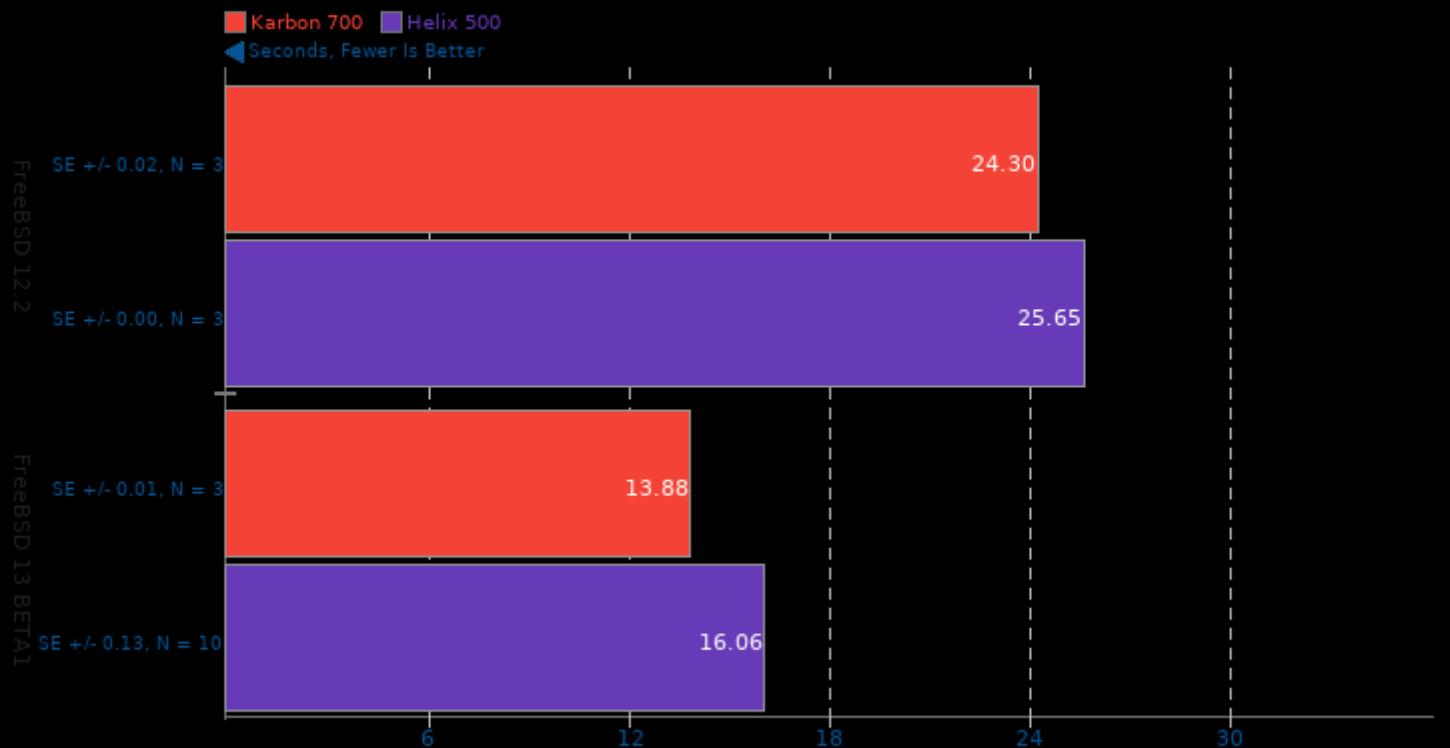
Time To Complete Serial/Parallel Mandelbrot



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

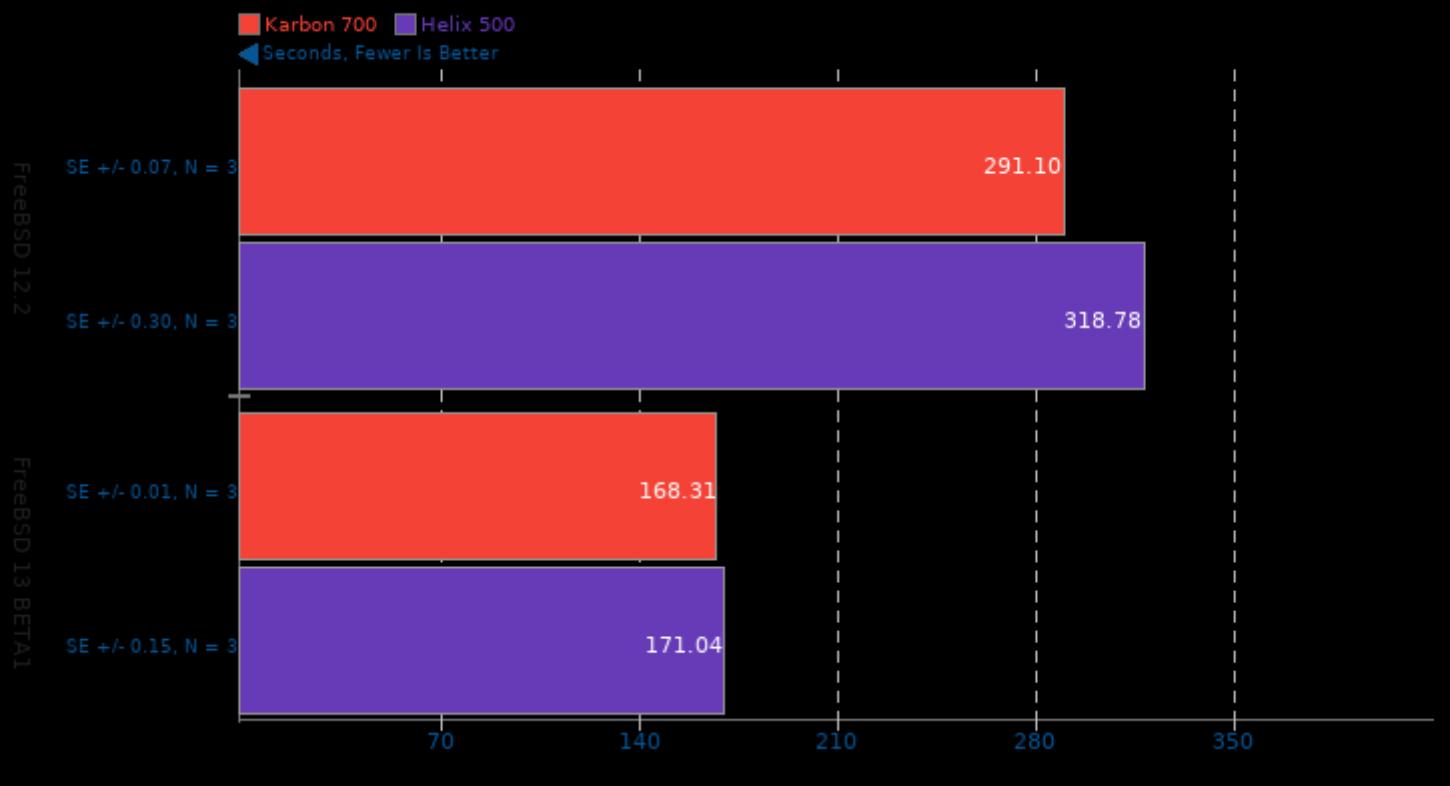
Rust Prime Benchmark

Prime Number Test To 200,000,000



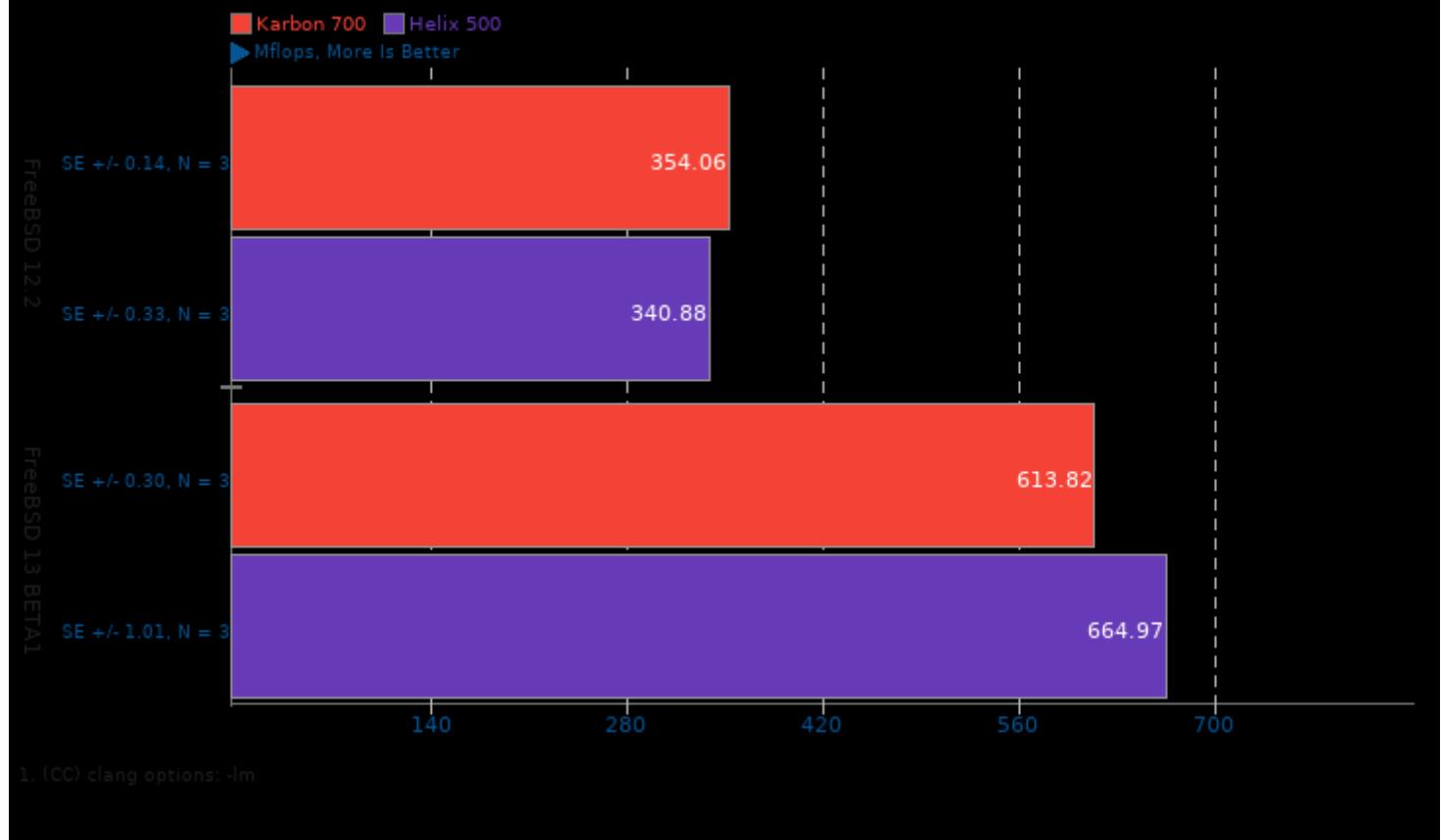
1. (CC) clang options: -m64 -pie -nodefaultlibs -fexecinfo -lpthread -lgcc_s -lc -lm -lrt -util

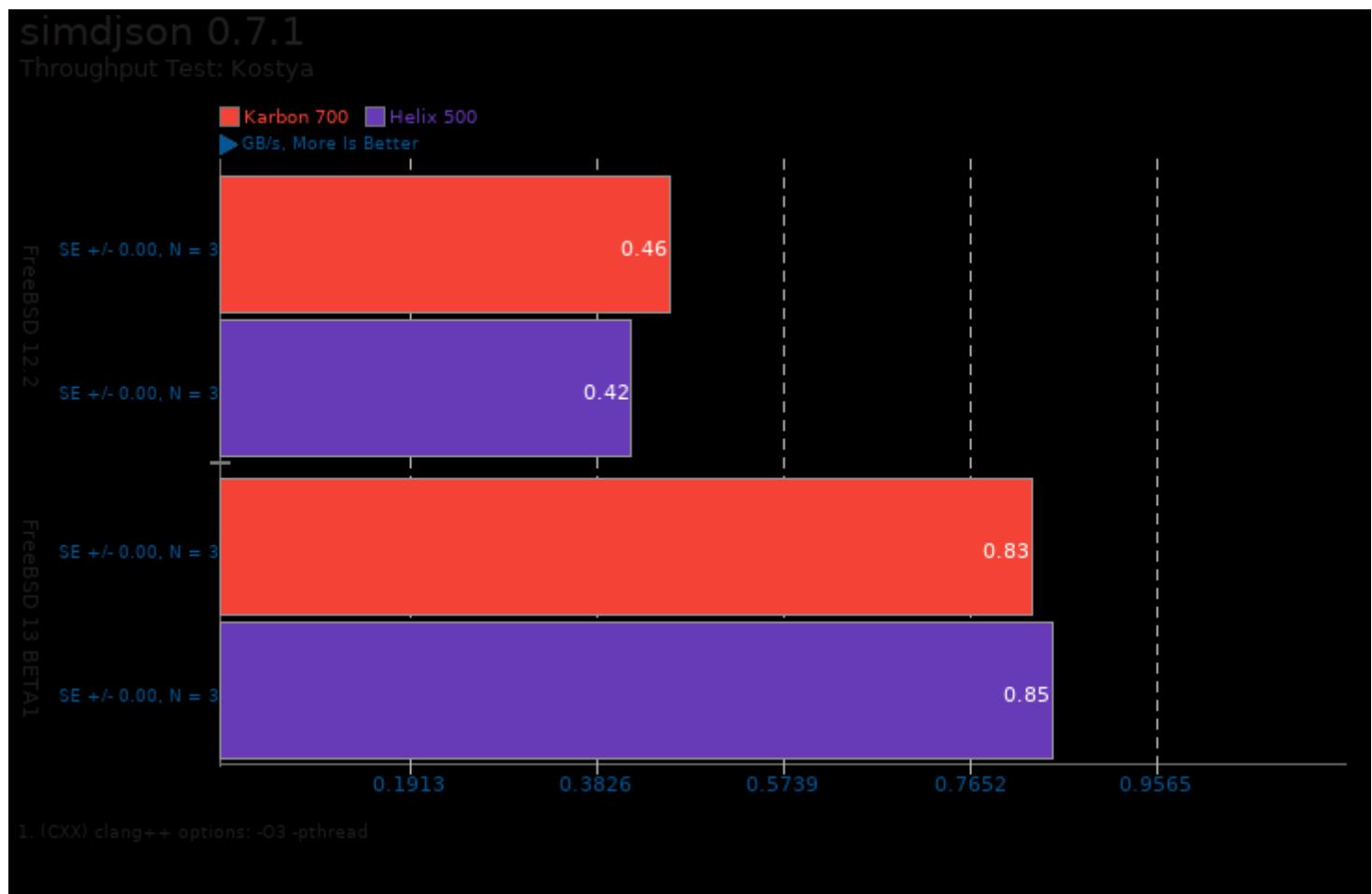
Scikit-Learn 0.22.1



SciMark 2.0

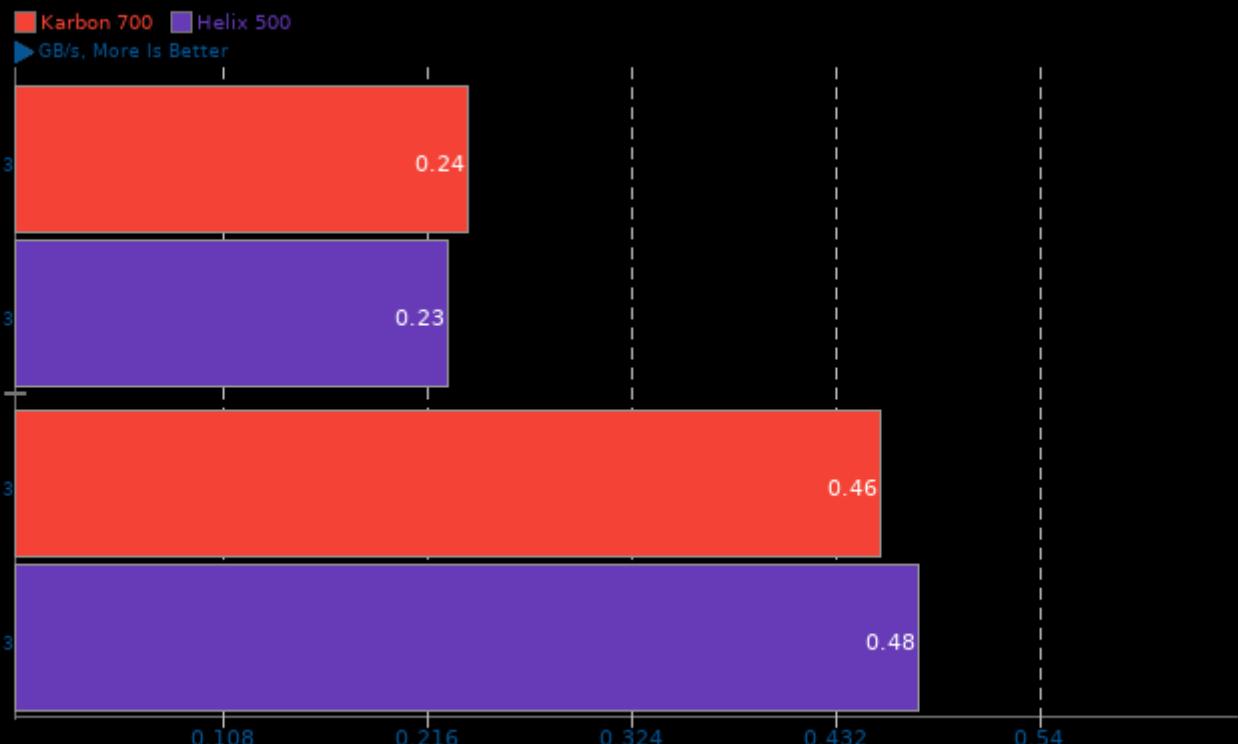
Computational Test: Composite





simdjson 0.7.1

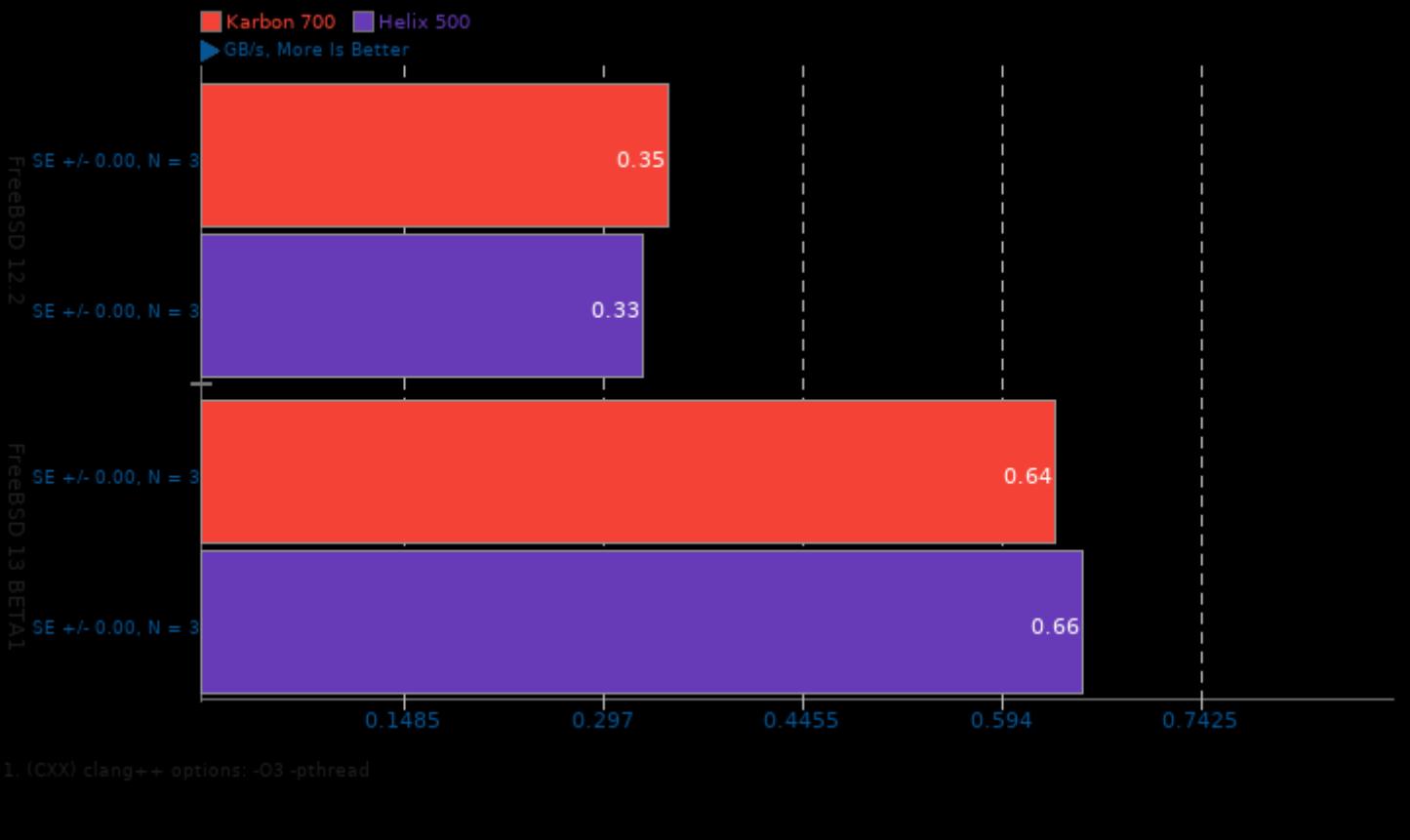
Throughput Test: LargeRandom



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

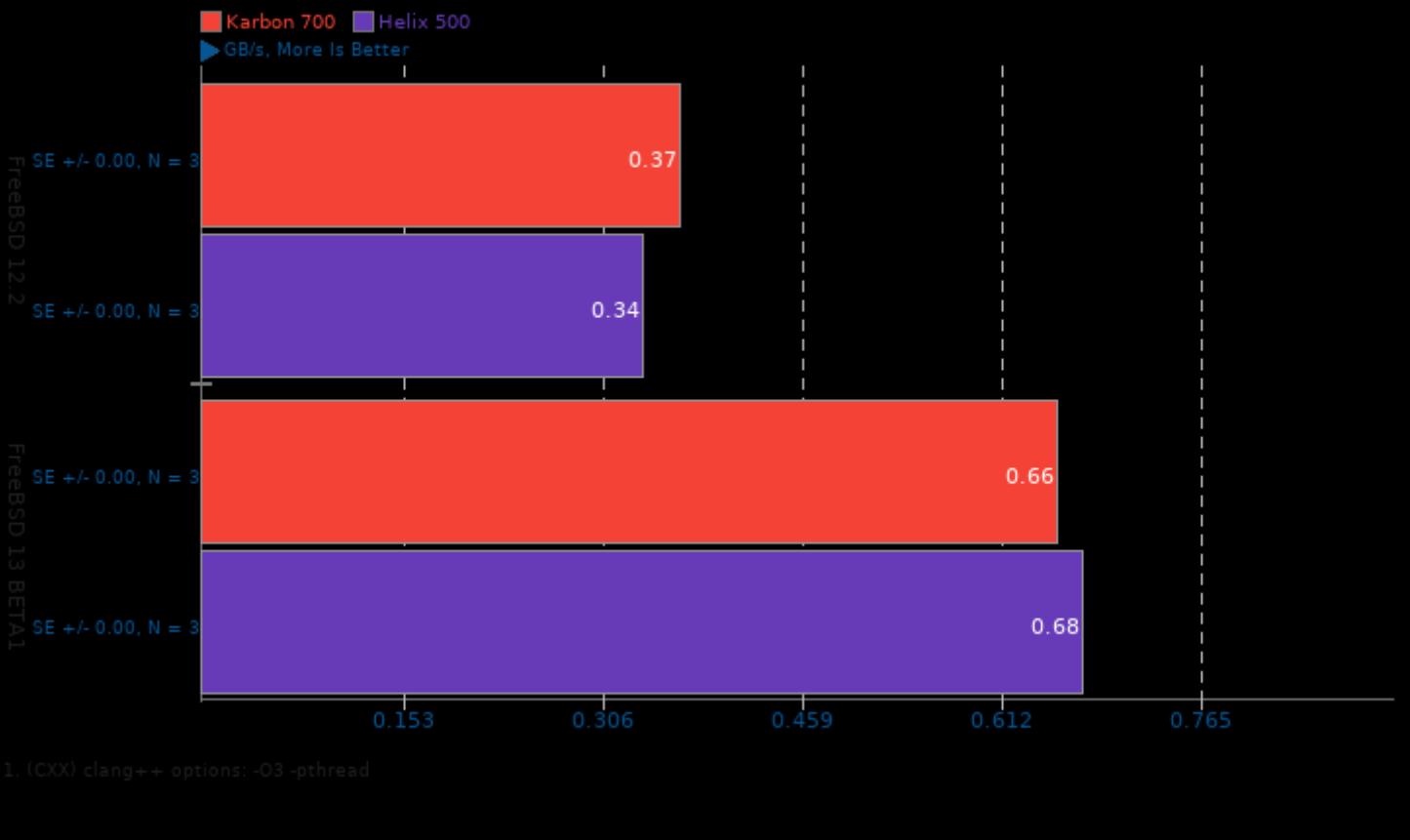
simdjson 0.7.1

Throughput Test: Partial Tweets



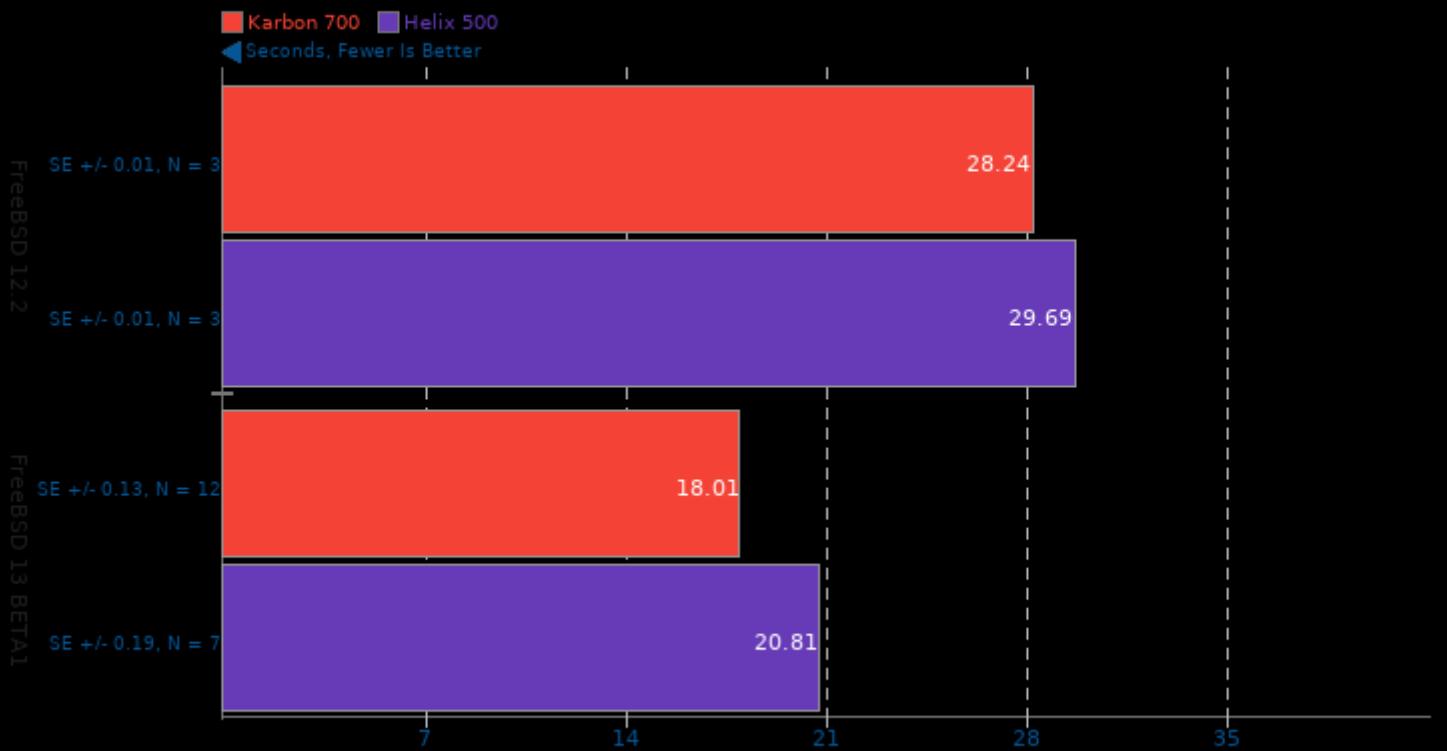
simdjson 0.7.1

Throughput Test: DistinctUserID



Smallpt 1.0

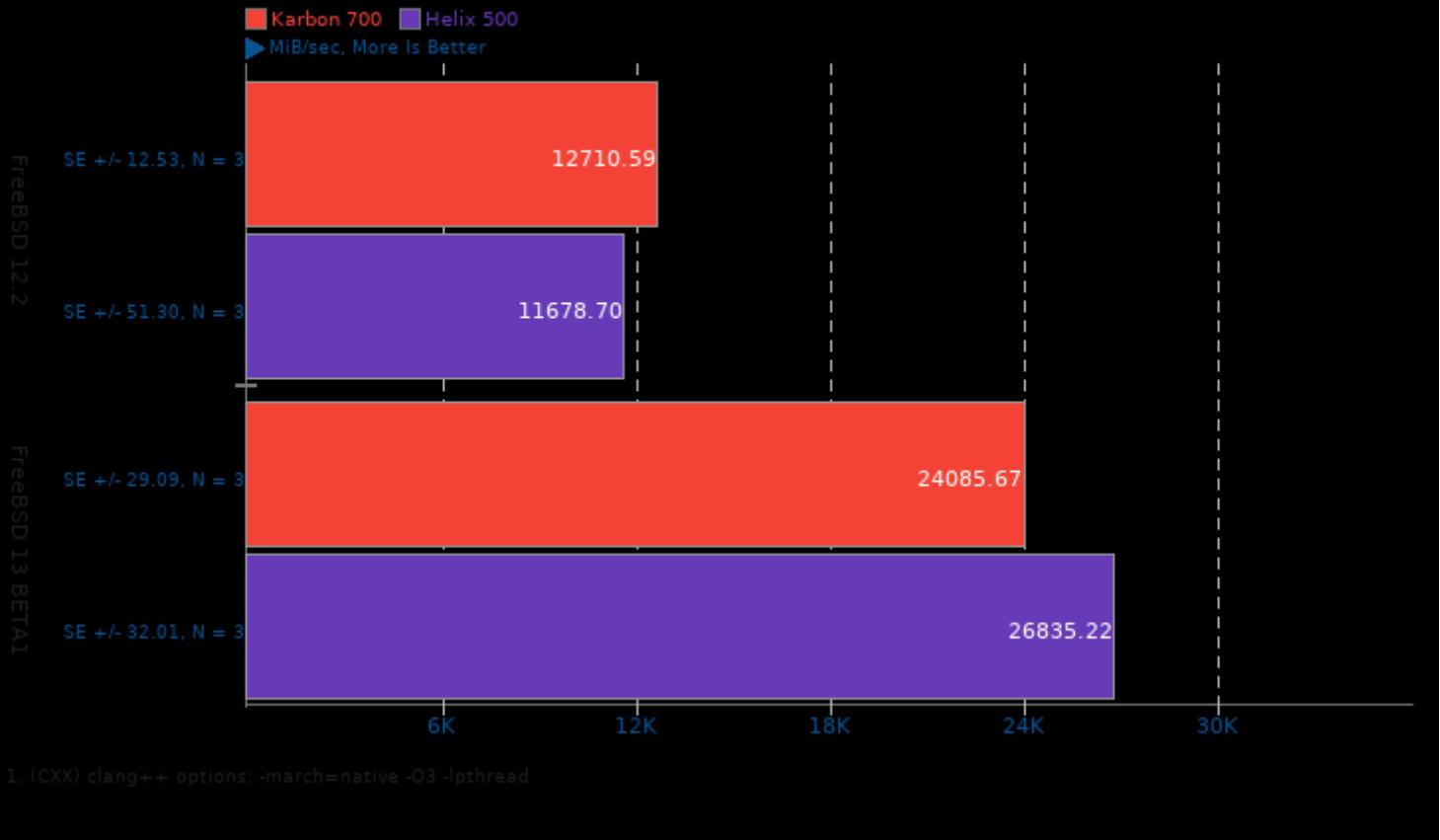
Global Illumination Renderer; 128 Samples



1. (CXX) clang++ options: -fopenmp -O3

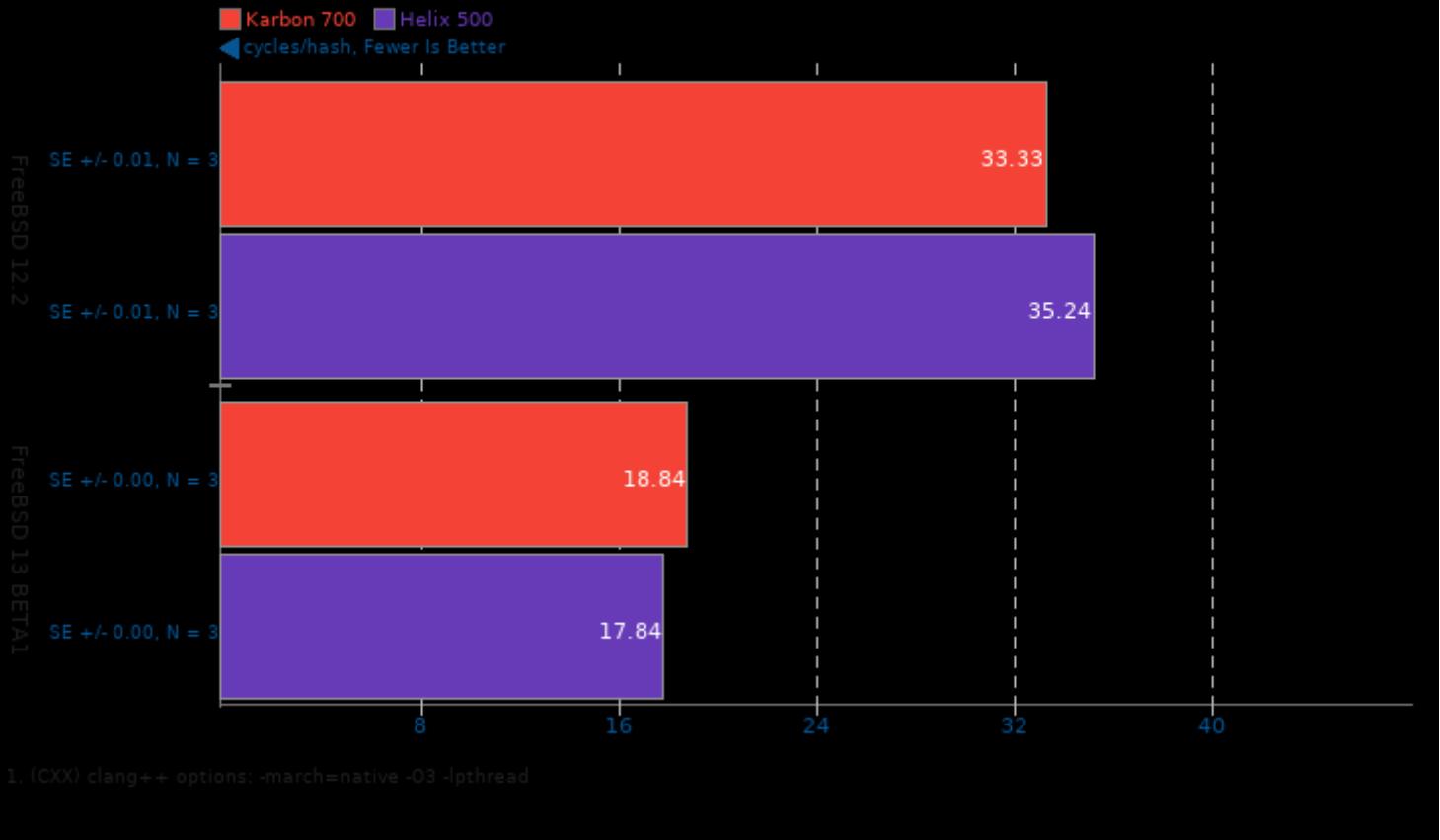
SMHasher 2020-02-29

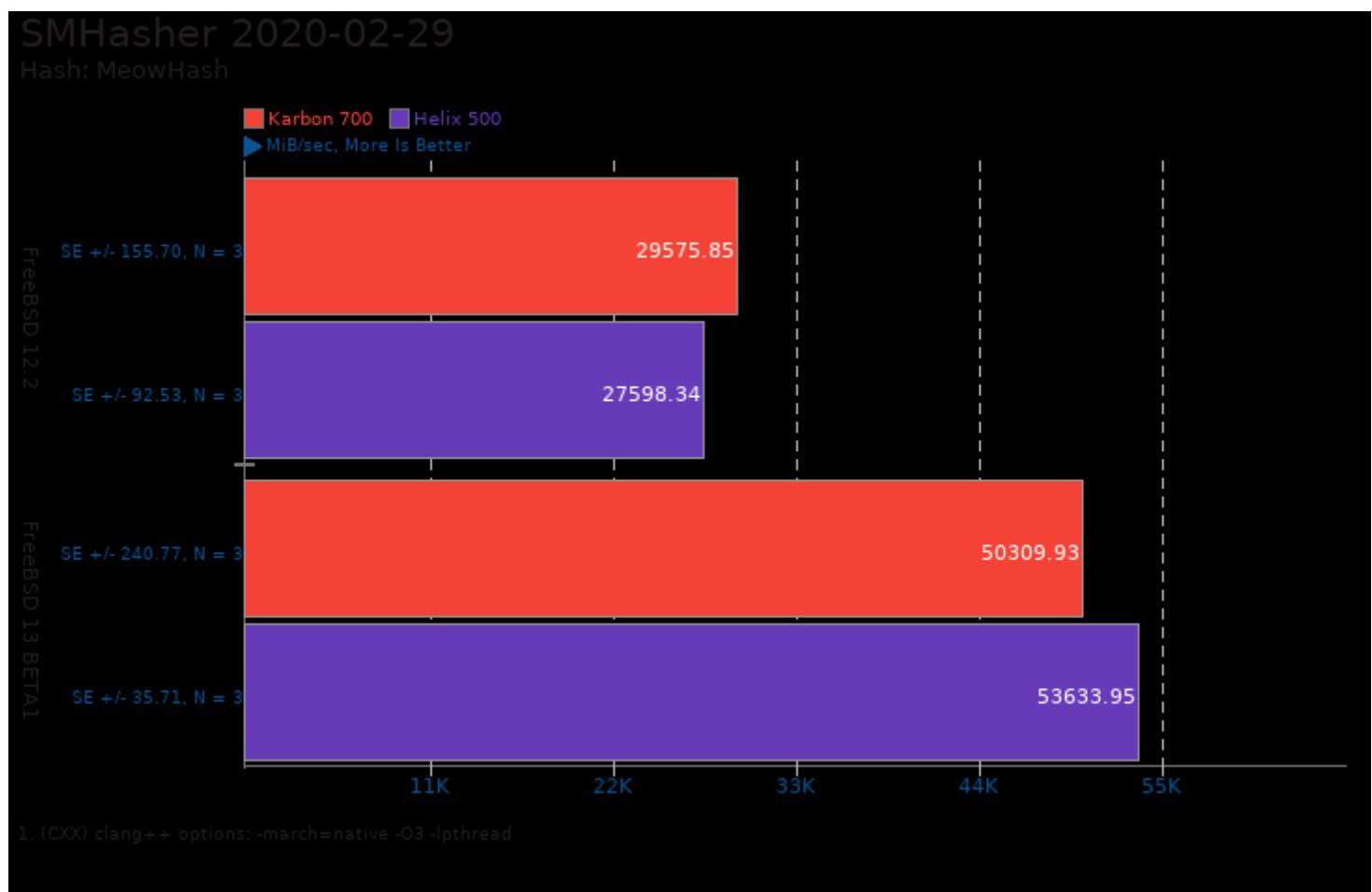
Hash: wyhash



SMHasher 2020-02-29

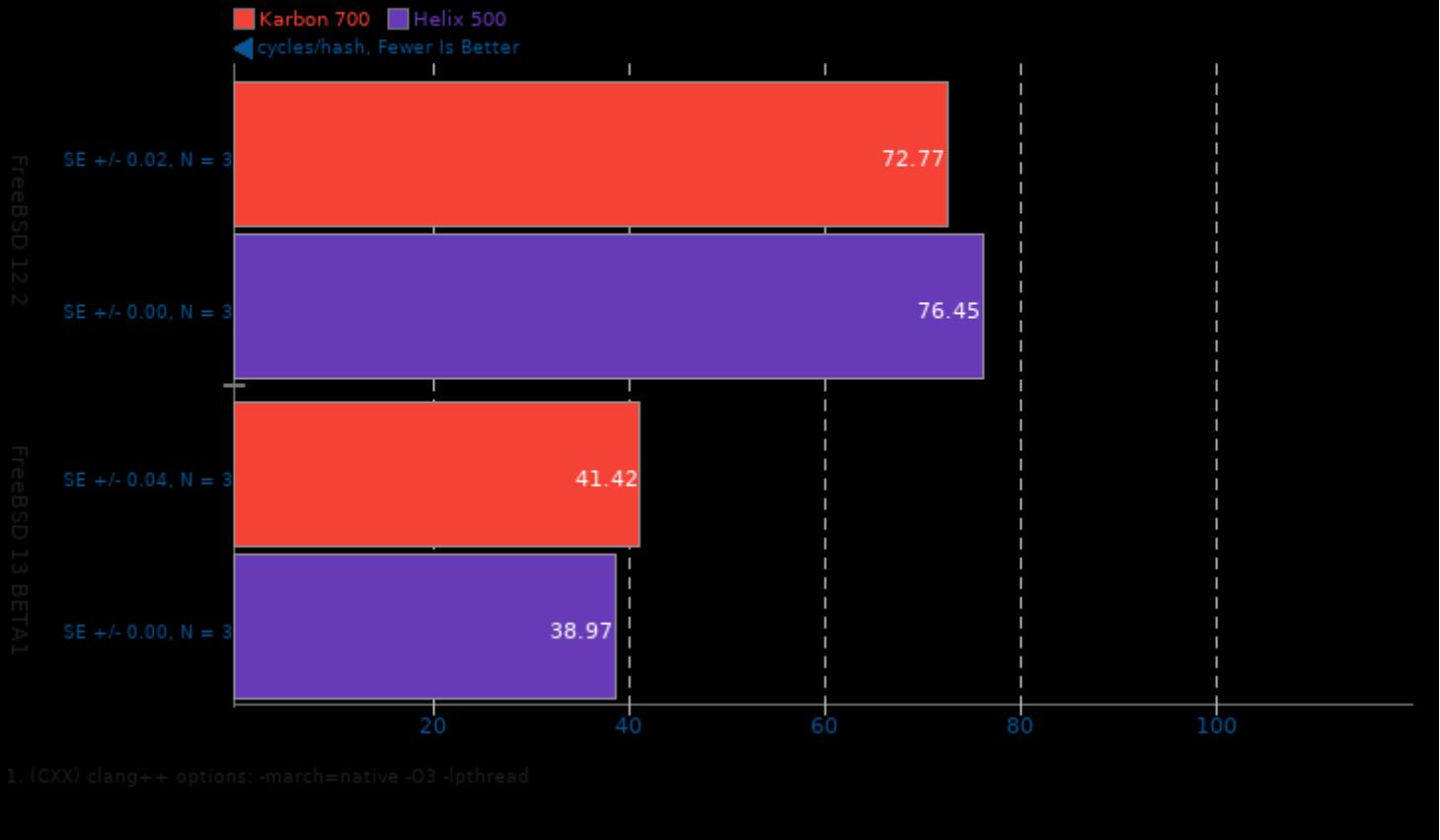
Hash: wyhash





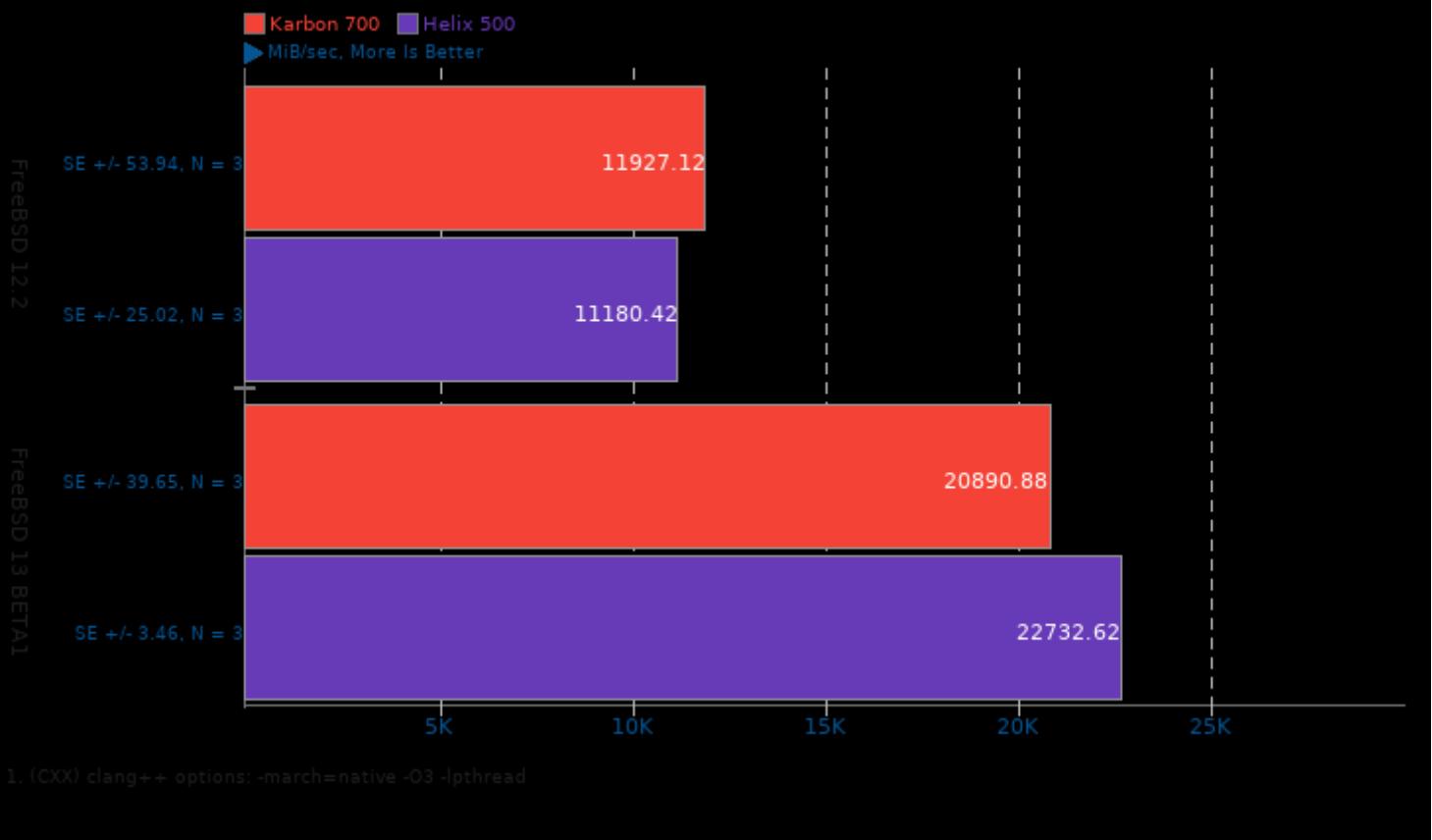
SMHasher 2020-02-29

Hash: MeowHash



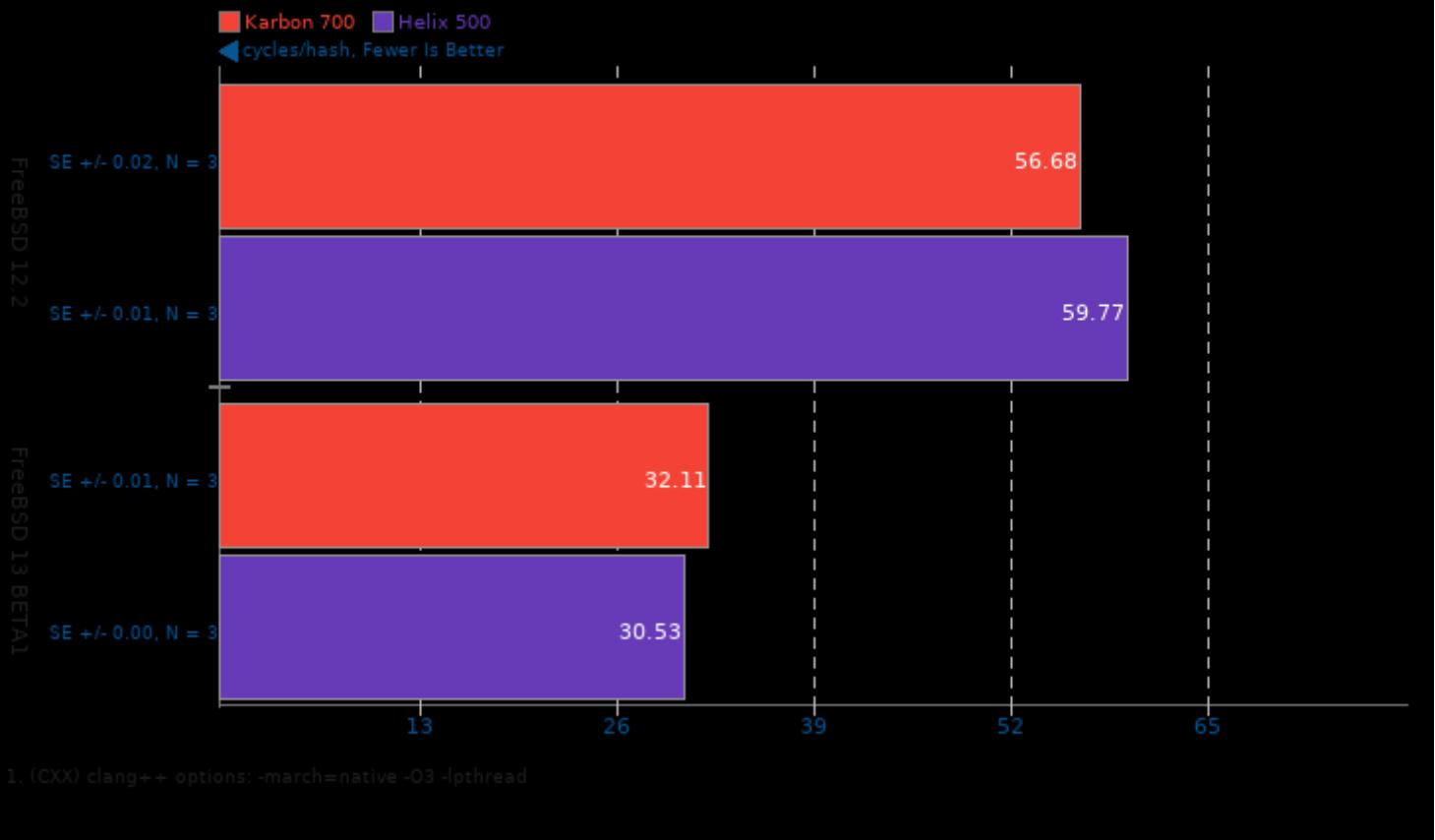
SMHasher 2020-02-29

Hash: Spooky32



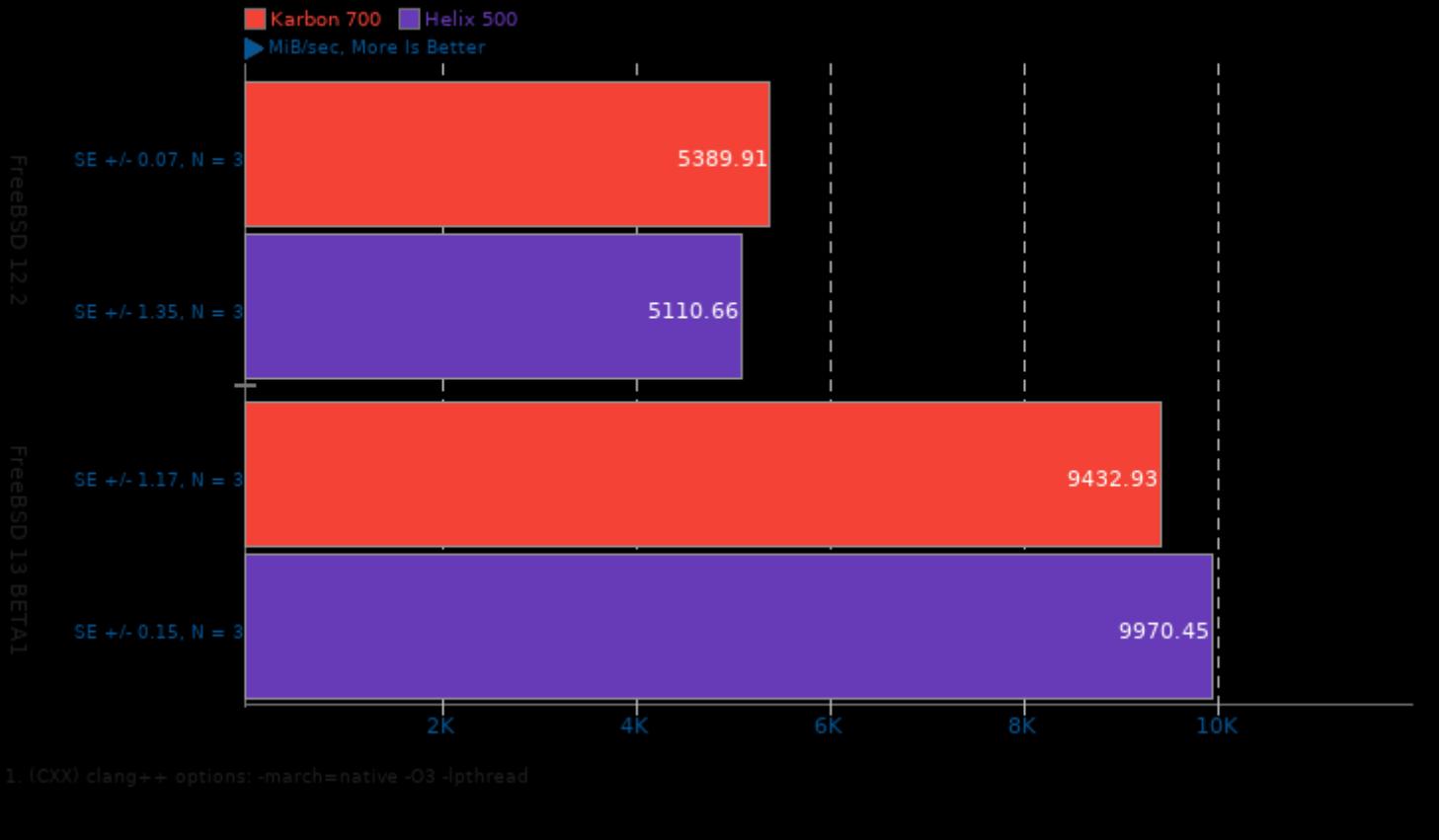
SMHasher 2020-02-29

Hash: Spooky32



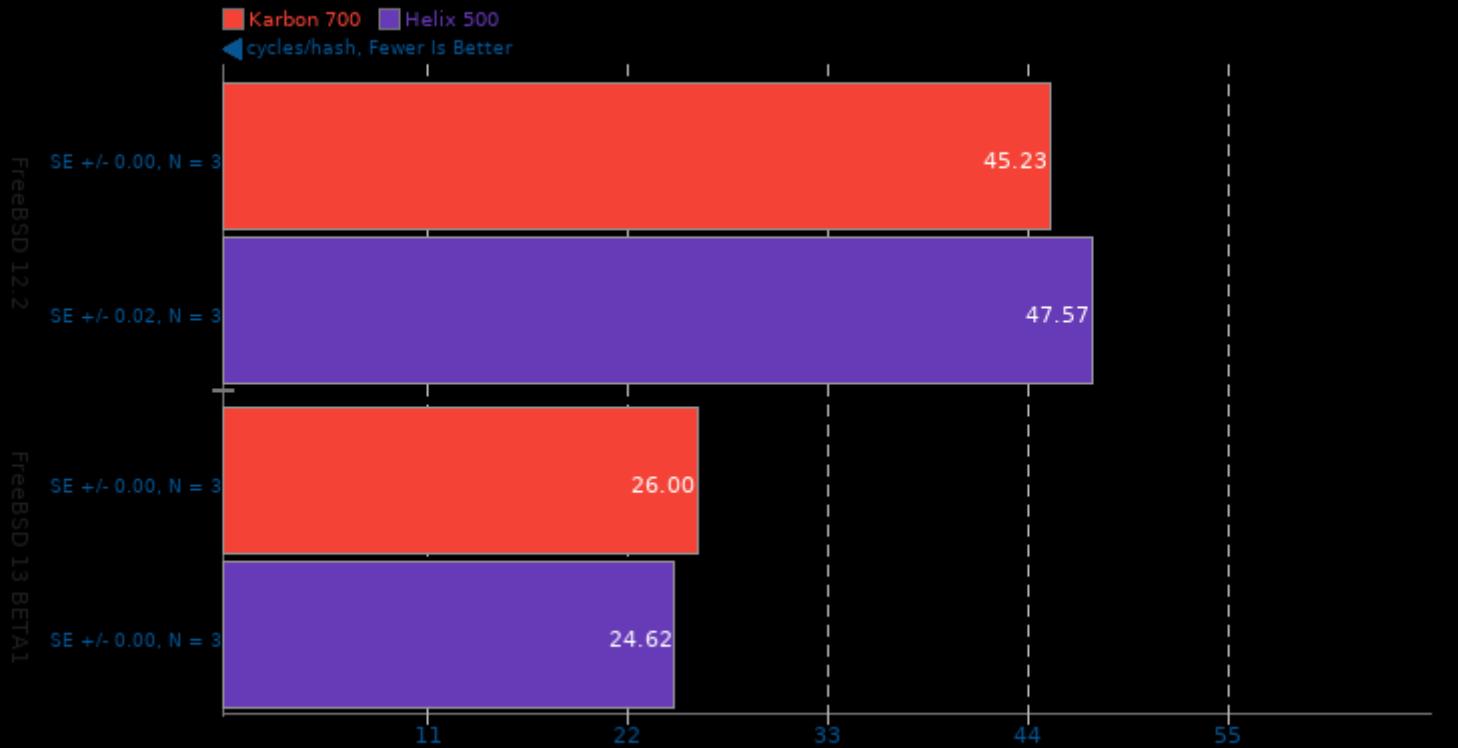
SMHasher 2020-02-29

Hash: fasthash32

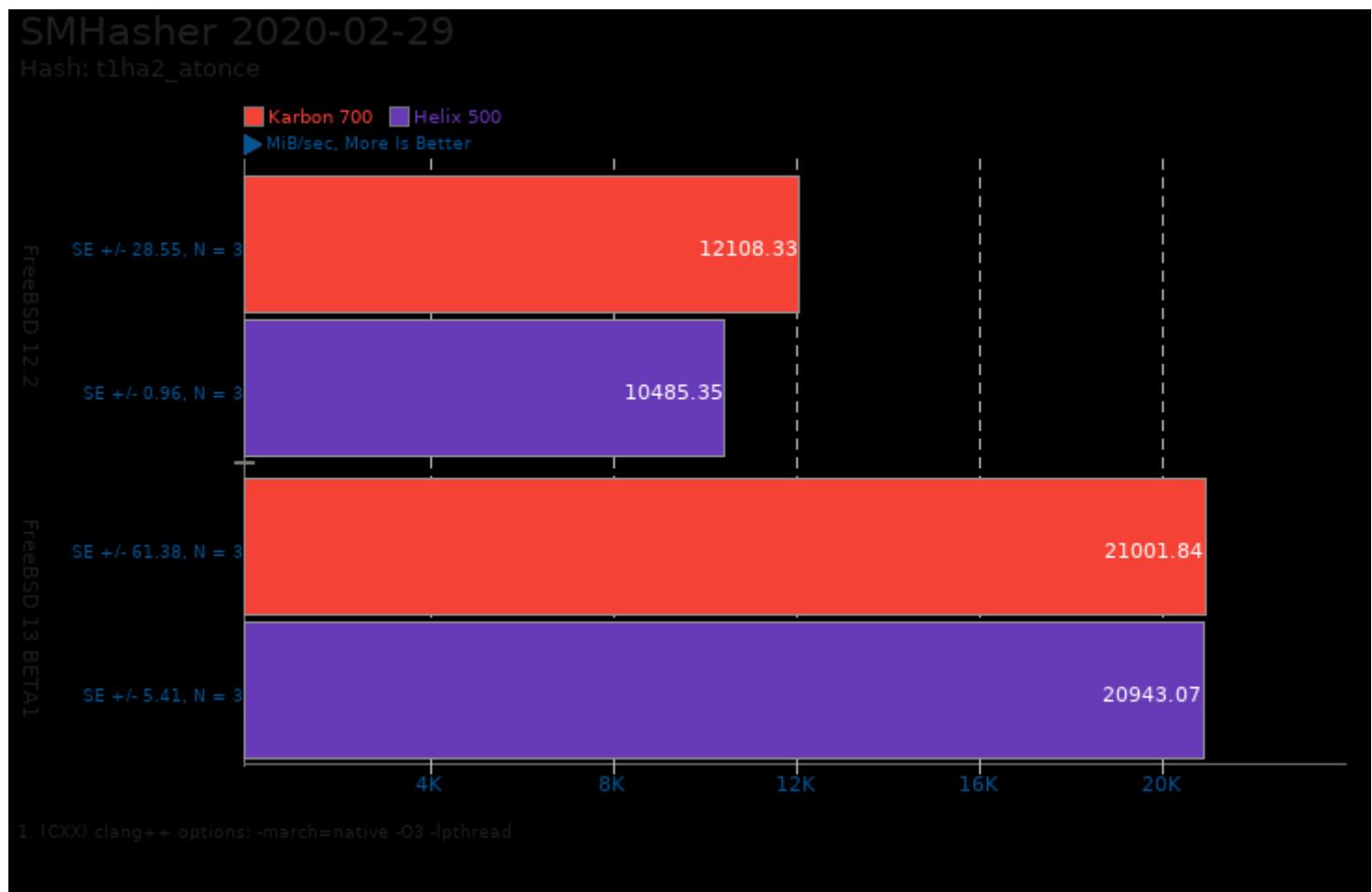


SMHasher 2020-02-29

Hash: fasthash32

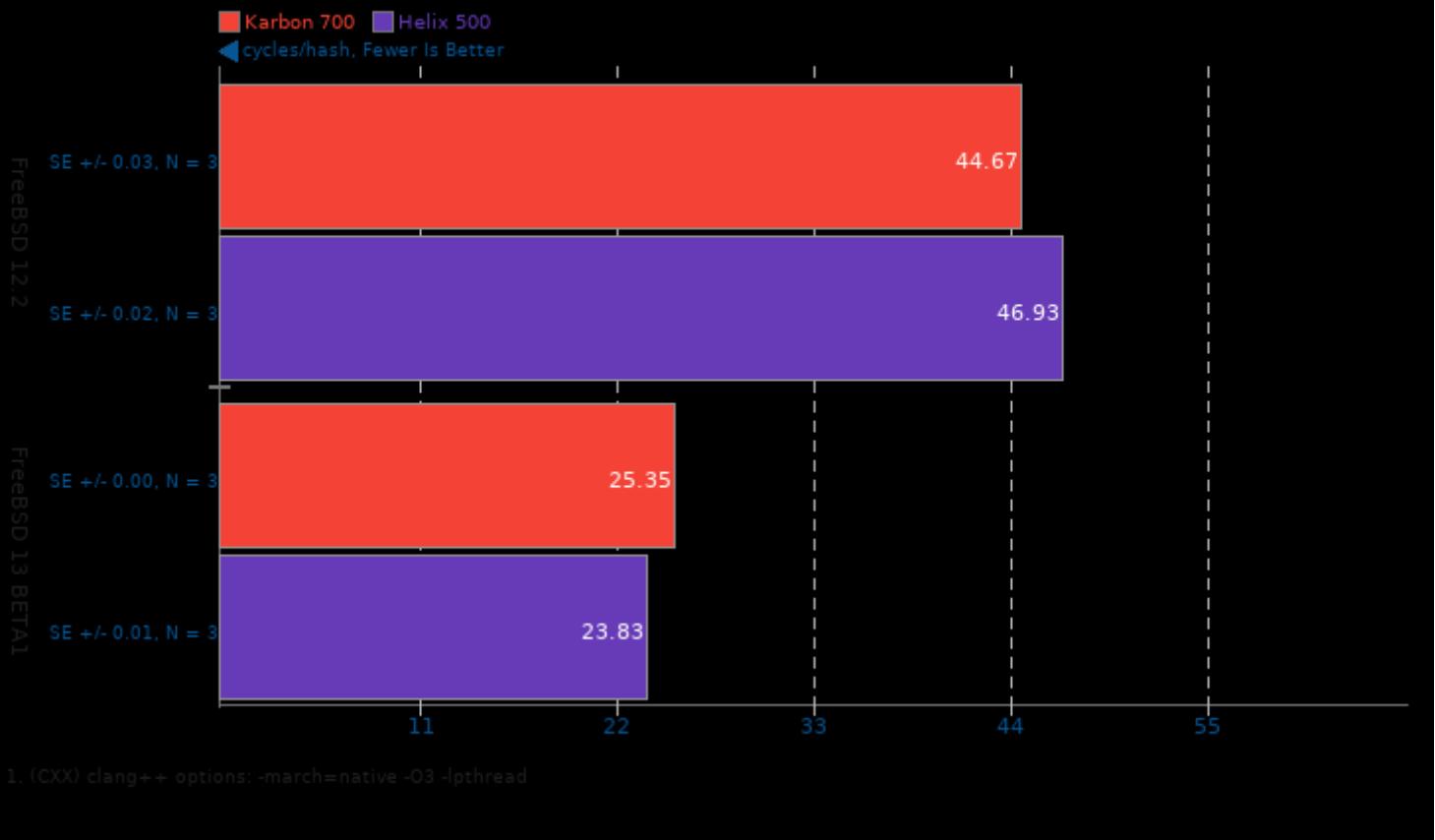


1. (CXX) clang++ options: -march=native -O3 -lpthread



SMHasher 2020-02-29

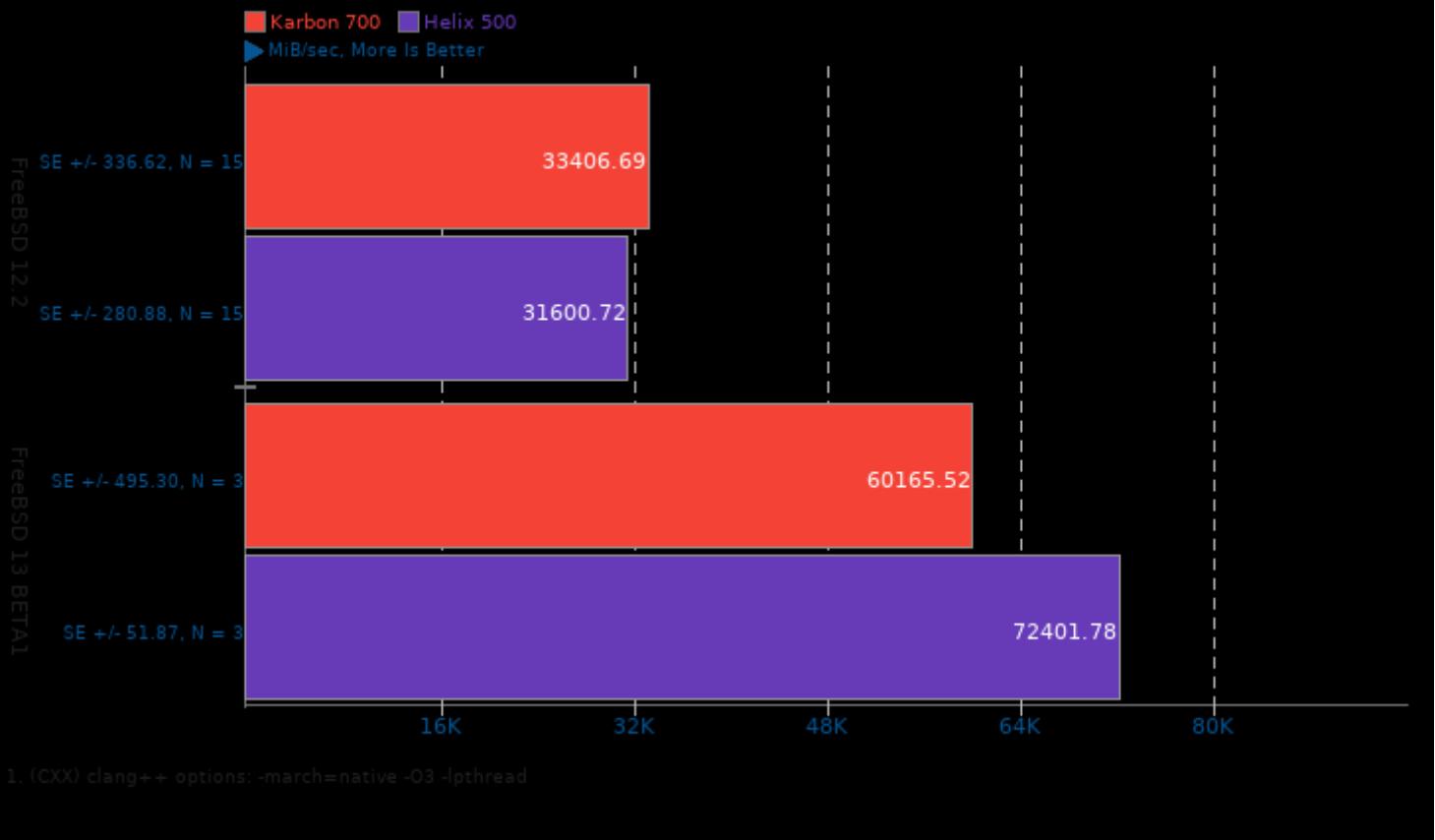
Hash: tlha2_atonce

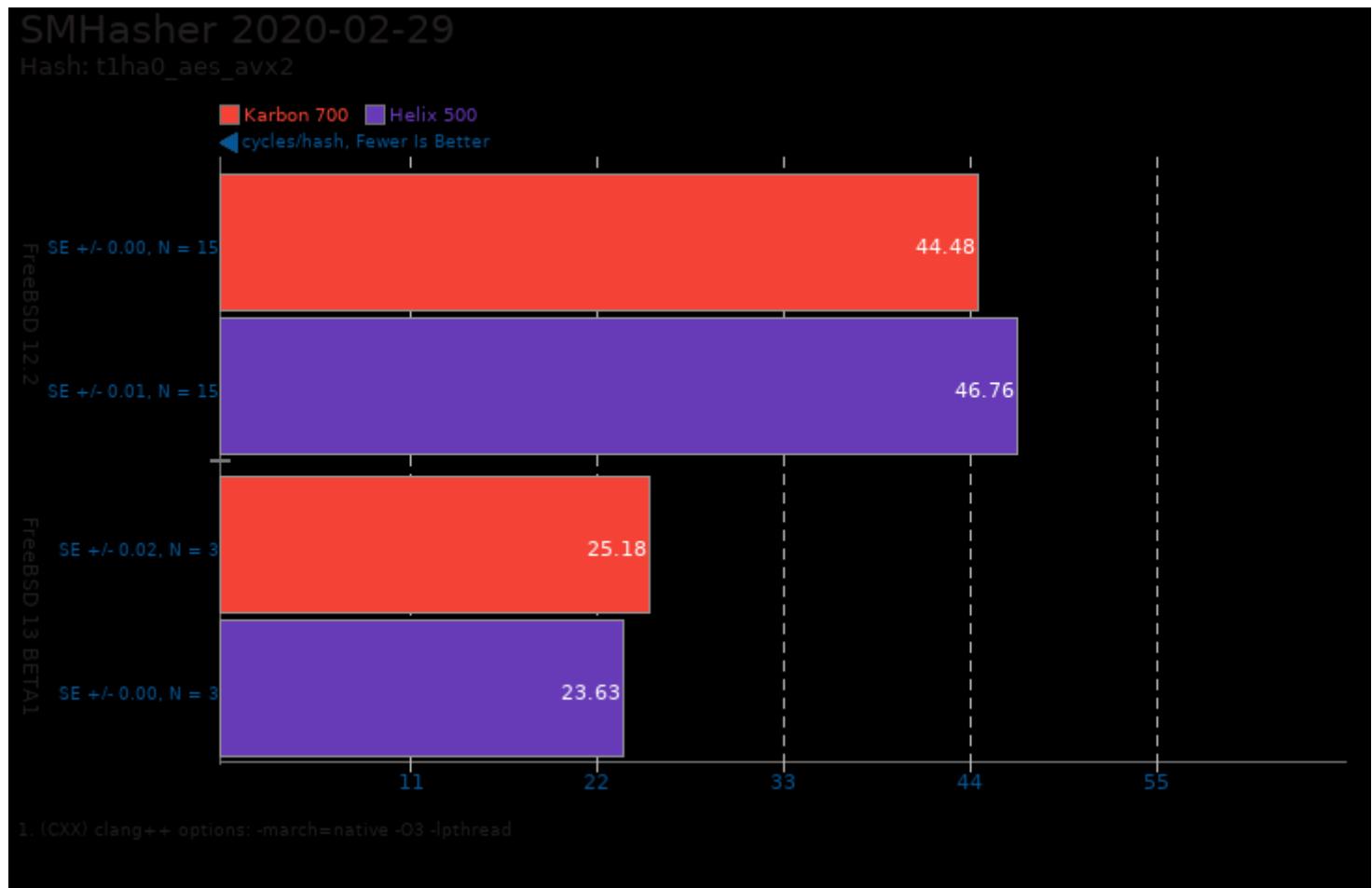


FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

SMHasher 2020-02-29

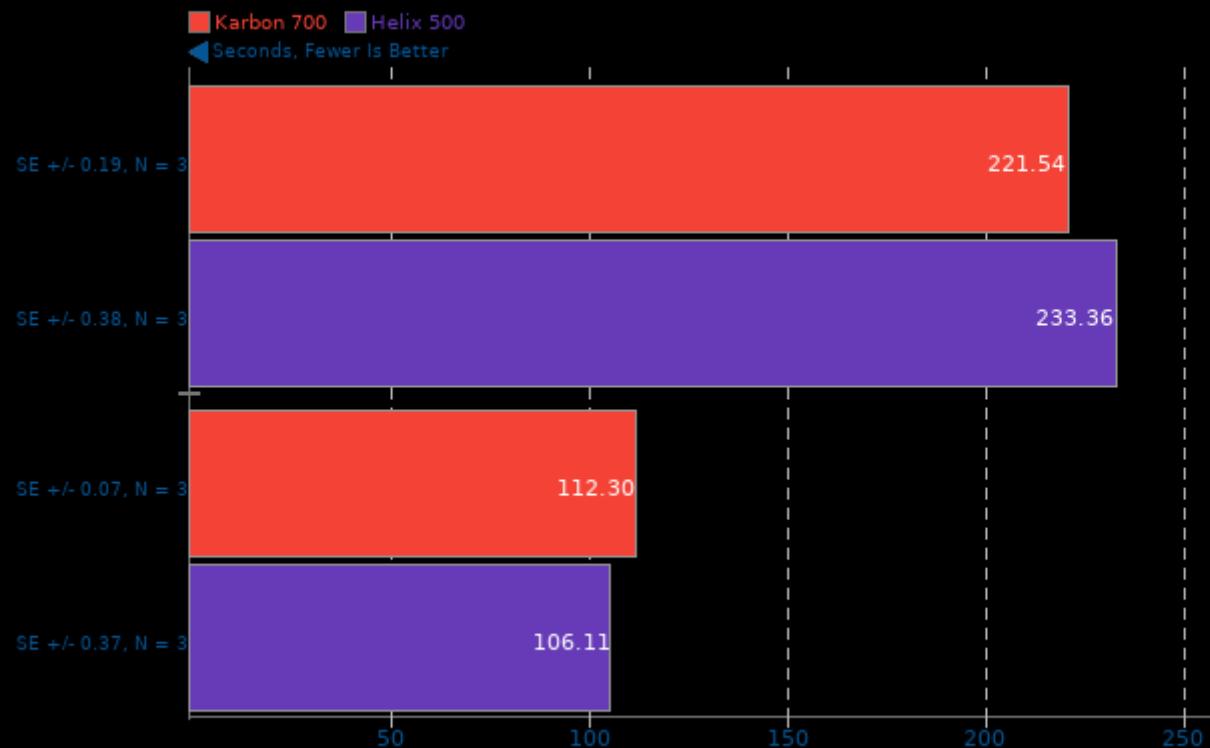
Hash: tlha0_aes_avx2





SQLite Speedtest 3.30

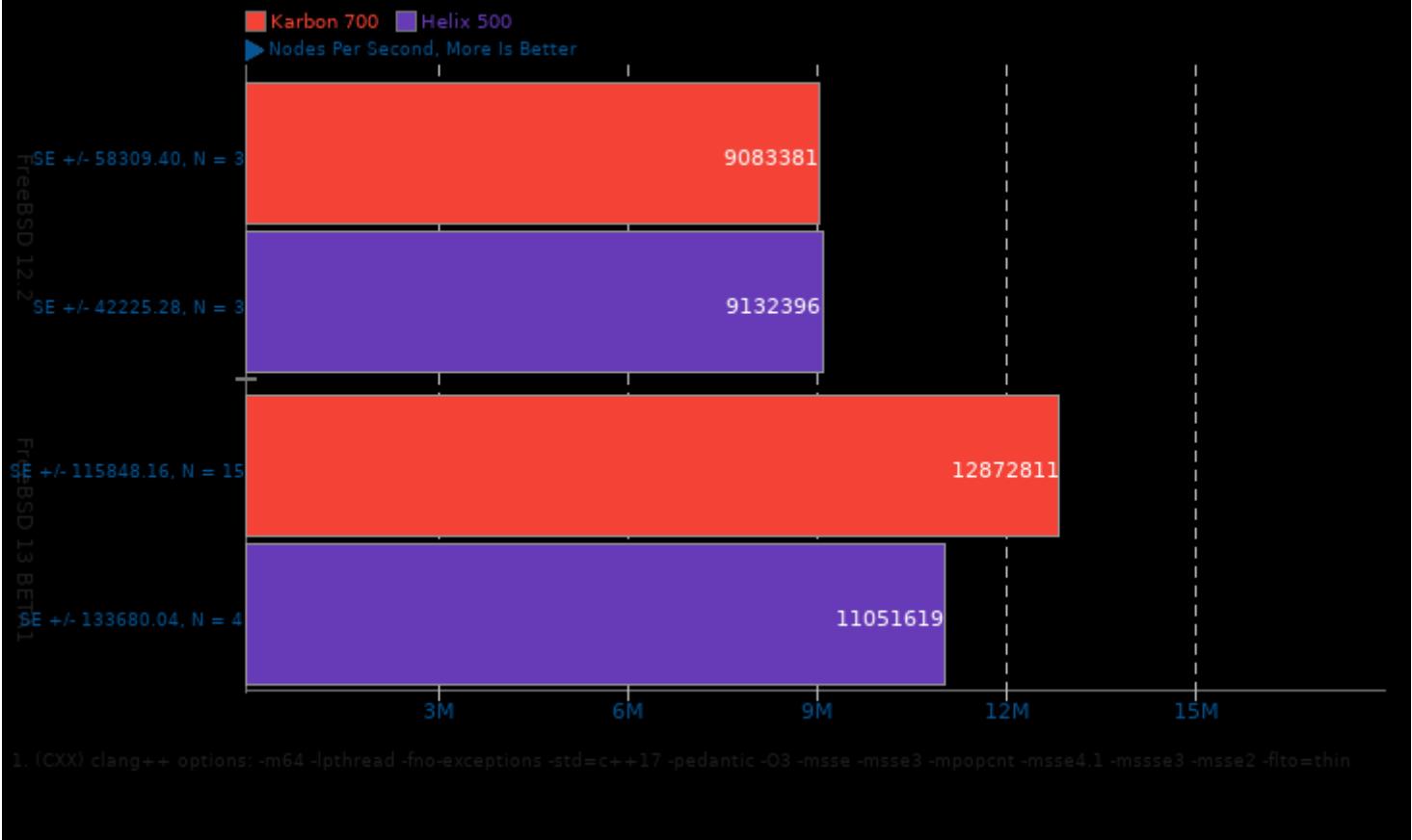
Timed Time - Size 1,000



1. (CC) clang options: -O2 -fz -fthread

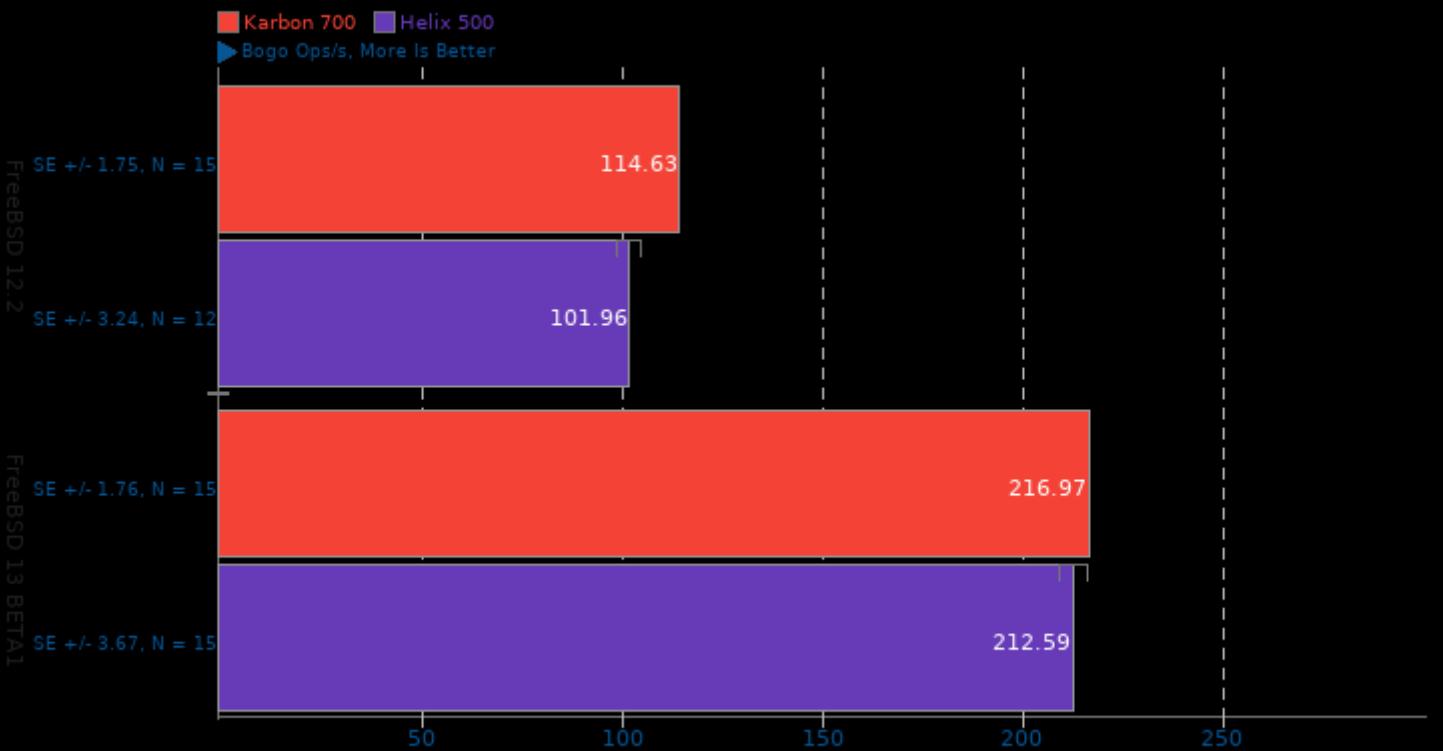
Stockfish 12

Total Time



Stress-NG 0.11.07

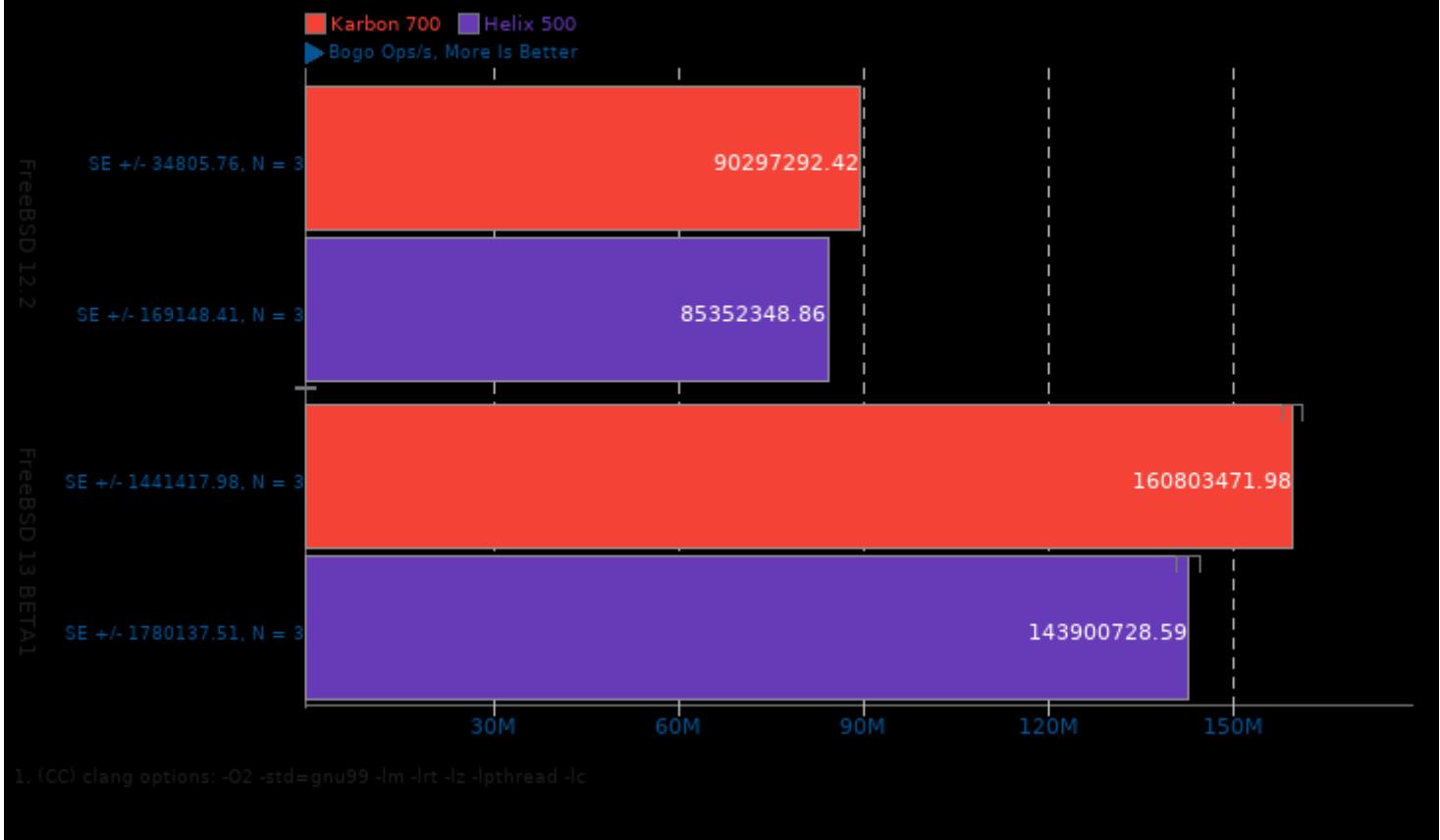
Test: MMAP



1. (CC) clang options: -O2 -std=gnu99 -lm -lrt -lz -lpthread -lc

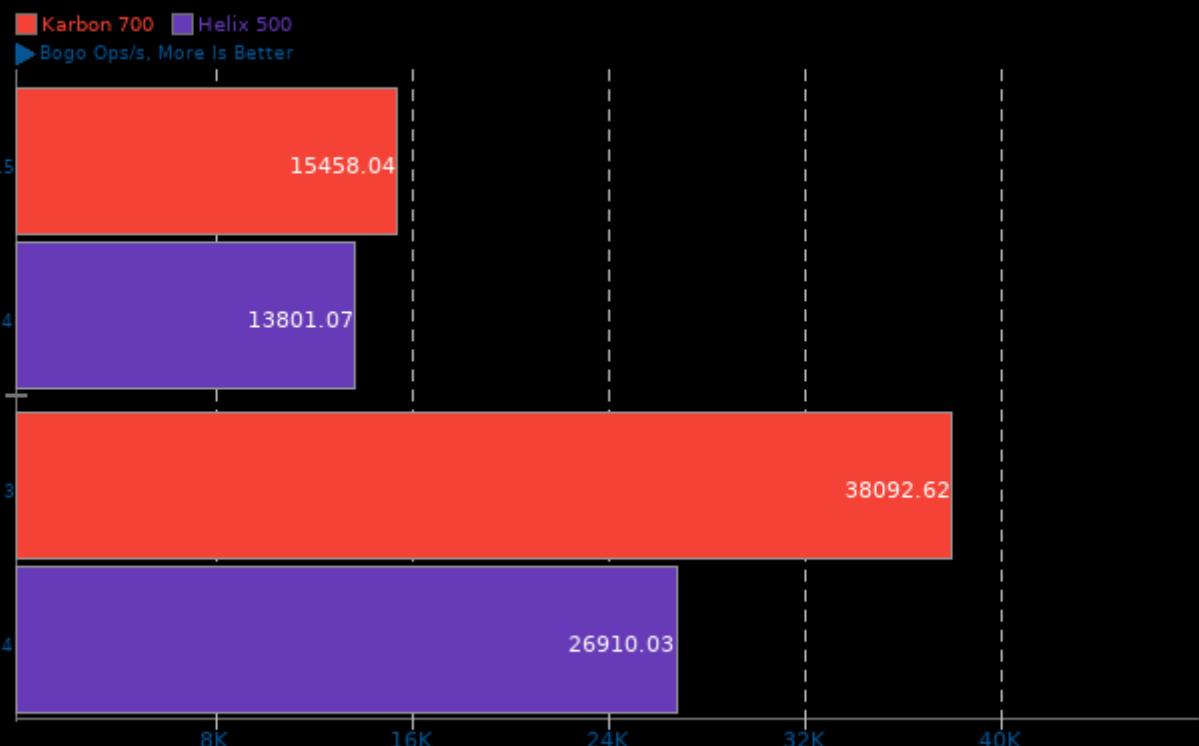
Stress-NG 0.11.07

Test: Malloc



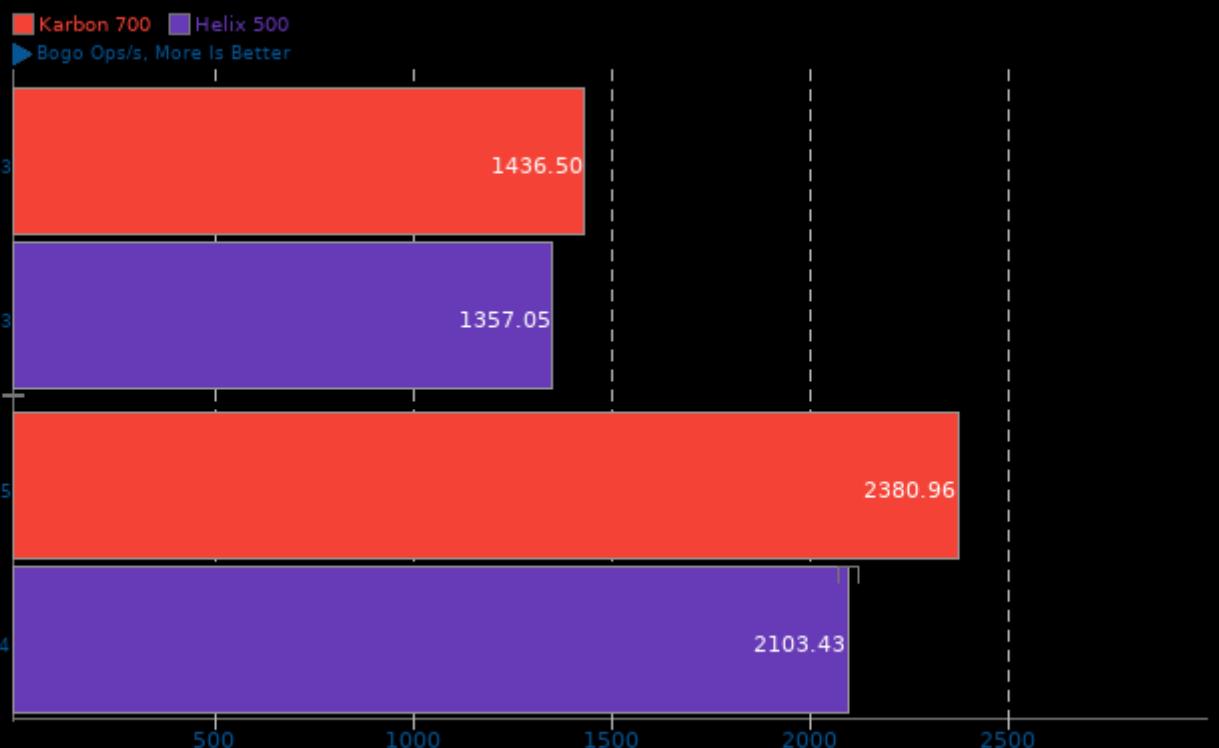
Stress-NG 0.11.07

Test: Forking



Stress-NG 0.11.07

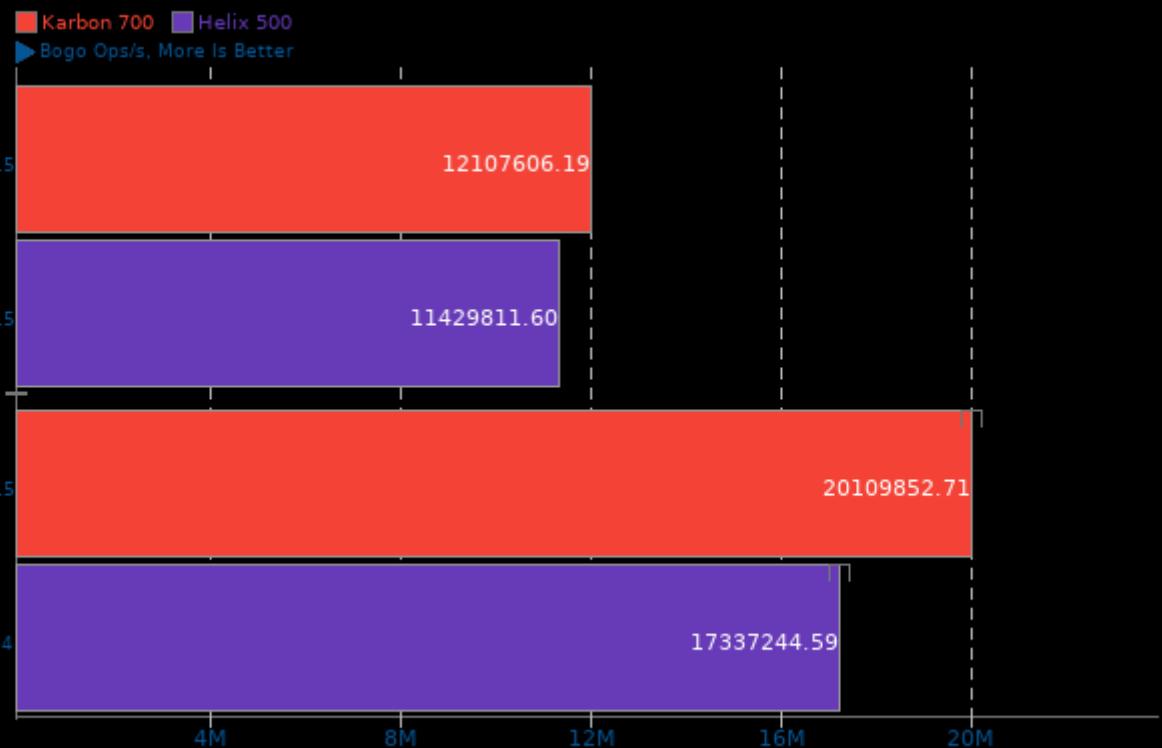
Test: CPU Stress

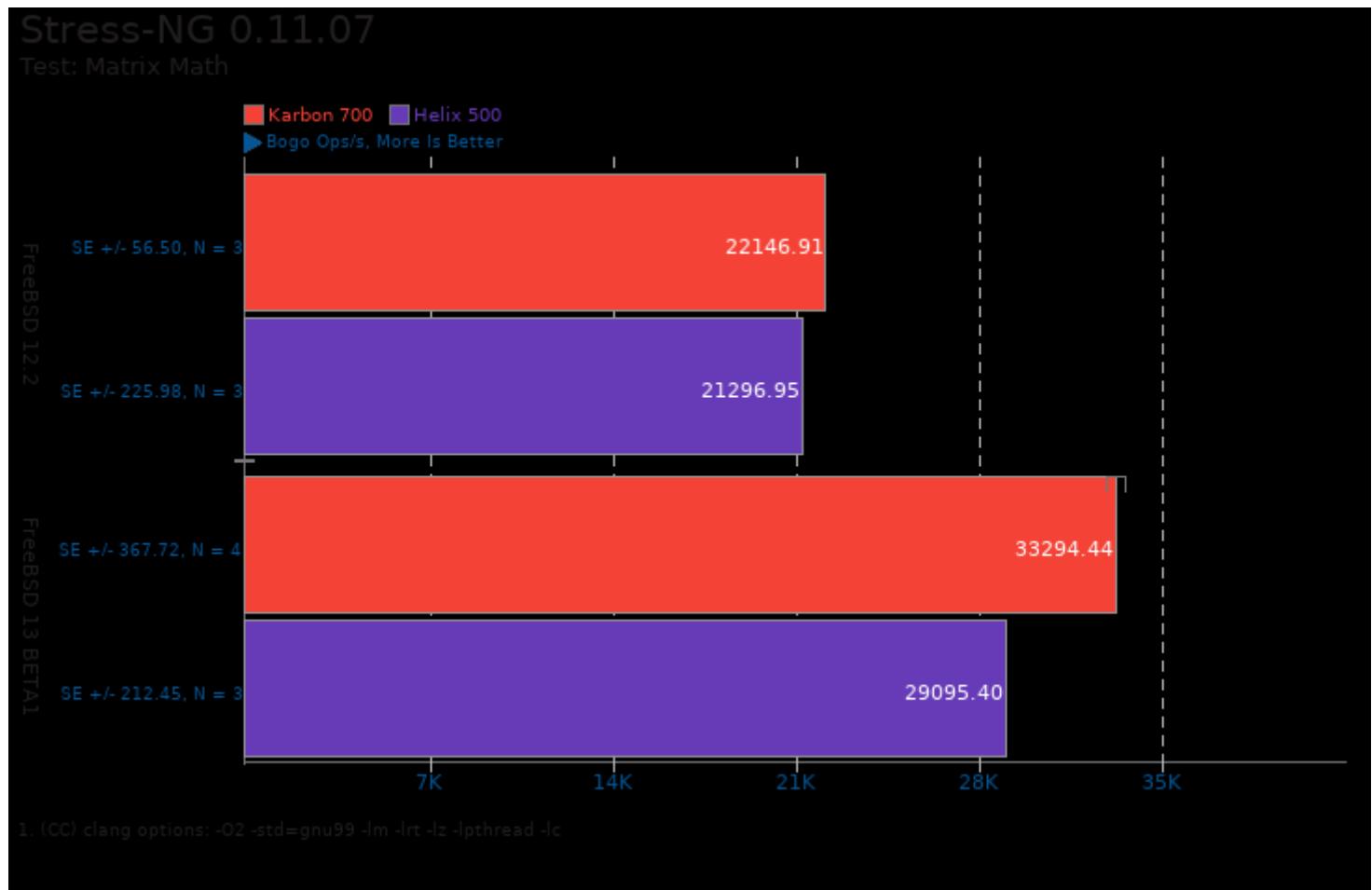


1. (CC) clang options: -O2 -std=gnu99 -lm -lrt -lz -lpthread -lc

Stress-NG 0.11.07

Test: Semaphores





Stress-NG 0.11.07

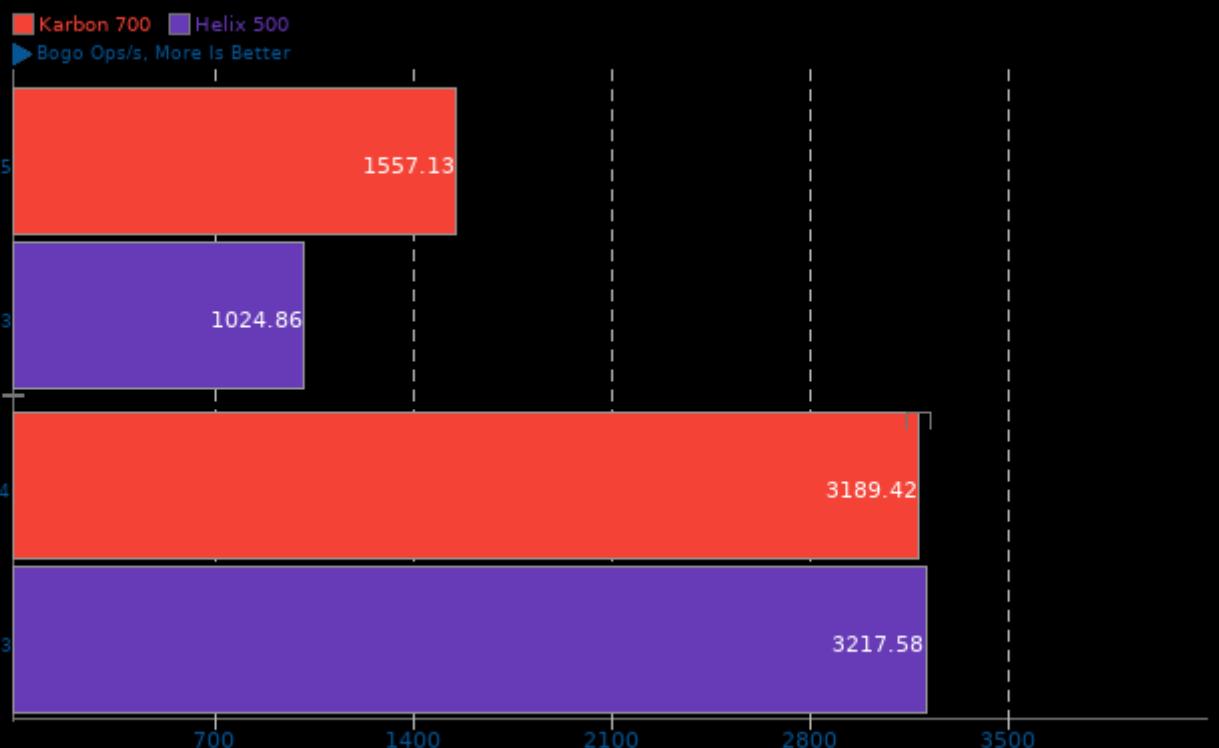
Test: Memory Copying



1. (CC) clang options: -O2 -std=gnu99 -lm -lrt -lz -lpthread -lc

Stress-NG 0.11.07

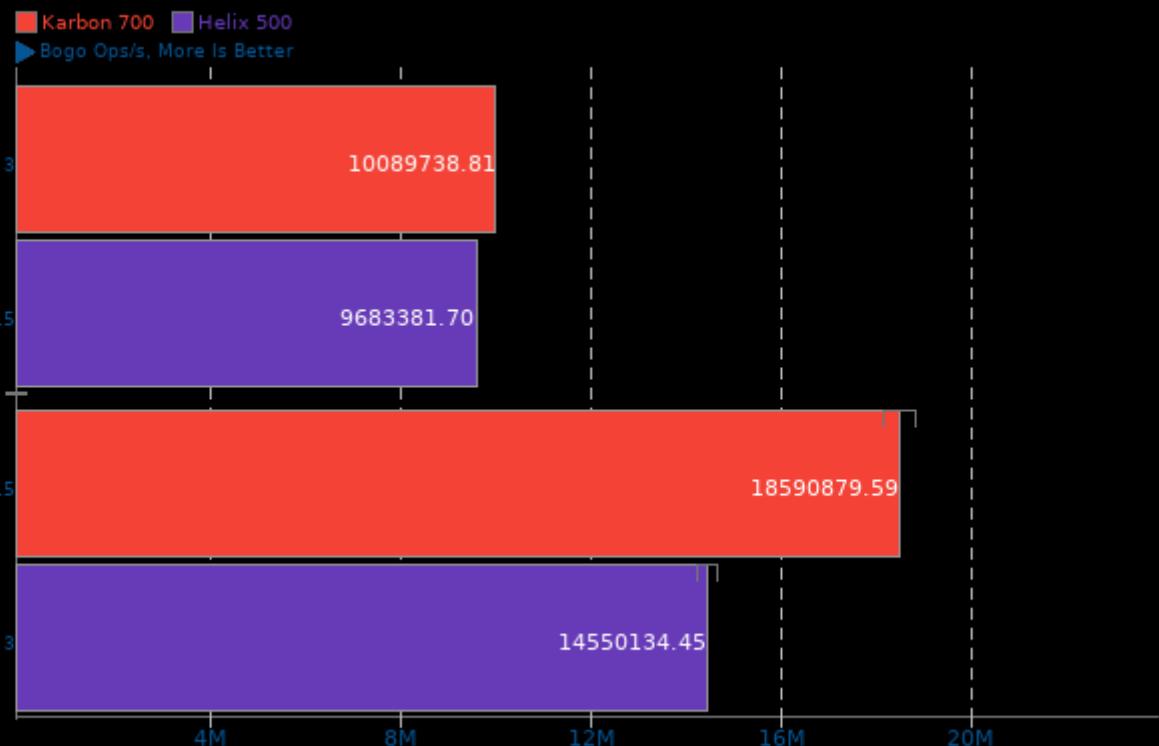
Test: Socket Activity



1. (CC) clang options: -O2 -std=gnu99 -lm -lrt -lz -lpthread -lc

Stress-NG 0.11.07

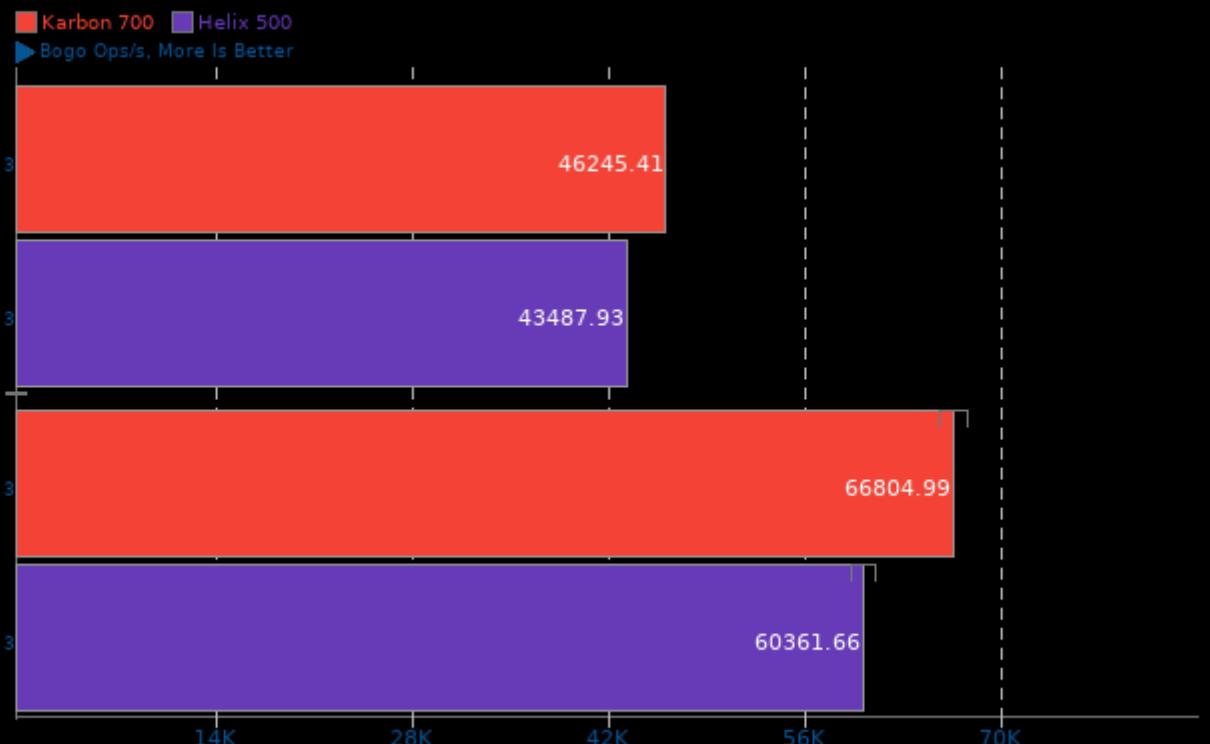
Test: Context Switching

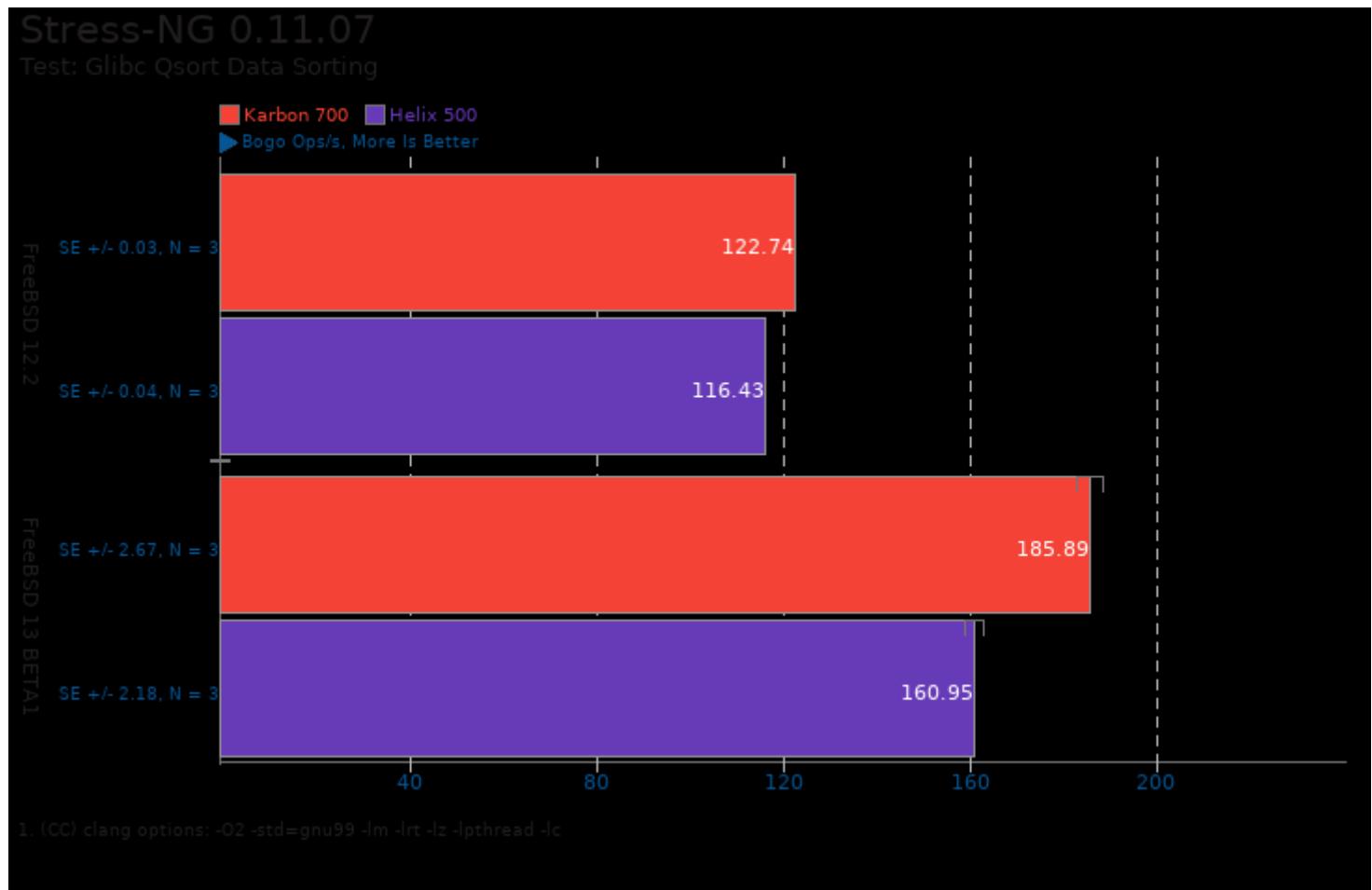


1. (CC) clang options: -O2 -std=gnu99 -lm -lrt -lz -lpthread -lc

Stress-NG 0.11.07

Test: Glibc C String Functions





Stress-NG 0.11.07

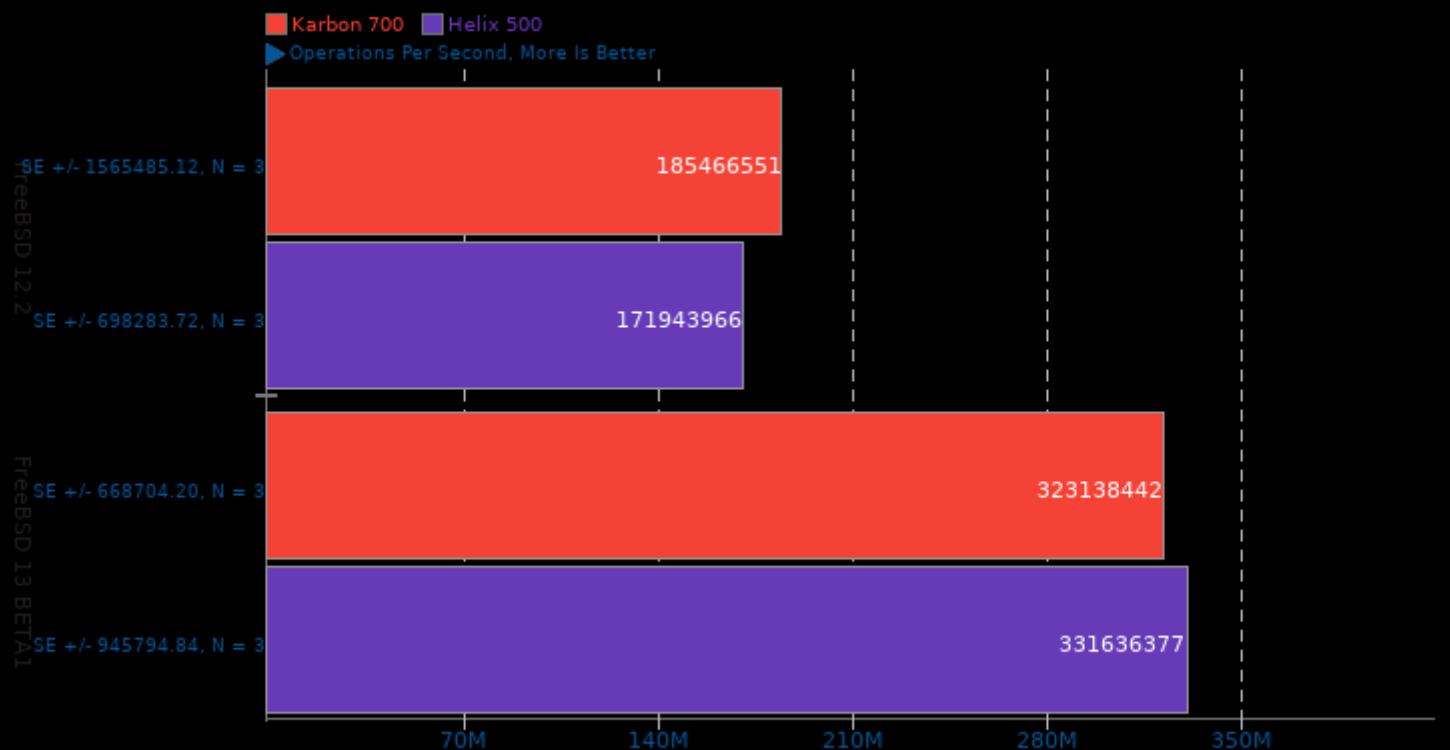
Test: System V Message Passing



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Swet 1.5.16

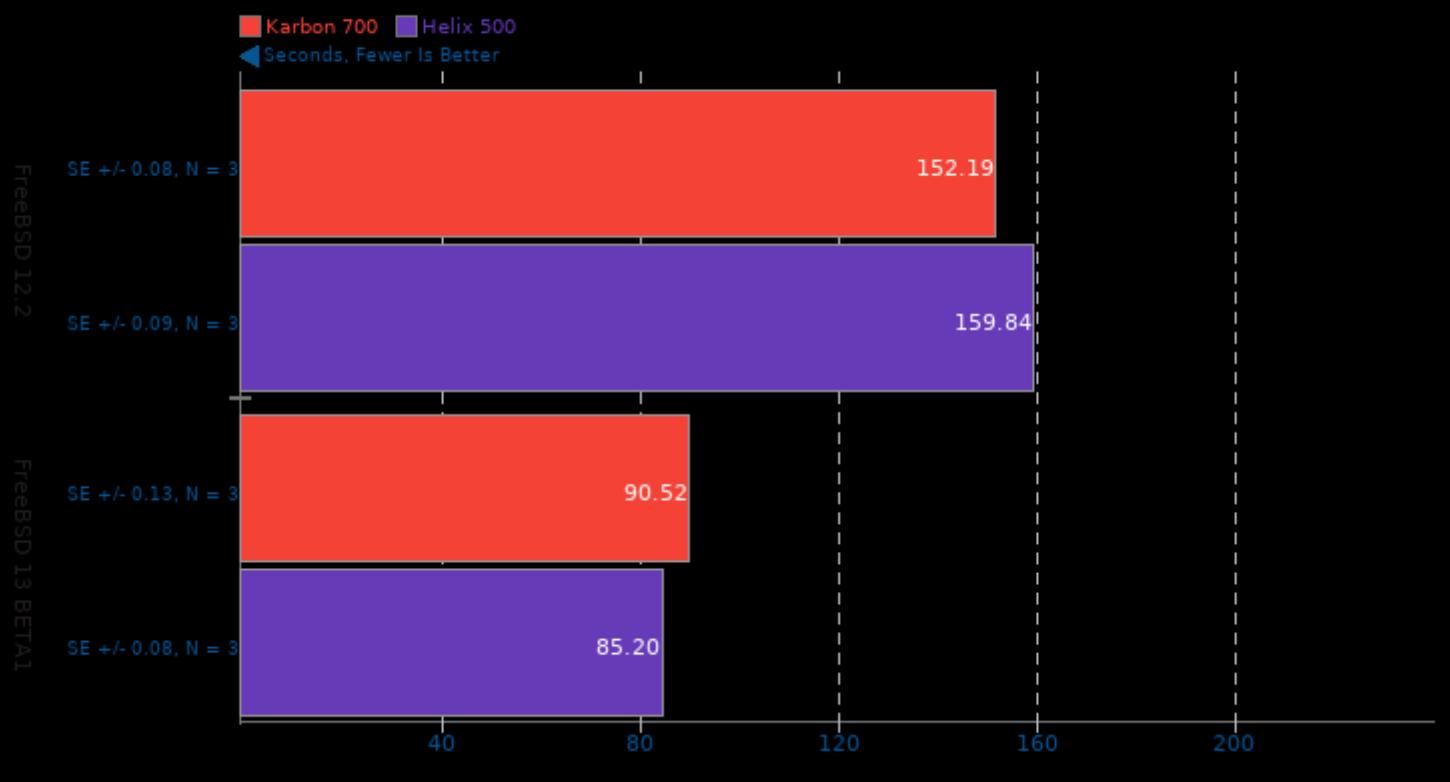
Average



1. (CC) clang options: -lm -lpthread -lcurses -lrt

Timed Eigen Compilation 3.3.9

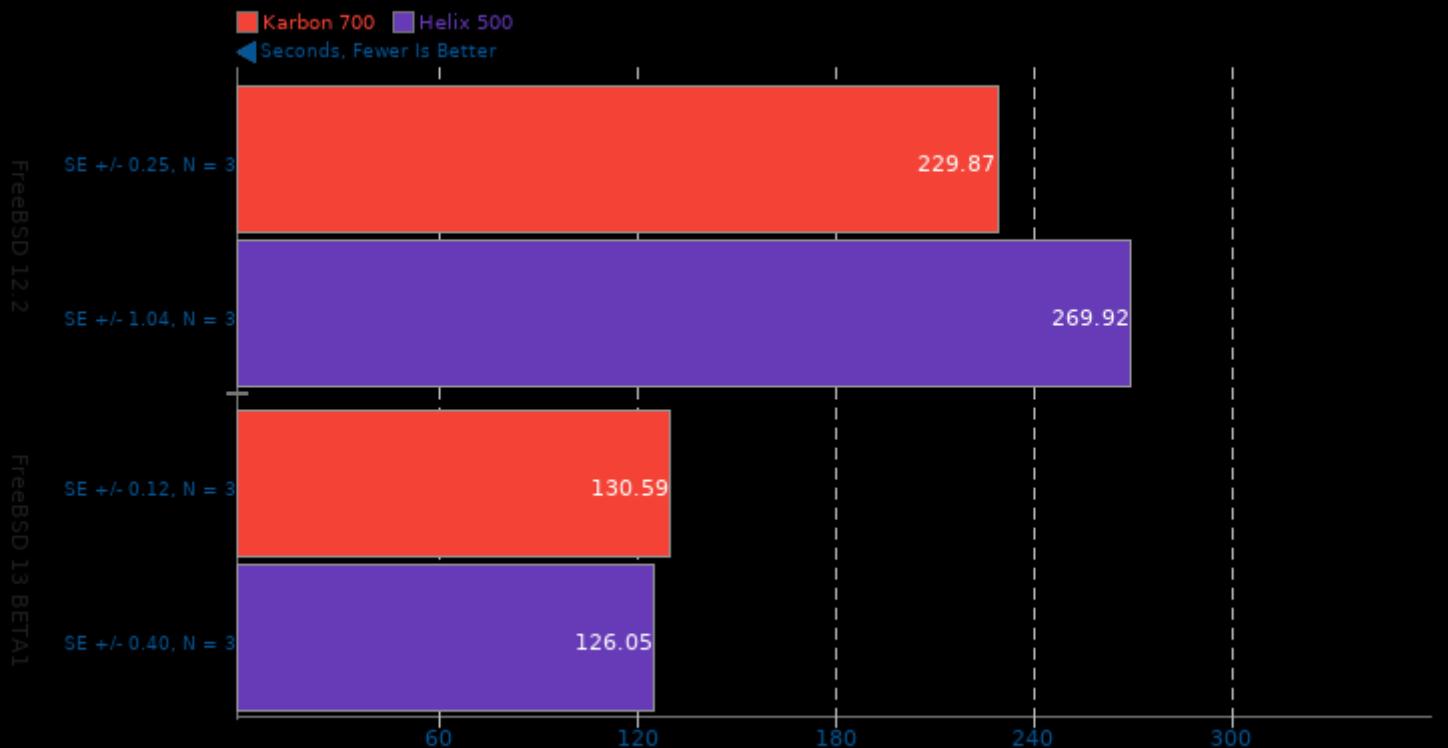
Time To Compile



FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Timed HMMer Search 3.3.1

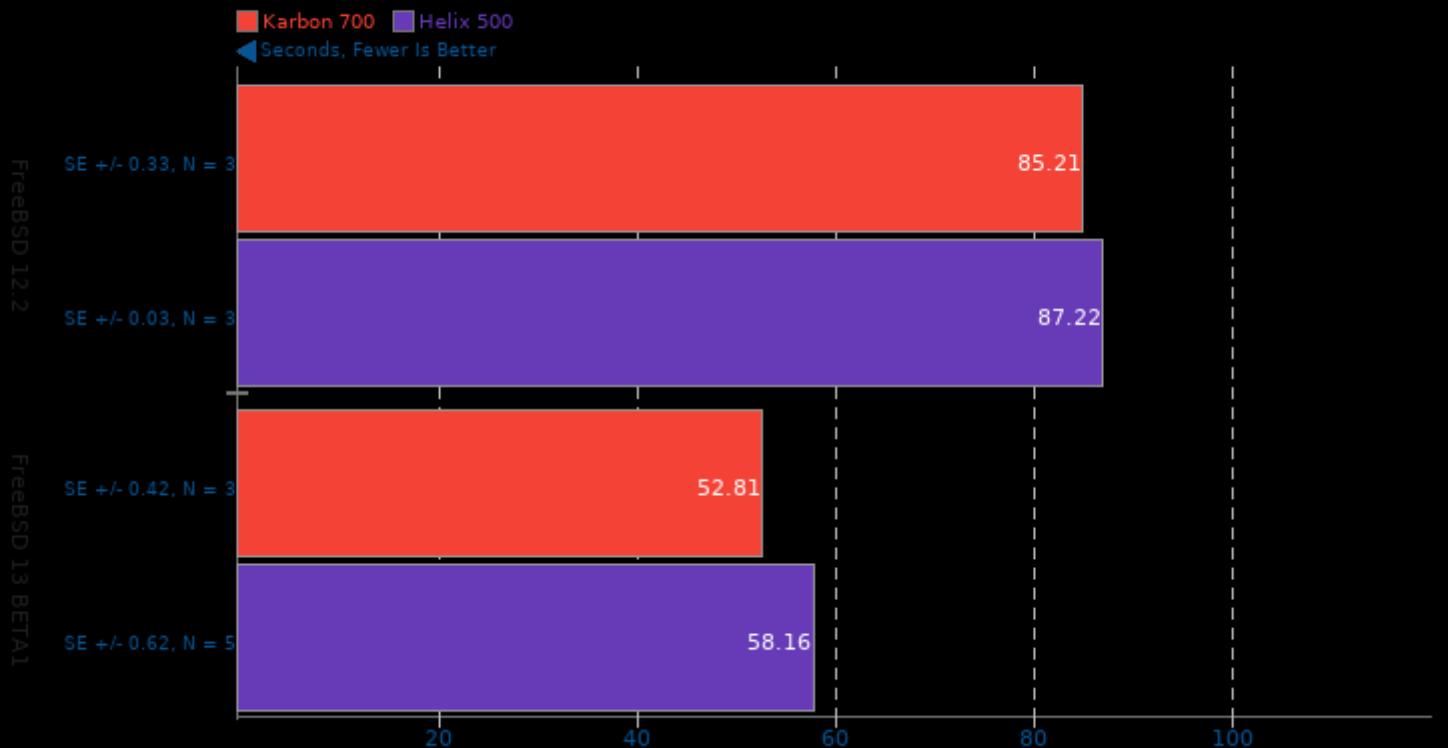
Pfam Database Search



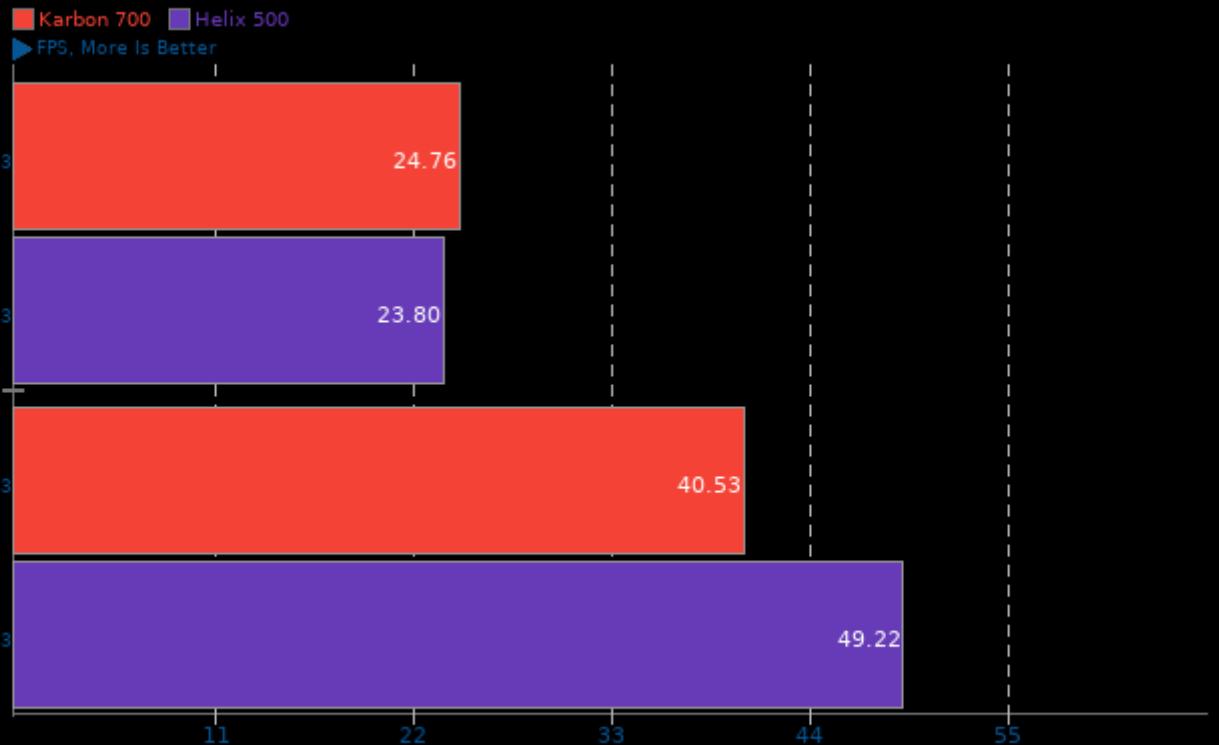
1. (CC) clang options: -O3 -pthread -lhmmer -leasel -lm

Timed PHP Compilation 7.4.2

Time To Compile



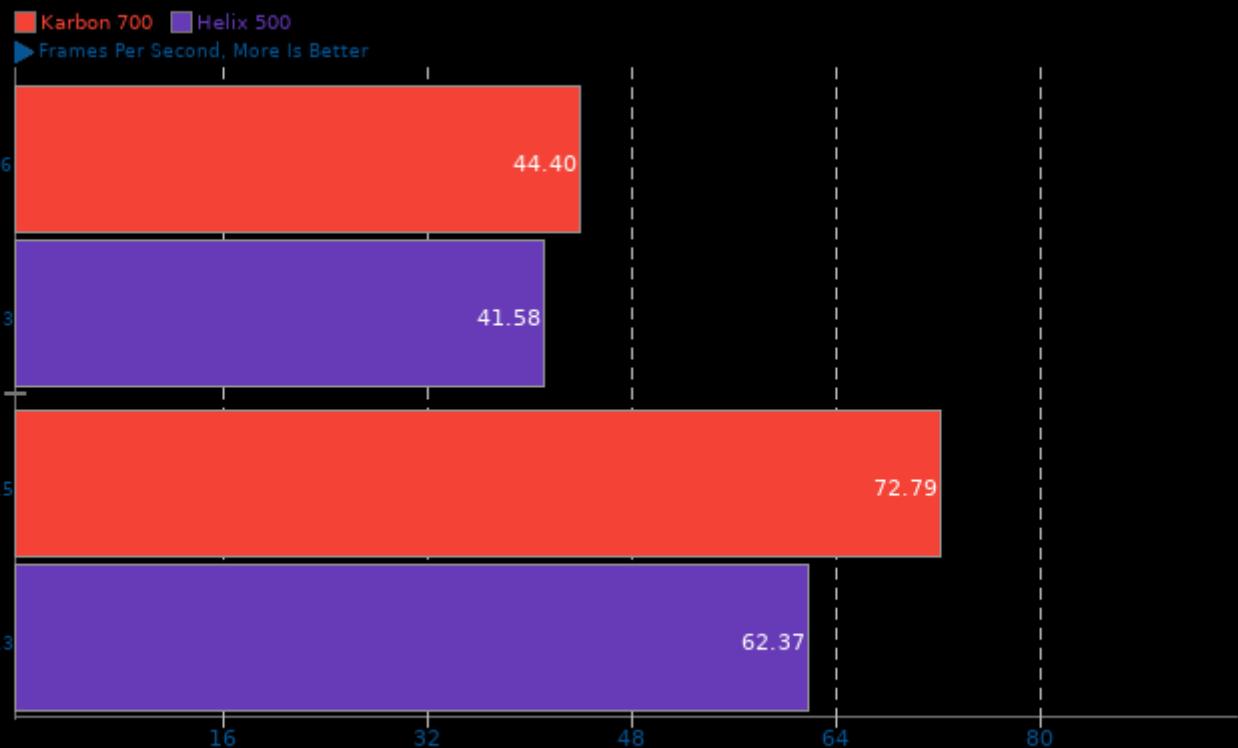
TTSIOD 3D Renderer 2.3b Phong Rendering With Soft-Shadow Mapping



1. (CXX) clang++ options: -O3 -fomit-frame-pointer -ffast-math -mtune=native -fno -msse -mrecip -mfpmath=sse -msse2 -msse3 -fSDL -pthread -fopenmp

x264 2019-12-17

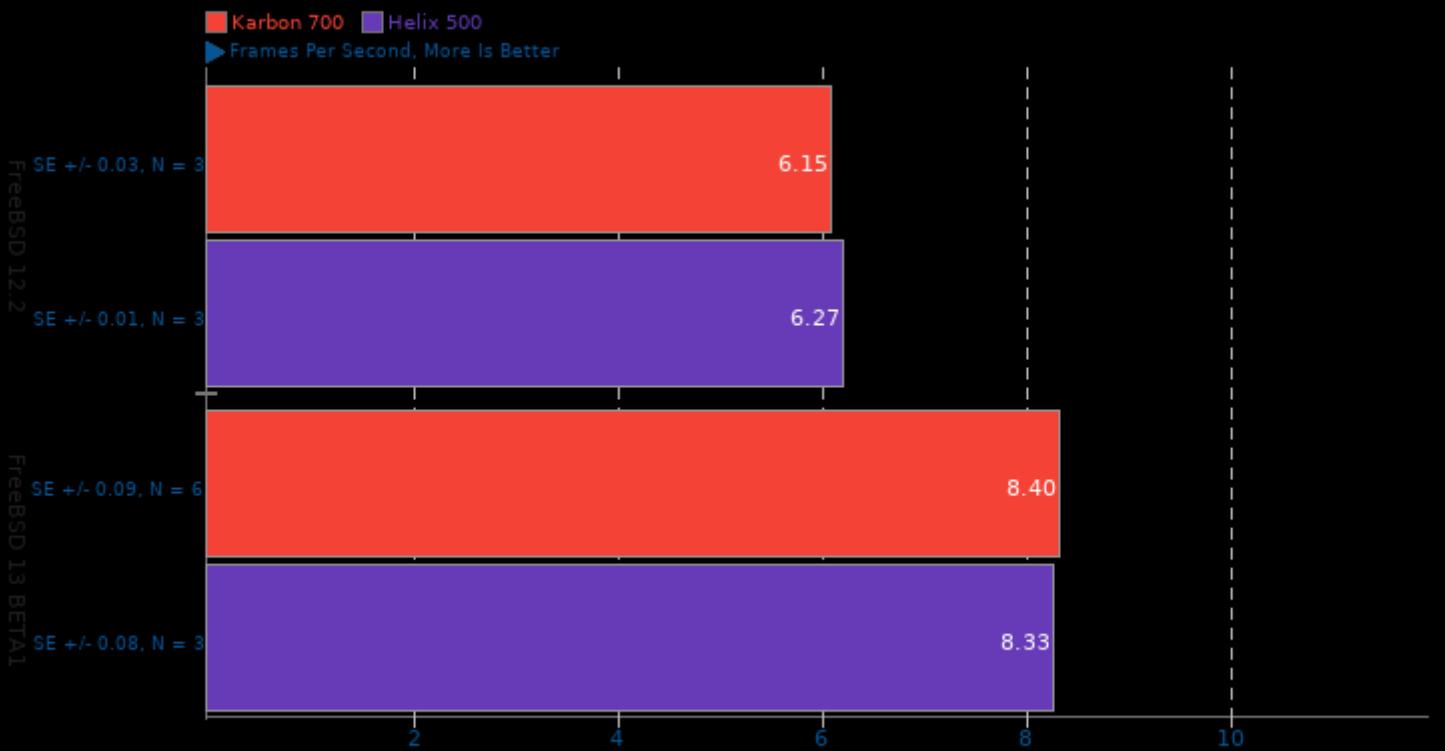
H.264 Video Encoding



1. (CC) clang options: -m64 -fPIE -fstack-protector-strong -fno-tree-vectorize

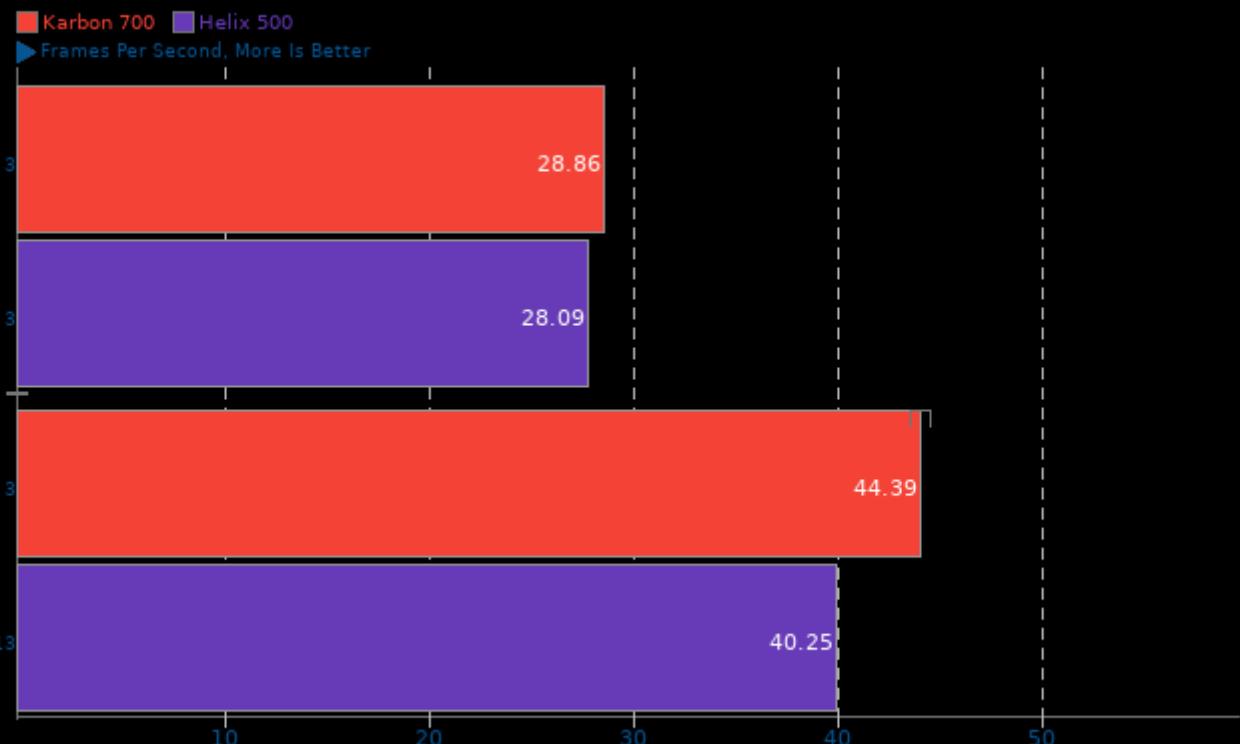
x265 3.4

Video Input: Bosphorus 4K



x265 3.4

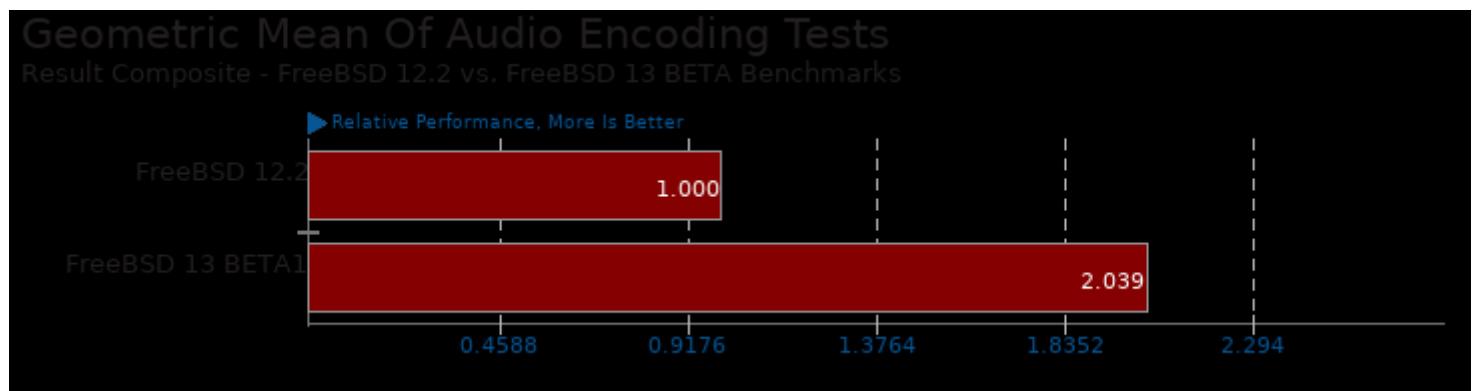
Video Input: Bosphorus 1080p



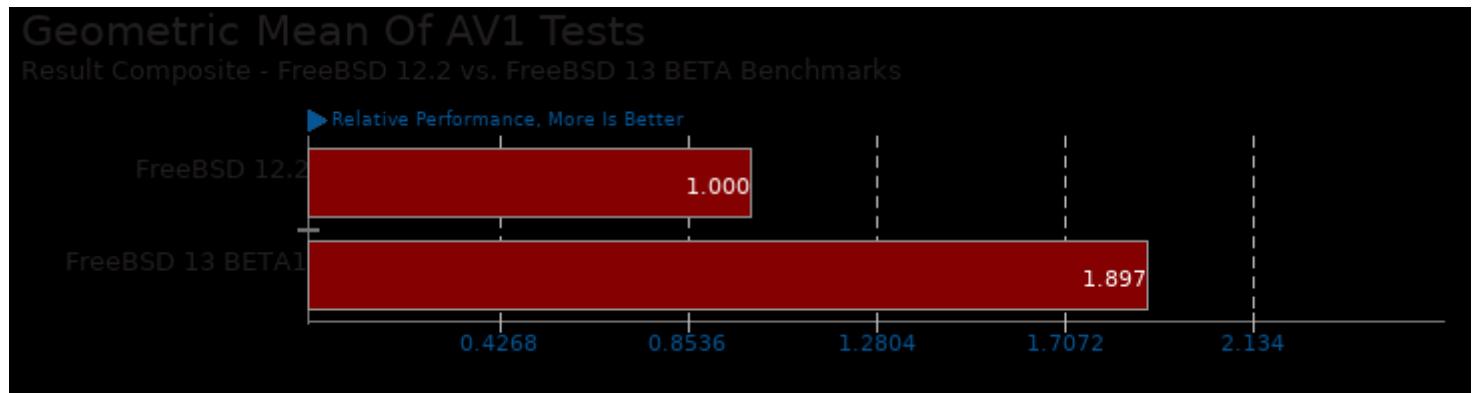
1. (CXX) clang++ options: -O3 -fthread -fno-ldl

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

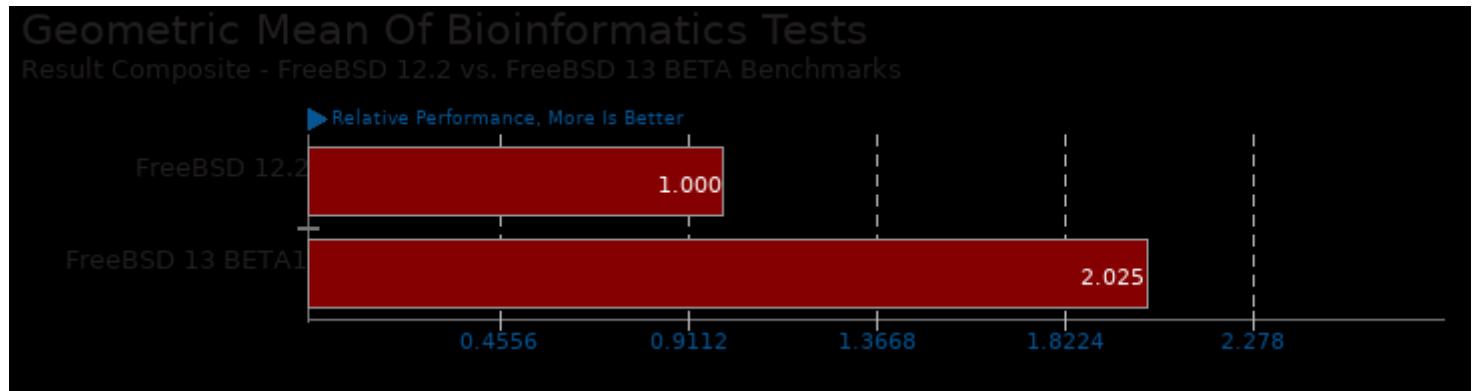
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac and pts/encode-ape



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

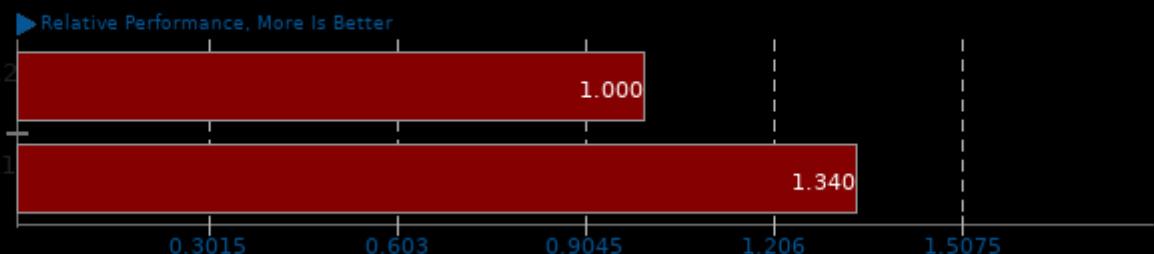


Geometric mean based upon tests: pts/himeno and pts/hmmer

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Geometric Mean Of Chess Test Suite

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/stockfish and pts/m-queens

Geometric Mean Of Timed Code Compilation Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/build-php and pts/build-eigen

Geometric Mean Of C/C++ Compiler Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

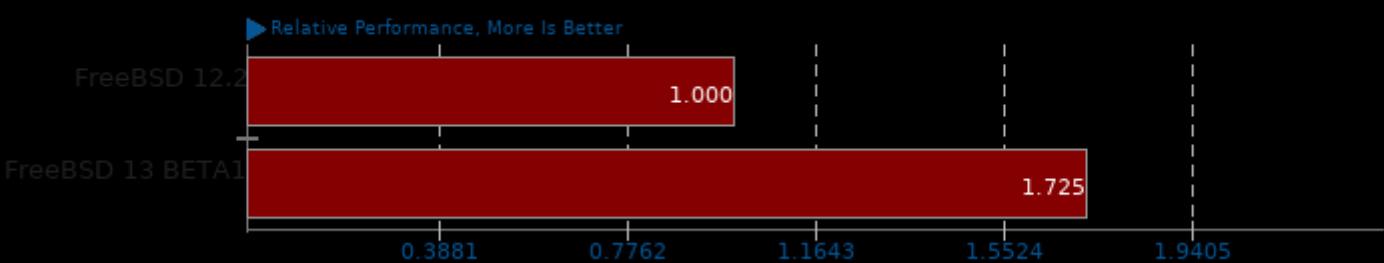


Geometric mean based upon tests: pts/fftw, pts/scimark2, pts/aobench, pts/graphics-magick, pts/himeno, pts/stockfish, pts/hmmer, pts/build-php, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/sqlite-speedtest, pts/john-the-ripper, pts/x264, pts/x265, pts/openssl, pts/aircrack-ng and pts/smhasher

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Geometric Mean Of Creator Workloads Tests

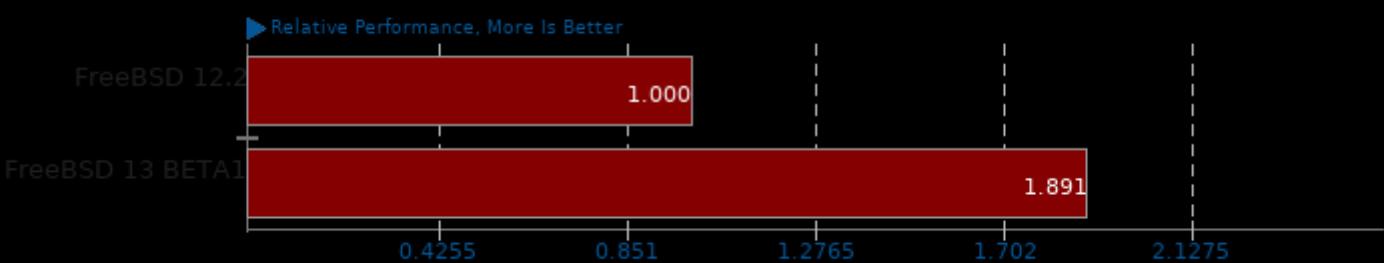
Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/c-ray, pts/aobench, pts/smallpt, pts/ttsiod-renderer, pts/x264, pts/x265, pts/rav1e, pts/avifenc, pts/encode-mp3, pts/encode-flac, pts/encode-ape, pts/graphics-magick, pts/libraw, pts/tjbench, pts/draw and pts/luajit

Geometric Mean Of Cryptography Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/openssl, pts/blake2, pts/john-the-ripper, pts/smhasher, pts/botan, pts/bork and pts/aircrack-ng

Geometric Mean Of Encoding Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/encode-ape, pts/x264, pts/x265, pts/rav1e and pts/avifenc

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Geometric Mean Of HPC - High Performance Computing Tests

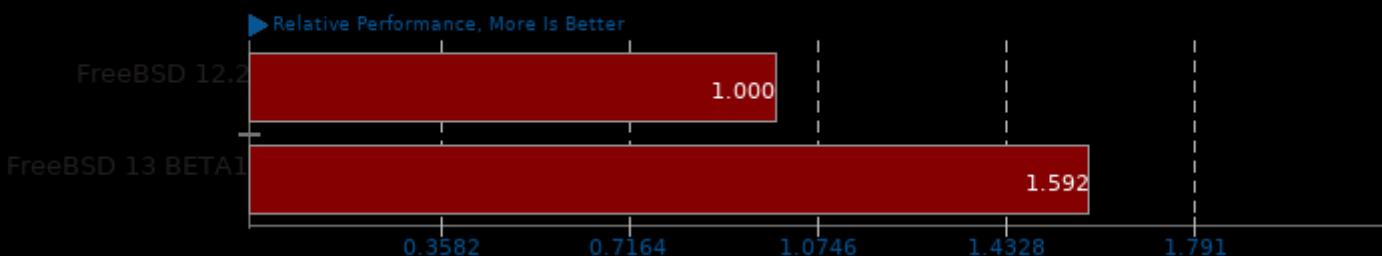
Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/rodinia, pts/ffte, pts/fftw, pts/himeno, pts/hmmer, pts/rbenchmark, pts/numpy and pts/scikit-learn

Geometric Mean Of Imaging Tests

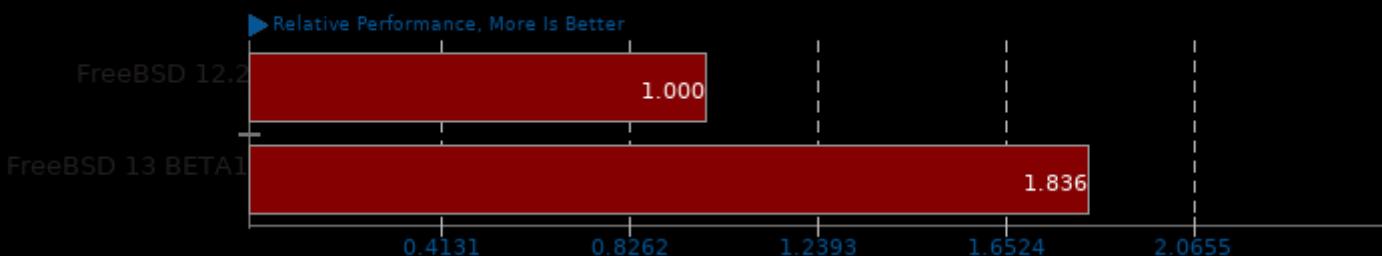
Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/graphics-magick, pts/libraw, pts/tjbench, pts/dcraw and pts/avifenc

Geometric Mean Of Java Tests

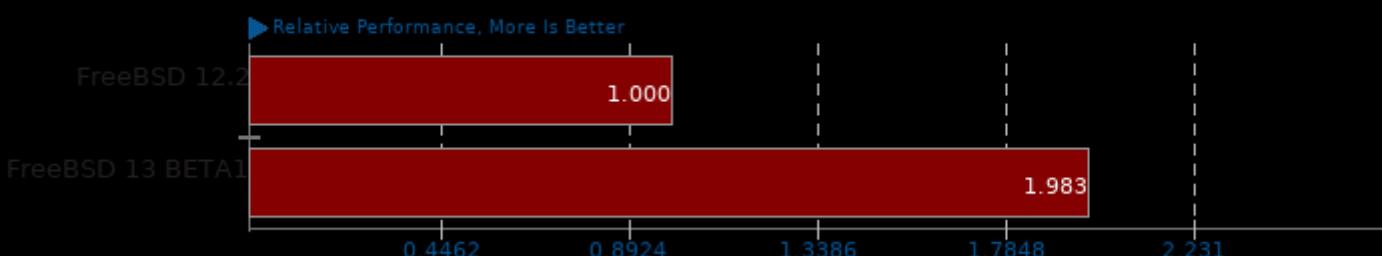
Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/bork, pts/java-scimark2, pts/dacapobench and pts/renaissance

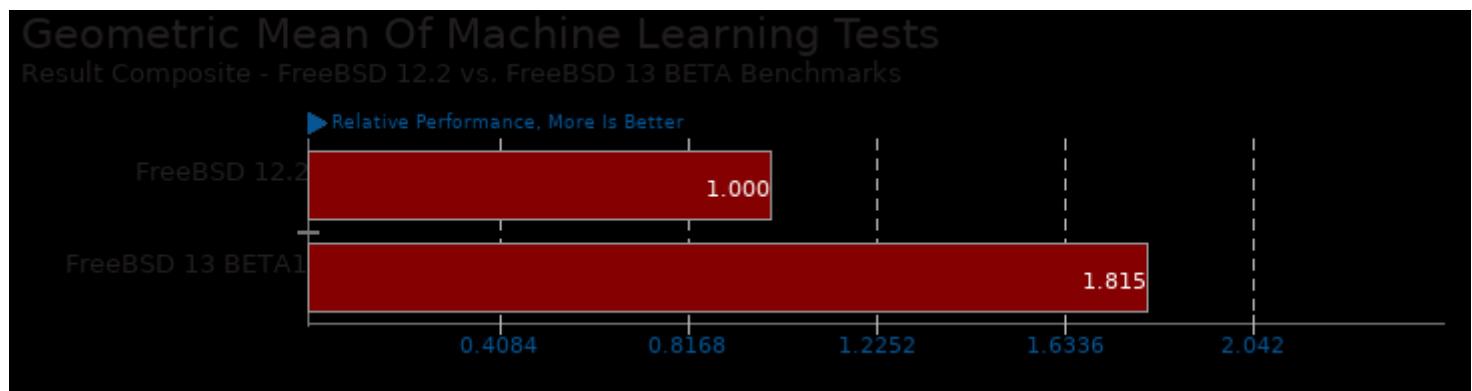
Geometric Mean Of Common Kernel Benchmarks Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

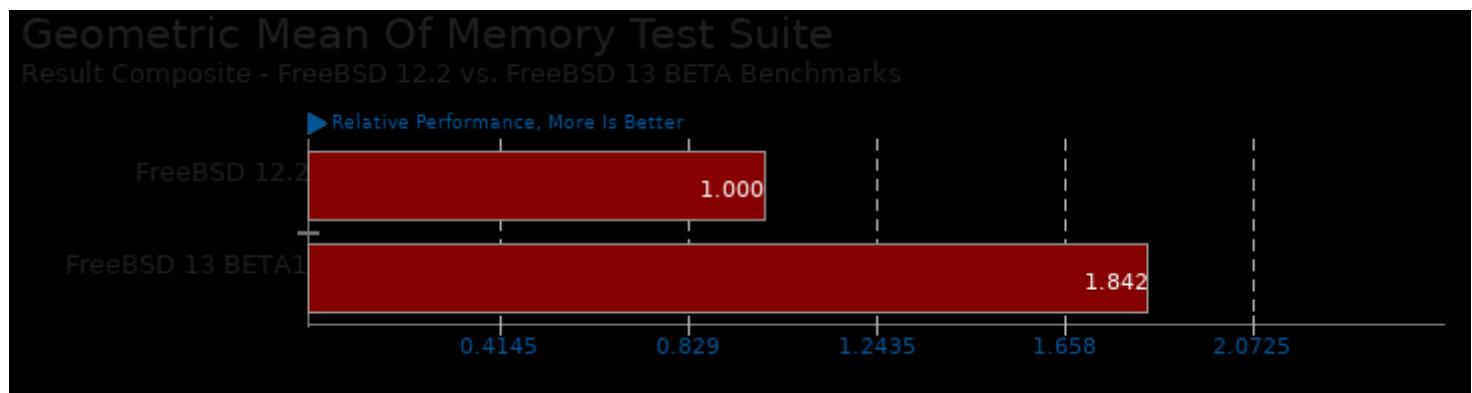


FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

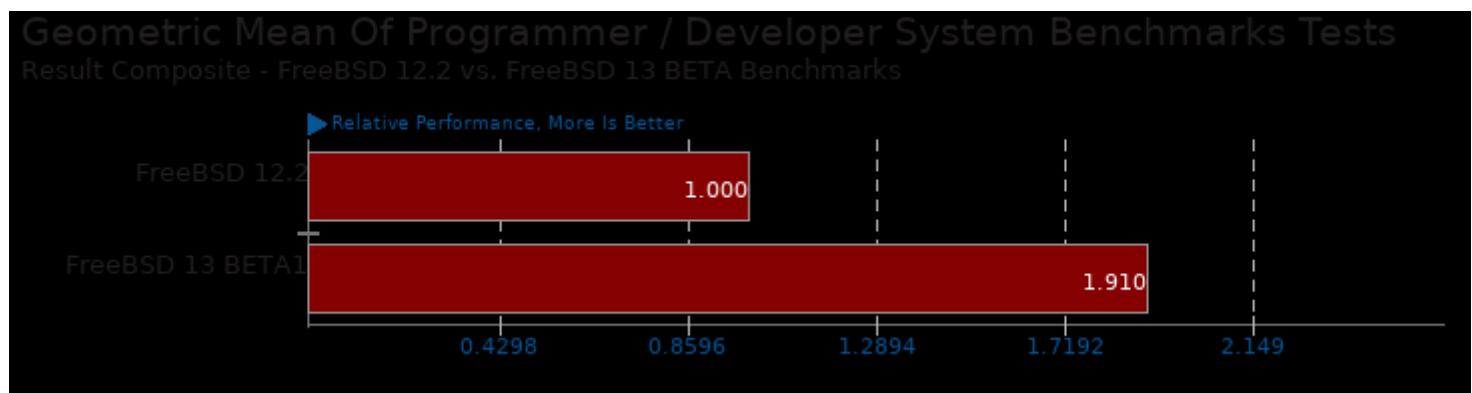
Geometric mean based upon tests: pts/sqlite-speedtest, pts/mbw, pts/openssl, pts/stress-ng, pts/osbench and pts/iperf



Geometric mean based upon tests: pts/rbenchmark, pts/numpy and pts/scikit-learn



Geometric mean based upon tests: pts/cachebench and pts/mbw



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/git, pts/pyperformance, pts/pybench, pts/build-php and pts/build-eigen

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Geometric Mean Of Python Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



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

Geometric Mean Of Renderers Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/c-ray, pts/aobench, pts/smallpt and pts/ttsiod-renderer

Geometric Mean Of Rust Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/rav1e, pts/rust-mandel and pts/rust-prime

Geometric Mean Of Scientific Computing Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

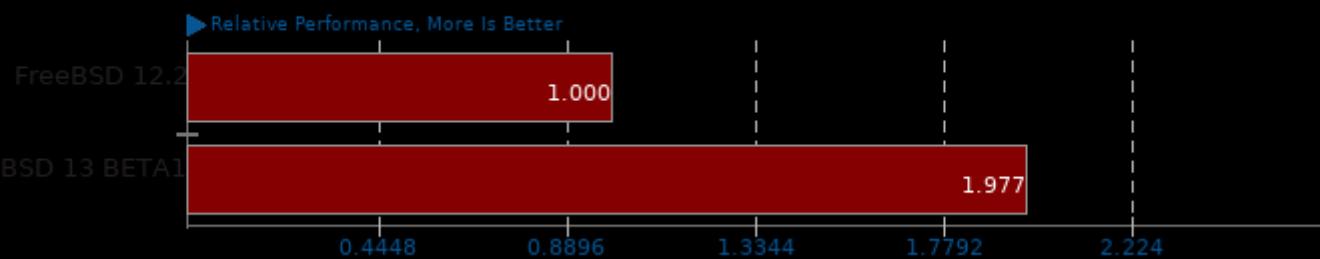


Geometric mean based upon tests: pts/ffte, pts/fftw, pts/himeno and pts/hmmer

FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks

Geometric Mean Of Server Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/blogbench, pts/php, pts/phpbench, pts/node-express-loadtest, pts/openssl, pts/perl-benchmark, pts/simjson and pts/sqlite-speedtest

Geometric Mean Of Video Encoding Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/x264, pts/x265, pts/rav1e and pts/avifenc

Geometric Mean Of Common Workstation Benchmarks Tests

Result Composite - FreeBSD 12.2 vs. FreeBSD 13 BETA Benchmarks



Geometric mean based upon tests: pts/rodinia, pts/himeno, pts/x265, pts/swet and pts/git

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