

CPU Benchmarks

Over 1,000,000 CPUs Benchmarked

Single Thread Performance

This chart comparing the single thread performance of CPUs is made using thousands of [PerformanceTest](#) benchmark results and is updated daily. This chart compares Desktop CPUs, from high end CPUs (such as Intel Core i9, Intel Core i7 and AMD Phenom Ryzen processors) to mid-range and lower end CPUs (such as Intel Pentium 4 and AMD Athlon processors) and also Server CPUs.

CPUS

High End

High Mid Range

Low Mid Range

Low End

Best Value (On Market)

Best Value XY Scatter

Best Value (All time)

New Desktop

New Laptop

Single Thread

Systems with Multiple CPUs

Overclocked

Power Performance

CPU Mark by Socket Type

Cross-Platform CPU Performance

Top Gaming CPUs

CPU Mega List

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Compare⁰

Common

Most Benchmarked

Top CPUs:

Desktop:

Laptop:

Server:

Mobile/Embedded:

CPU Mark

Price Performance

CPU Mark

Price Performance

CPU Mark

Price Performance

CPU Mark

Price Performance

CPU Mark

Price Performance

PassMark - CPU Mark

Single Thread Performance

Updated 24th of August 2023

CPU

CPU Mark

Price (USD)

Intel Core i9-13900KS

4,784

\$999.99

Intel Core i9-13900KF

4,675

\$546.49

Intel Core i9-13900K

4,673

\$569.97

Intel Core i9-13900F

4,512

\$526.03

Intel Core i9-13900

4,409

\$549.99

Intel Core i9-13980HX

4,398

\$668.00*

Intel Core i7-13700K

4,395

\$407.99

Intel Core i7-13700KF

4,387

\$390.98

Intel Core i9-12900KS

4,363

\$399.99

Intel Core i9-13900T

4,327

\$549.00*

AMD Ryzen 9 7950X

4,321

\$540.99

AMD Ryzen 9 7900X

4,316

\$409.00

AMD Ryzen 7 7700X

4,266

\$315.75

Intel Core i9-13900HX

4,238

\$668.00*

Intel Core i7-13700F

4,229

\$360.99

AMD Ryzen 5 7600X

4,215

\$218.00

AMD Ryzen 9 7900

4,203

\$419.99

Intel Core i9-12900K

4,202

\$352.99

Intel Core i9-12900KF

4,184

\$398.99

Intel Core i7-13700

4,183

\$349.99

Intel Core i5-13600K

4,181

\$309.99

Intel Core i5-13600KF

4,179

\$292.99

AMD Ryzen 9 7950X3D

4,164

\$661.08

Apple M2 Max 12 Core 3680 MHz

4,154

NA



**AMD vs Intel
Market Share**

**Year on Year
Performance**

Apple M2 Pro 12 Core 3480 MHz	4,148	NA
Intel Core i9-13950HX	4,143	\$590.00*
AMD Ryzen 9 7945HX	4,136	NA
Apple M2 Pro 10 Core 3480 MHz	4,135	NA
AMD Ryzen 7 7700	4,130	\$319.79
AMD Ryzen 9 7900X3D	4,123	\$561.05
Intel Core i9-13900HK	4,112	\$697.00*
Intel Core i9-12900F	4,097	\$425.00
AMD Ryzen 9 7940H	4,080	NA
Intel Core i9-12900	4,078	\$449.99
Intel Core i5-13600	4,058	\$255.00*
Apple M2 Ultra 24 Core	4,057	NA
Intel Core i7-12700K	4,054	\$409.00*
Intel Core i9-13905H	4,054	\$697.00*
Intel Core i7-12700KF	4,044	\$276.00
AMD Ryzen 9 7845HX	4,030	NA
Intel Core i9-13900H	4,010	\$617.00*
AMD Ryzen 5 7600	3,984	\$219.99
Apple M2 8 Core 3500 MHz	3,981	NA
Intel Core i7-13700HX	3,978	\$485.00*
Intel Core i5-12600K	3,973	\$199.99
AMD Ryzen 7 7840H	3,960	NA
Intel Core i5-12600KF	3,950	\$219.94
Intel Core i9-12900T	3,947	\$489.00*
Intel Core i7-12700	3,936	\$325.49
Intel Core i5-13500	3,934	\$247.98
AMD Ryzen 9 7940HS	3,928	NA
Intel Core i7-12700F	3,927	\$284.99
Intel Core i9-12900E	3,926	NA
Intel Core i7-13850HX	3,925	\$428.00*
Intel Core i5-13600T	3,923	\$255.00*
Intel Core i9-12900HX	3,921	\$606.00*
Intel Core i7-13700T	3,918	\$384.00*
Intel Core i5-13600HX	3,913	\$284.00*
Intel Xeon w5-2465X	3,896	\$1,389.00*
AMD Ryzen 7 7745HX	3,889	NA
AMD Ryzen Z1 Extreme	3,884	NA
Intel Core i9-12950HX	3,875	\$590.00*
Apple M1 Ultra 20 Core	3,871	NA
Intel Core i9-12900H	3,865	\$617.00*
Intel Core i7-13620H	3,864	\$502.00*
AMD Ryzen 7 7840HS	3,861	NA
Intel Core i7-12700E	3,852	\$344.00*
AMD Ryzen 5 7540U	3,846	NA
Intel Core i7-12800HX	3,846	\$457.00*
Apple M1 Max 10 Core 3200 MHz	3,844	NA
Intel Core i5-12600	3,834	\$260.00
Intel Xeon w5-2445	3,830	\$839.00*
AMD Ryzen 7 PRO 7840HS	3,819	NA
Apple M1 Pro 10 Core 3200 MHz	3,819	NA
Intel Core i7-13650HX	3,812	\$485.00*
Intel Core i5-13500HX	3,797	\$326.00*
Intel Core i7-1370P	3,793	NA
Intel Core i5-1350P	3,789	\$320.00*
Apple M1 Pro 8 Core 3200 MHz	3,782	NA

AMD Ryzen 7 7800X3D	3,776	\$439.00
Intel Core i5-12490F	3,761	\$181.99
AMD Ryzen 5 PRO 7540U	3,759	NA
Intel Core i5-13450HX	3,752	\$326.00*
Intel Core i5-12600HX	3,742	\$284.00*
Intel Xeon w5-2455X	3,741	\$1,039.00*
Intel Core i3-13100	3,740	\$128.67
Intel Core i5-12500E	3,735	\$225.00*
Intel Core i5-12500	3,733	\$202.00*
Intel Xeon w9-3475X	3,725	\$3,739.00*
Intel Core i7-12850HX	3,720	\$428.00*
Intel Core i9-12900HK	3,720	\$635.00*
Intel Xeon w9-3495X	3,719	\$5,889.00*
Intel Core i7-12650H	3,714	\$457.00*
Intel Core i3-1305U	3,711	\$309.00*
Intel Core i5-13400	3,710	\$228.26
Apple M1 8 Core 3200 MHz	3,709	NA
Intel Core i5-13600H	3,705	\$311.00*
Intel Core i3-13100F	3,693	\$110.99
Intel Core i7-13700H	3,680	\$502.00*
Intel Core i5-13400T	3,679	\$221.00*
Intel Core i7-1360P	3,678	\$480.00*
Intel Core i5-13400F	3,674	\$164.99
Intel Core i5-1335U	3,668	\$340.00*
Intel Core i7-1270PE	3,666	\$441.00*
Intel Xeon w7-2495X	3,657	\$2,603.96*
Intel Core i5-13500T	3,645	\$232.00*
Intel Core i7-12700H	3,637	\$457.00*
Intel Core i3-12300	3,637	\$143.00*
Intel Core i7-12700T	3,631	\$339.00*
Intel Xeon w5-3435X	3,612	\$1,589.00*
Intel Core i5-1340P	3,612	\$353.00*
Intel Core i7-1355U	3,606	\$469.00*
Intel Core i5-1345U	3,602	\$309.00*
Intel Xeon W-1390P @ 3.50GHz	3,591	NA
Intel Core i3-1315U	3,573	\$309.00*
Intel Core i5-12600H	3,569	\$311.00*
Intel Core i7-13800H	3,567	\$457.00*
Intel Core i9-11900KF @ 3.50GHz	3,561	\$415.99
Intel Core i5-12500T	3,561	\$202.00*
Intel Xeon W-1350P @ 4.00GHz	3,557	\$372.23
Intel Core i3-1210U	3,554	NA
Intel Core i7-1365U	3,548	\$426.00*
Intel Core i5-12400	3,546	\$192.00*
Intel Core i5-12400F	3,539	\$149.99
Intel Xeon W-1370 @ 2.90GHz	3,538	\$468.99
Intel Xeon W-1370P @ 3.60GHz	3,533	\$508.99
Intel Core i9-11900K @ 3.50GHz	3,528	\$318.90
Apple A15 Bionic	3,524	NA
Intel Core i5-12450H	3,517	\$311.00*
Intel Core i5-12500H	3,513	\$311.00*
Intel Xeon w3-2435	3,513	\$669.00*
Intel Xeon E-2378G @ 2.80GHz	3,510	\$659.53*
Intel Core i5-1250P	3,504	NA
Intel Core i5-13500H	3,504	NA

Intel Xeon w7-3465X	3,502	\$2,889.00*
Intel Core i7-12800H	3,497	\$457.00*
AMD Ryzen 9 PRO 5945	3,496	NA
Intel Xeon W-1350 @ 3.30GHz	3,494	\$335.99
Intel Xeon w5-3425	3,494	\$1,189.00*
Intel Core i3-12100F	3,491	\$136.99
Intel Core i3-12100	3,490	\$122.00*
Intel Xeon E-2388G @ 3.20GHz	3,479	\$539.00*
AMD Ryzen 9 5900X	3,470	\$299.99
AMD Ryzen 9 5950X	3,470	\$441.71
AMD Ryzen 7 7736U	3,467	NA
Intel Core i3-13100T	3,461	\$134.00*
AMD Ryzen 9 PRO 7940HS	3,457	NA
AMD Ryzen 7 PRO 5845	3,453	NA
Intel Core i9-11900 @ 2.50GHz	3,453	\$419.99
AMD Ryzen 9 5900	3,451	NA
AMD Ryzen 7 5800X	3,447	\$225.03
AMD Ryzen 9 6900HX	3,446	NA
AMD Ryzen 9 PRO 6950HS	3,444	NA
AMD Ryzen 5 PRO 5645	3,441	NA
Intel Xeon w7-3445	3,437	\$1,989.00*
Intel Core i9-11900F @ 2.50GHz	3,426	\$418.99
AMD Ryzen 7 7735H	3,426	NA
Intel Core i7-11700K @ 3.60GHz	3,421	\$276.10
Intel Xeon Gold 5420+	3,418	\$1,848.00*
Intel Core i5-12400T	3,416	\$149.99
Intel Xeon W-1390 @ 2.80GHz	3,414	\$573.99
Intel Core i5-12600T	3,403	NA
AMD Ryzen 7 5800	3,401	NA
Apple A14 Bionic	3,400	NA
Intel Xeon E-2386G @ 3.50GHz	3,399	\$482.00*
Intel Core i7-11700KF @ 3.60GHz	3,399	\$262.99
Intel Core i3-1215U	3,397	NA
Intel Core i3-12300T	3,395	\$157.00*
AMD Ryzen 7 7735HS	3,394	NA
Intel Core i7-1270P	3,388	NA
Intel Core i5-12500TE	3,385	\$205.00*
AMD Ryzen 7 5700X	3,384	\$184.99
Intel Core i3-1220P	3,383	\$281.00*
Intel Core i7-11700B @ 3.20GHz	3,374	NA
AMD Ryzen 9 5980HX	3,369	NA
AMD EPYC 9274F	3,366	NA
Intel Core i5-11600K @ 3.90GHz	3,364	\$178.48
AMD Ryzen 9 6900HS Creator Edition	3,362	NA
AMD Ryzen Threadripper PRO 5965WX	3,360	\$1,999.99
AMD Ryzen 5 5600X	3,359	\$156.41
Intel Xeon W-11955M @ 2.60GHz	3,354	\$623.00*
Intel Core i7-1260P	3,352	NA
Intel Core i7-1255U	3,349	\$426.00*
Intel Core i5-11600KF @ 3.90GHz	3,349	\$214.82
Intel Core i9-11900KB @ 3.30GHz	3,348	\$539.00*
Intel Xeon E-2374G @ 3.70GHz	3,347	\$399.99
AMD Ryzen 7 5700GE	3,346	NA
AMD Ryzen Threadripper PRO 5945WX	3,346	NA

AMD Ryzen 9 6900HS	3,337	NA
Intel Core i7-1265U	3,336	\$426.00*
Intel Core i3-12100T	3,335	\$122.00*
Intel Core i3-12100TE	3,334	\$125.00*
Intel Core i5-13420H	3,332	\$342.00*
Intel Xeon E-2356G @ 3.20GHz	3,331	\$333.00*
AMD Ryzen 7 PRO 5750G	3,324	NA
Intel Core i7-1280P	3,320	\$482.00*
AMD Ryzen 5 PRO 6650H	3,318	NA
Intel Core i9-11980HK @ 2.60GHz	3,315	\$583.00*
Intel Core i9-11900T @ 1.50GHz	3,314	\$439.00*
Intel Core i7-12800HE	3,313	\$506.00*
AMD Ryzen 9 5900H	3,312	NA
Intel Xeon W-11865MRE @ 2.60GHz	3,310	\$480.00*
Intel Xeon Gold 5415+	3,310	\$1,066.00*
Intel Core i7-11700F @ 2.50GHz	3,309	\$225.99
AMD Ryzen Threadripper PRO 5975WX	3,307	\$2,699.99
Intel Core i5-1240P	3,307	NA
AMD Ryzen Threadripper PRO 5995WX	3,307	\$5,699.99
Intel Core i5-1235U	3,305	\$309.00*
AMD Ryzen 5 7535HS	3,305	NA
AMD Ryzen 7 PRO 5750GE	3,302	NA
Intel Core i5-11600 @ 2.80GHz	3,299	\$247.99
Intel Pentium Gold 8505	3,298	NA
AMD Ryzen 7 6800HS Creator Edition	3,294	NA
AMD Ryzen Threadripper PRO 5955WX	3,292	\$1,099.99
AMD Ryzen 7 7735U	3,289	NA
AMD Ryzen 7 5700G	3,286	\$167.86
AMD Ryzen 7 6800H	3,282	NA
Intel Xeon E-2378 @ 2.60GHz	3,278	\$468.81
Intel Xeon W-11855M @ 3.20GHz	3,278	\$450.00*
AMD Ryzen 9 5900HS Creator Edition	3,275	NA
AMD Ryzen 7 PRO 6850HS	3,274	NA
AMD Ryzen 5 5600	3,260	\$119.99
AMD Ryzen 5 6600H	3,249	NA
Intel Xeon E-2334 @ 3.40GHz	3,244	\$304.99
AMD EPYC 9254	3,241	NA
AMD Ryzen 7 PRO 6850H	3,239	NA
AMD Ryzen 5 5600GE	3,236	NA
Intel Core i5-11500B @ 3.30GHz	3,231	NA
AMD Ryzen 7 5700	3,230	NA
AMD Ryzen 7 PRO 6850U	3,229	NA
AMD Ryzen 7 6800U	3,226	NA
AMD Ryzen 5 5600X3D	3,226	NA
Intel Core i5-1240U	3,224	NA
Intel Xeon E-2324G @ 3.10GHz	3,223	\$269.99
AMD Ryzen 7 7730U	3,223	NA
AMD Ryzen 7 5800X3D	3,213	\$289.55
AMD Ryzen 9 PRO 6950H	3,212	NA
Intel Core i9-11950H @ 2.60GHz	3,210	\$556.00*
Intel Xeon E-2336 @ 2.90GHz	3,209	\$347.99
AMD Ryzen 9 5900HX	3,208	NA
AMD Ryzen 7 6800HS	3,203	NA

Intel Xeon W-11555MRE @ 2.60GHz	3,201	\$326.00*
AMD Ryzen 5 6600U	3,198	NA
AMD Ryzen 7 PRO 6860Z	3,195	NA
AMD Ryzen 3 PRO 7330U	3,194	NA
AMD Ryzen 5 7535U	3,192	NA
Intel Xeon W-1290P @ 3.70GHz	3,192	\$649.40*
AMD Ryzen 5 5600G	3,189	\$121.80
AMD Ryzen 9 5900HS	3,184	NA
AMD Ryzen 5 PRO 5650GE	3,180	NA

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