



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**

Search Model

 **Compare** ⁰

 **Common**

Most Benchmarked

Top CPUs:	CPU Mark	Price Performance
Desktop:	CPU Mark	Price Performance
Laptop:	CPU Mark	Price Performance
Server:	CPU Mark	Price Performance
Mobile/Embedded:	CPU Mark	Price Performance

PassMark - CPU Mark

Single Thread Performance

Updated 25th of August 2023

CPU	CPU Mark	Price (USD)
Intel Core i9-13900KS	4,773	\$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	4,397	\$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	4,228	\$360.99
AMD Ryzen 5 7600X	4,214	\$218.00
AMD Ryzen 9 7900	4,204	\$419.99
Intel Core i9-12900K	4,202	\$352.99
Intel Core i9-12900KF	4,184	\$398.99
Intel Core i7-13700	4,182	\$349.99
Intel Core i5-13600K	4,181	\$309.99
Intel Core i5-13600KF	4,179	\$292.99
AMD Ryzen 9 7950X3D	4,161	\$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	4,136	NA
AMD Ryzen 7 7700	4,130	\$319.79
AMD Ryzen 9 7900X3D	4,125	\$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	4,077	\$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	4,015	\$617.00*
AMD Ryzen 5 7600	3,982	\$219.99
Apple M2 8 Core 3500 MHz	3,982	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	3,932	\$247.98
AMD Ryzen 9 7940HS	3,932	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 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	3,864	\$617.00*
Intel Core i7-13620H	3,864	\$502.00*
AMD Ryzen 7 7840HS	3,853	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 Core i5-13500HX	3,822	\$326.00*
Intel Core i7-1370P	3,819	NA
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 i5-1350P	3,789	\$320.00*
Intel Core i5-13600T	3,785	\$255.00*
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
Intel Core i5-12600HX	3,742	\$284.00*
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 Xeon w9-3495X	3,719	\$5,889.00*
Intel Core i9-12900HK	3,718	\$635.00*
Intel Core i7-12650H	3,712	\$457.00*
Intel Core i5-13400	3,711	\$228.26
Intel Core i3-1305U	3,711	\$309.00*
Apple M1 8 Core 3200 MHz	3,709	NA
Intel Core i5-13600H	3,705	\$311.00*
Intel Core i5-13450HX	3,698	\$326.00*
Intel Xeon w5-2455X	3,694	\$1,039.00*
Intel Core i3-13100F	3,691	\$110.99
Intel Core i7-1360P	3,681	\$480.00*
Intel Core i5-13400T	3,679	\$221.00*
Intel Core i7-13700H	3,679	\$502.00*
Intel Xeon w7-2495X	3,679	\$2,603.96*
Intel Core i5-13400F	3,674	\$164.99
Intel Core i7-1270PE	3,666	\$441.00*
Intel Core i5-1335U	3,664	\$340.00*
Intel Core i5-13500T	3,645	\$232.00*
Intel Xeon w5-2445	3,643	\$839.00*
Intel Core i3-12300	3,637	\$143.00*
Intel Core i7-12700H	3,637	\$457.00*
Intel Core i7-12700T	3,631	\$339.00*
Intel Core i5-1340P	3,617	\$353.00*
Intel Xeon w5-3435X	3,612	\$1,589.00*
Intel Core i5-1345U	3,611	\$309.00*
Intel Core i7-1355U	3,606	\$469.00*
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 Core i7-1365U	3,561	\$426.00*
Intel Xeon W-1350P @ 4.00GHz	3,557	\$372.23
Intel Core i3-1210U	3,554	NA
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	3,525	NA
Intel Core i5-12450H	3,516	\$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 i5-13500H	3,504	NA
Intel Xeon w7-3465X	3,502	\$2,889.00*
Intel Core i5-1250P	3,500	NA

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	3,480	\$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 Xeon w7-2475X	3,397	\$1,789.00*
Intel Core i3-12300T	3,395	\$157.00*
AMD Ryzen 7 7735HS	3,394	NA
Intel Core i3-1215U	3,390	NA
Intel Core i7-1270P	3,388	NA
Intel Core i5-12500TE	3,385	\$205.00*
AMD Ryzen 7 5700X	3,385	\$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	3,353	NA
AMD Ryzen 5 PRO 7540U	3,352	NA
Intel Core i7-1255U	3,350	\$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	3,323	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
AMD Ryzen Threadripper PRO 5995WX	3,307	\$5,699.99
AMD Ryzen 5 7535HS	3,305	NA
Intel Core i5-1235U	3,304	\$309.00*
Intel Core i5-1240P	3,302	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
AMD Ryzen 7 7730U	3,226	NA
Intel Core i5-1240U	3,224	NA
Intel Xeon E-2324G @ 3.10GHz	3,223	\$269.99
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	3,207	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

Software

- [BurnInTest](#)
- [PerformanceTest](#)
- [OSForensics](#)
- [MemTest86](#)
- [WirelessMon](#)
- [Management Console](#)
- [Zoom Search Engine](#)
- [Free Software](#)

Hardware

- [USB3.0 Loopback Plugs](#)
- [USB2.0 Loopback Plugs](#)
- [PCIe Test Cards](#)
- [USB Power Delivery Tester](#)
- [Serial and Parallel Loopback Plugs](#)
- [USB Short Circuit Testers](#)

Benchmarks

- [CPU Benchmarks](#)
- [Video Card Benchmarks](#)
- [Hard Drive Benchmarks](#)
- [RAM Benchmarks](#)
- [PC Systems Benchmarks](#)
- [Software Marketshare](#)
- [Database Benchmarks](#)
- [Android Benchmarks](#)
- [iOS Benchmarks](#)
- [Internet Bandwidth](#)

About Us

- [Company](#)
- [Contact Us](#)
- [The Press Room](#)

Services

- [Store](#)
- [Support](#)
- [Forums](#)

International

- [Disclaimer](#)
- [Refunds](#)
- [Privacy](#)
- Social 