









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.

<div><div> CPUS</div><div><div> High End</div><div>High Mid Range</div><div>Low Mid Range</div><div>Low End</div></div></div>	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

<div><div> Best Value (On Market)</div><div>Best Value XY Scatter</div><div>Best Value (All time)</div></div>	<div><div><h3>PassMark - CPU Mark</h3><div>Single Thread Performance</div><div>Updated 23rd of August 2023</div></div></div>		
	CPU	CPU Mark	Price (USD)
<div><div> New Desktop</div><div>New Laptop</div><div><div> Single Thread</div><div>Systems with Multiple CPUs</div><div>Overclocked</div><div>Power Performance</div><div>CPU Mark by Socket Type</div><div>Cross-Platform CPU Performance</div><div>Top Gaming CPUs</div></div></div>	Intel Core i9-13900KS	4,785	\$999.99
	Intel Core i9-13900KF	4,674	\$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	4,267	\$315.75
	Intel Core i9-13900HX	4,238	\$668.00*
	Intel Core i7-13700F	4,230	\$360.99
<div><div> CPU Mega List</div><div>Search Model</div></div>	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	4,185	\$398.99
<div><div> Compare⁰</div></div>	Intel Core i7-13700	4,182	\$349.99
	Intel Core i5-13600K	4,181	\$309.99
	Intel Core i5-13600KF	4,179	\$292.99
<div><div> Common</div><div>Most Benchmarked</div></div>	AMD Ryzen 9 7950X3D	4,163	\$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	4,149	NA
AMD Ryzen 9 7945HX	4,136	NA
Intel Core i9-13950HX	4,136	\$590.00*
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	4,098	\$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	4,005	\$617.00*
AMD Ryzen 5 7600	3,984	\$219.99
Apple M2 8 Core 3500 MHz	3,981	NA
Intel Core i5-12600K	3,973	\$199.99
Intel Core i7-13700HX	3,972	\$485.00*
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	3,935	\$247.98
AMD Ryzen 9 7940HS	3,930	NA
Intel Core i7-12700F	3,927	\$284.99
Intel Core i9-12900E	3,926	NA
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*
Intel Core i7-13850HX	3,895	\$428.00*
AMD Ryzen Z1 Extreme	3,894	NA
AMD Ryzen 7 7745HX	3,889	NA
AMD Ryzen 7 7840HS	3,888	NA
Intel Core i9-12950HX	3,878	\$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*
Intel Core i5-1350P	3,853	\$320.00*
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*
Intel Xeon w5-2455X	3,827	\$1,039.00*
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

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 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	3,719	\$635.00*
Intel Core i7-12650H	3,715	\$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 i7-13700H	3,694	\$502.00*
Intel Core i3-13100F	3,691	\$110.99
Intel Core i7-1360P	3,688	\$480.00*
Intel Core i5-13400T	3,679	\$221.00*
Intel Core i5-13400F	3,673	\$164.99
Intel Core i5-1335U	3,669	\$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	3,638	\$457.00*
Intel Core i3-12300	3,637	\$143.00*
Intel Core i7-12700T	3,629	\$339.00*
Intel Core i5-1345U	3,615	\$309.00*
Intel Core i5-1340P	3,610	\$353.00*
Intel Xeon W-1390P @ 3.50GHz	3,591	NA
Intel Core i7-1355U	3,589	\$469.00*
Intel Core i3-1315U	3,573	\$309.00*
Intel Core i5-12600H	3,569	\$311.00*
Intel Core i5-12500T	3,564	\$202.00*
Intel Core i9-11900KF @ 3.50GHz	3,561	\$415.99
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	3,545	\$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	3,522	NA
Intel Core i7-13800H	3,522	\$457.00*
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 i5-1250P	3,504	NA
Intel Xeon w7-3465X	3,502	\$2,889.00*
Intel Core i7-12800H	3,496	\$457.00*

AMD Ryzen 9 PRO 5945	3,496	NA
Intel Core i5-13500H	3,494	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*
Intel Core i3-13100T	3,470	\$134.00*
AMD Ryzen 9 5900X	3,470	\$299.99
AMD Ryzen 9 5950X	3,470	\$441.71
AMD Ryzen 7 7736U	3,467	NA
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	3,445	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
Intel Core i7-11700KF @ 3.60GHz	3,401	\$262.99
Apple A14 Bionic	3,400	NA
Intel Xeon E-2386G @ 3.50GHz	3,399	\$482.00*
Intel Core i3-1215U	3,398	NA
Intel Core i3-12300T	3,395	\$157.00*
AMD Ryzen 7 7735HS	3,394	NA
Intel Core i7-1270P	3,390	NA
Intel Core i3-1220P	3,388	\$281.00*
Intel Core i5-12500TE	3,385	\$205.00*
AMD Ryzen 7 5700X	3,384	\$184.99
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	3,352	\$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
Intel Core i3-12100T	3,339	\$122.00*

AMD Ryzen 9 6900HS	3,337	NA
Intel Core i7-1265U	3,336	\$426.00*
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*
Intel Xeon w5-3435X	3,328	\$1,589.00*
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	3,306	\$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	3,281	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	3,248	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	3,235	NA
Intel Core i5-11500B @ 3.30GHz	3,231	NA
AMD Ryzen 7 5700	3,230	NA
AMD Ryzen 7 PRO 6850U	3,228	NA
AMD Ryzen 7 6800U	3,228	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 9 PRO 6950H	3,215	NA
AMD Ryzen 7 5800X3D	3,213	\$289.55
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	3,201	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	3,179	NA

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