Processor Technologies

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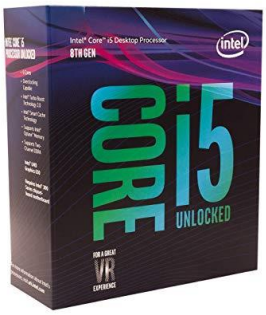
Intel® Core™ Processors

Based on the processors' specifications, Intel® Core™ i9-9900K and Intel® Core™ i5-9600K are on equal footing based on TDP and yearly running cost. Though Intel® Core™ i9-9900K processors has much physical cores, higher single thread rating, turbo speed and number of samples, Intel® Core™ i5-9600K is 200MHz faster clock speed than Intel® Core™ i9-9900K. Even with the faster clock speed, Intel® Core™ i9-9900K still dominates Intel® Core™ i5-9600K. Based on cpubenchmark.net/, benchmarking this two processors' performance and estimated energy usage cost, CPU mark and CPU Single Thread Rating of Intel® Core™ i9-9900K proves that it is a more powerful processor than Intel® Core™ i5-9600K although it is much cheaper and has higher marketability than Intel® Core™ i9-9900K. Therefore, choosing between this two processors must depend on how you can maximize its capabilities as a processor for your computer.

Intel® Core™ i9-9900K @ 3.60GHz

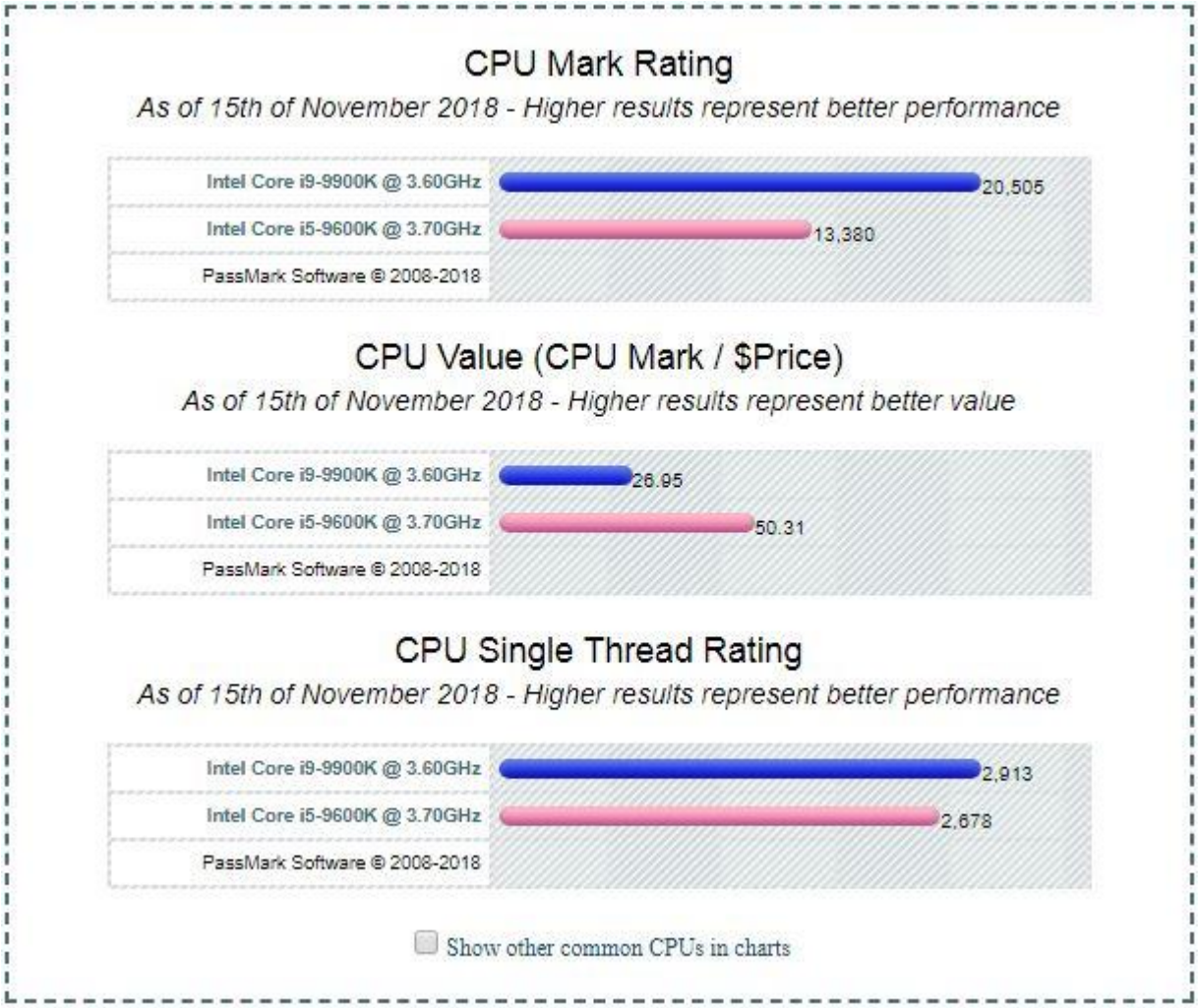
Intel® Core™ i5-9600K @ 3.70GHz



Processor Specifications

	Intel Core i9-9900K @ 3.60GHz	Intel Core i5-9600K @ 3.70GHz
Price	$760.99	$265.99
Socket Type	LGA-1151	FCLGA1151
CPU Class	Desktop	Desktop
Clockspeed	3.6 GHz	3.7 GHz
Turbo Speed	Up to 5.0 GHz	Up to 4.6 GHz
# of Physical Cores	8 (2 logical cores per physical)	6
Max TDP	95W	95W
Yearly Running Cost	$17.34	$17.34
First Seen on Chart	Q4 2018	Q4 2018
# of Samples	92	31
Single Thread Rating	2913	2678
CPU Mark	20505	13380

Benchmarking Results



AMD Ryzen Processors

AMD Ryzen Threadripper 2990WX processor has a slower clock speed than AMD Ryzen 5 2600X. Other than that, AMD Ryzen Threadripper 2990WX has greater number of physical cores with 2 logical core per physical core. The two processors have the same turbo speed of up to 4.2 GHz. Though AMD Ryzen 5 2600X processor has lower TDP and yearly running cost. The same as the Intel® processors the greater the physical cores and logical cores, the greater the computing power of a processor. The CPU Mark and single thread rating of AMD Ryzen Threadripper 2990WX is far from its AMD Ryzen 5 2600X processor though it is cheaper than the other one.

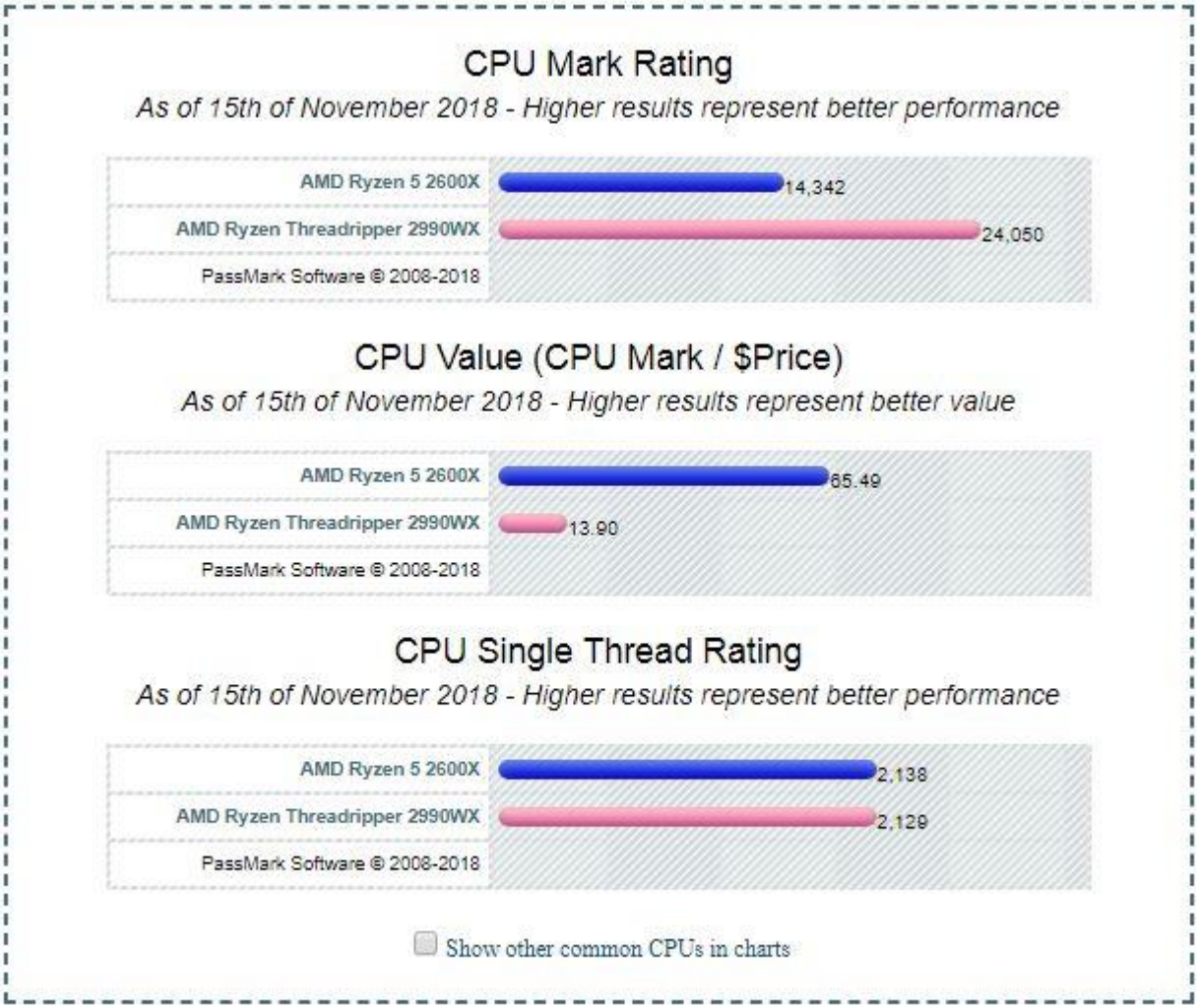
AMD Ryzen 5 2600X

AMD Ryzen Threadripper 2990WX

Processor Specification

	AMD Ryzen 5 2600X	AMD Ryzen Threadripper 2990WX
Price	$218.99 BUY NOW!	$1729.99 BUY NOW!
Socket Type	AM4	sTR4
CPU Class	Desktop	Desktop
Clockspeed	3.6 GHz	3.0 GHz
Turbo Speed	Up to 4.2 GHz	Up to 4.2 GHz
# of Physical Cores	6 (2 logical cores per physical)	32 (2 logical cores per physical)
Max TDP	95W	250W
Yearly Running Cost	$17.34	$45.63
First Seen on Chart	Q2 2018	Q2 2018
# of Samples	528	45
Single Thread Rating	2138	2129
CPU Mark	14342	24050

Benchmarking Results:



Graphical Processing Units

Graphical Processing Units or what we call VideoCards are not only used to render graphical interrupts and I/O also used in data calculation specifically in the field of data mining and machine learning. So with that GPUs capabilities are now utilized and upgraded. Nvidia GeForce RTX 2080 Ti has a faster core clock, maximum speed supported and a lower TDP than Radeon RX Vega 64. Performance based bench mark states that Nvidia GeForce RTX 2080 Ti has a G3D mark than Radeon RX Vega 64. Proving that Nvidia GeForce RTX 2080 Ti is a much powerful GPU than Radeon RX Vega 64.

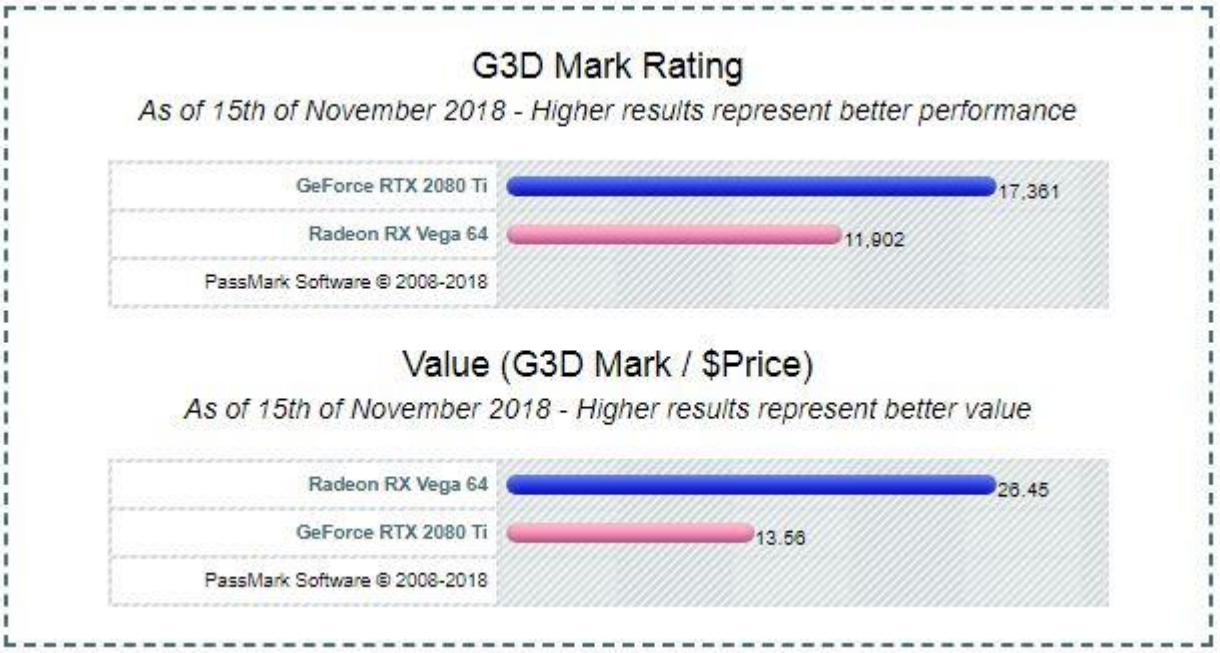
Nvidia GeForce RTX 2080 Ti

Radeon RX Vega 64

GPU Specification

	GeForce RTX 2080 Ti	Radeon RX Vega 64
Price	$1279.99 BUY NOW!	$449.99 BUY NOW!
Bus Interface	PCIe 3.0 x16	PCIe 3.0 x16
GPU Class	Desktop	Desktop
Core Clock	1350 MHz	1247 MHz
Memory Clock	14000 (1750x8) MHz	1890 MHz
Maximum Memory Supported	11264 MB	8192 MB
DirectX	12.0	12.0
OpenGL	4.6	4.5
Max TDP	250W	295W
First Seen on Chart	Q2 2018	Q2 2017
# of Samples	192	488
G2D Rating	983	797
G3D Mark	**17361**	**11902**

Benchmarking Result



References:

Intel® Core™ Processors Benchmarking Result:
https://www.cpubenchmark.net/compare/Intel-i9-9900K-vs-Intel-i5-9600K/3334vs3337

AMD Ryzen Benchmarking Result;
https://www.cpubenchmark.net/compare/AMD-Ryzen-5-2600X-vs-AMD-Ryzen-Threadripper-2990WX/3235vs3309

GPU Benchmarking Result:

https://www.videocardbenchmark.net/compare/GeForce-RTX-2080-Ti-vs-Radeon-RX-Vega-64/3991vs3808