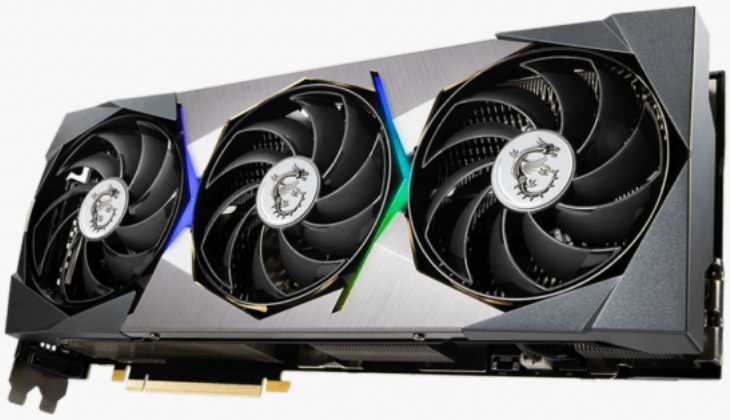
Crypto Mining - Battle of the GPU’s - CMP 170HX vs RTX 3090 vs A5000

Comparison between the cryptocurrency mining hardware GPU's - CMP 170HX vs RTX 3090 vs A5000

Viperatech Logo



RTX 3090

QUEBEC, CANADA, November 10, 2021 /EINPresswire.com/ -- GPU (Graphic Processing Unit) mining grew in popularity naturally as crypto mining grew in popularity. Traditionally, those looking to mine cryptocurrencies would use a CPU (Central Processing Unit) to complete the calculations required to solidify a transaction in the blockchain. CPU’s, however, are slow and because of this, they limit the number of coins that are minable in a short timeframe. That is where GPU’s stepped in. A GPU is a specified graphics hardware that runs video rendering, animation and other graphics-based operations independently. A GPU can execute instructions significantly faster than a CPU can, and not by a small margin, we’re talking between 400x-800x quicker.

Think of the CPU as the computer's manager, completing small amounts of work in all fields and maintaining a stable average workload in each area. The GPU is more of a dedicated employee whose sole task is to focus on one particular thing. This enables the GPU to outperform CPU’s when it comes to the very specific task of executing calculations, which is essential for the crypto blockchain transaction network.

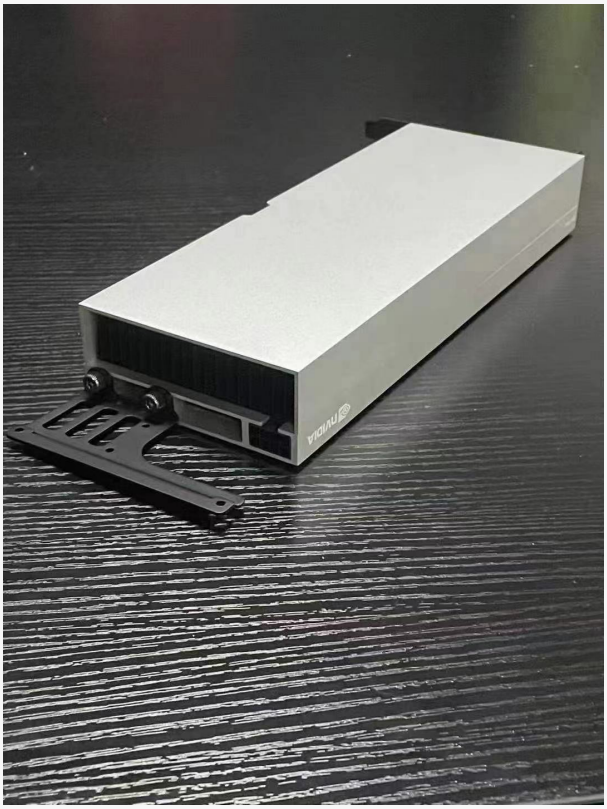
Eventually, the world would turn to even more efficient hardware by the name of ASIC’s (Application-Specific-Integrated-Circuit), think of the same analogy earlier with the manager and

employee. ASIC's are like hiring a specialist who studied at university and can outperform even your GPU employee. ASIC's might run the house now based on their extreme performance capabilities, but that doesn't mean GPUs have been forgotten.

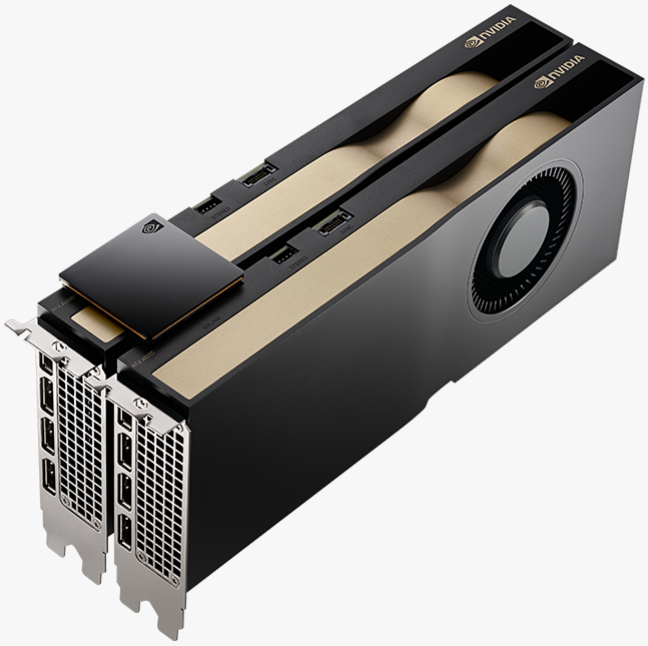
Today we will dive into three of the most popular and efficient GPUs on the market and discuss the pro's, con's profits and losses of each of them.

RTX A5000

The A5000 was released in April of 2021 and is a flagship graphics card for Nvidia encompassing many of the latest features and new technologies that Nvidia has been working on for decades. This tiny, rather attractive looking card is based on Ampere Architecture-Based Cuda (computer unified device architecture) cores with second-generation RT (Ray Tracing) cores for up to 2x faster ray tracing performance and 2.5x increased single-precision floating-point performance compared to its previous generations.



Nvidia CMP 170HX 2



A5000

Third-generation Tensor Cores allow up to 10x faster AI machine learning and training performance with 24GB of memory for intensive workloads and high end computing tasks such as hardware-accelerated motion blur, visually accurate renders, virtual production tasks and engineering simulations. The A5000 leverages a dual-slot, power-efficient design that enables 2.5x more power-efficient than previous generations. Even with all that power, the A5000 clocks out at around 230 Watts, which is

relatively low for a GPU with this amount of power.

What does all of this mean for mining?
Hardware aside, mining is all about cost and hashrate efficiencies. Whether or not you turn a profit, and when you do, is all based on initial set-up costs, electrical costs to run the hardware, and how efficient the hashrate of your hardware is. When we look at the A5000, we see a base cost of around $3000 USD, a hashrate efficiency of 105 MH/S (Mega Hash per second), and power consumption of 230 Watts.

All of this combined means that at the time of writing this article, the A5000 could mine an average of $9 USD of Ethereum a day with an average daily electrical cost of around 50 cents. That's a profit of $270 (USD) a month and around $3200 (USD) in the first year. Return on Investment (ROI) taking around 12 months is pretty common in the crypto space, it's not exactly great, obviously, in an ideal world there would be higher profit and lower costs associated with the investment but clearing costs within 1 year is a good place to start. This is also based on Ethereum current market value, which is expected to keep rising with the coming years and therefore makes the coins you mine more valuable.

CMP 170HX

Let's look at Nvidia's dedicated CMP (cryptocurrency mining processor), the 170HX. The fourth in a series of dedicated crypto miners, released in September 2021 with a hashrate of 165MH/s and 205 Watt energy consumption. This is a huge boost compared to the previous CMP released by Nvidia which could only clock hashrate speeds of around 86 MH/s. There are lots to like about the new CMP, it's packed with 280 tensor cores which improve the overall speed of machine learning applications, has been paired with 8GB of HBM2e memory connected via a 4096-bit memory interface. The 170HX is able to deliver a scalable increase in hashrate to power consumption efficiencies and let's face it, that's what matters most for cryptocurrency mining.

The 170HX is basically a cut-down GA100 die with a stack load of CUDA cores, 4480 to be exact, built on the 7nm process with a GA100 graphics processor. The VBIOS (basic input/output system) has been locked and there is no display connectivity either as it is not designed to be connected to a monitor. This means that users are unable to tweak the performance via programs such as MSI afterburner. We have seen some basic changes made for mining efficiency, such as dropping the wattage down to 190 and balancing the hashrate at 158MH/s which in turn seemed to drop overall temperatures and avoid downclocking which seems to happen when the GPU hits 70c.

All in all, the CMP 170HX is a beautiful piece of tech straight out the box, and the numbers show this. At around $4,500 (USD) the ROI on the 170HX is 10 months with nearly $1,000 (USD) in profit in the first year. These numbers are based on mining Ethereum at a daily average just shy of $15 dollars after electrical costs have been subtracted.

RTX 3090

The 3090 was released in September 2020 and at the time was built on a collective 20 years of graphic card technology. It features a dedicated heat pipe and heatsink combo and a revolutionary fan system to maintain cold temperatures even after hours of operations. Thermal pads help dissipate heat away from the board components and deflectors provide additional surface area to help with temperature regulation and quieter acoustics. Featuring a total of 10496 CUDA cores and powered by the same Ampere Architecture as the A5000 with 24GB of GDDR6X memory, the 3090 is capable of rendering and playing 8K footage without a hitch. The 3090 runs at a higher power consumption than our two previous GPU's, hitting 320 Watts. Around $10 (USD) of daily profit can be expected at an Ethereum hashrate of 125MH/s. At a cost of $3,500 (USD), this GPU would make ROI in 12 months.

Conclusion
When we look at the three of these GPU based cryptocurrency miners and rank them against each other based on hashrate efficiency and power consumption we see conclusive answers as to which is best. The Nvidia CMP 170HX ranks supreme above the rest. It has a higher hashrate efficiency, scoring around 50% higher than the A5000 and 30% more efficient than the RTX 3090. Not only is hashrate efficiency higher in the 170HX but power consumption is lower meaning less electrical costs year-round. Even with the slightly higher price tag, ROI is quicker, profits are higher and consumption lower, making this the top choice out of GPU's for anyone getting into the mining space or looking to expand their current arsenal. That doesn't single out the A5000 or RTX 3090 out though, both are still solid options and if buyers can find a deal lower than the price quoted above they can be assured that with a little patience, passive income will be on its way.

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