

WRITTEN STATEMENT FOR THE RECORD
MAPPING AMERICA'S SUPPLY CHAINS: SOLUTIONS TO
UNLEASH INNOVATION, BOOST ECONOMIC RESILIENCE, AND
BEAT CHINA

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Auradine (www.auradine.com) is a US high-technology company based in Silicon Valley that is currently delivering leading edge semiconductor-based solutions for bitcoin blockchain validation and other related applications. We submit this written testimony for the record for the September 20, 2023, hearing before the Energy & Commerce Committee (Innovation, Data, and Commerce Sub-committee). We would be happy to provide any clarifications, ongoing inputs and recommendations to the Committee as needed.

US High Technology Supply Chains and Bitcoin Mining: Risks and Recommendations

Bitcoin mining is the process of validating transactions on the Bitcoin network and creating new bitcoins. It requires specialized semiconductor chips called Application-Specific Integrated Circuits (ASICs), which are designed to perform complex mathematical calculations at high speed and low power consumption. The global Bitcoin ASIC mining market is estimated to be around \$10 billion, of which US-based companies are importing approximately \$3-4 billion annually.

However, the US faces major risks from its dependence on high technology imports from Chinese suppliers for Bitcoin mining. In this testimony, we will highlight three major risk points and provide some recommendations to address them.

Risk Point 1: Chinese Supply and Import Tariffs

Nearly 100% of the US Bitcoin ASIC mining imports are coming from Chinese companies, primarily Bitmain, MicroBT and Canaan. These companies dominate the global market for Bitcoin ASICs, providing nearly 100% of the miner supply and hash rate (the computing power of the Bitcoin network)¹.

The US has imposed tariffs on Chinese imports as part of the ongoing trade disputes between the two countries. However, some Chinese companies may be avoiding US tariffs by setting up subsidiaries or affiliates in other countries, such as Malaysia, Taiwan, Thailand, and Vietnam. This undermines the effectiveness of the US trade policy with regard to Chinese suppliers.

Further, the Chinese suppliers resort to aggressive dumping and price cutting tactics to prevent development of US-based ASIC suppliers², and limit potential semiconductor manufacturing in US located fabs in the future.

Risk Point 2: Leading-Edge Semiconductor Technology and National Security Risk

The Chinese companies that produce Bitcoin ASICs have access to the latest 3nm and 4nm semiconductor technology from the major Asia-based foundries^{3, 4}. These technologies are essential to achieve higher performance, lower power consumption, and smaller chip size for Bitcoin ASICs. However, these advanced process technologies also have applications in other sensitive domains, such as artificial intelligence, telecommunications, automotive, and defense, where the US has restricted access of 3nm and 4nm technology to China. If these technologies end up in the wrong hands, they could pose a serious risk to US national security and competitiveness.

Additionally, China could influence Bitcoin ASIC suppliers to include security backdoors in the firmware or software implemented in the mining machines, which are deployed in US datacenters along with other applications.

Risk Point 3: Risk to US Financial System

Bitcoin and related blockchains are becoming increasingly relevant to the US financial system. It is estimated that in May 2022, over 17% of the US adult population owned cryptocurrencies in some form⁵. There are also proposed spot bitcoin ETFs from US institutional companies, including BlackRock and Fidelity, that have been filed^{6,7}. These developments could increase the demand for Bitcoin mining and create more opportunities for innovation and growth in the US.

However, relying on Chinese suppliers for validating Bitcoin transactions poses a risk to the US financial system. If China decides to restrict Bitcoin mining in the US or otherwise use its influence over Chinese miner ASIC suppliers to manipulate the Bitcoin network, it could disrupt the functioning and stability of Bitcoin and negatively impact US users, investors, and corporations.

Addressing these major risks requires urgent action including proper investigation, legislation, and enforcement from the US Congress. Protecting US innovation in high-technology areas is critical from a commerce, supply-chain resilience as well as national security view.

¹ <https://theminermag.com/home/latest/bitcoin-miner-shipment-us/>

² <https://www.coindesk.com/business/2022/09/21/bitmain-discounts-bitcoin-mining-machines-in-an-already-depressed-market/>

³ <https://news.bitcoin.com/samsungs-3nm-gaa-chip-discovered-in-microbts-next-gen-bitcoin-mining-rig/>

⁴ <https://www.techqnyz.com/2022/04/29/chinese-companies-secretly-increasing-orders-with-tsmc/>

⁵ https://go.morningconsult.com/rs/850-TAA-511/images/220630_State_of_Cryptocurrency_Report.pdf

⁶ <https://www.thestreet.com/cryptocurrency/markets/blackrock-etf-30-trillion-in-new-capital-will-impact-the-bitcoin-price>

⁷ <https://www.cnbc.com/2023/06/29/fidelity-joins-the-rush-for-a-bitcoin-etf-following-blackrock-ark-invest-and-others.html>