



The Weekly Hash, 10/11/21

Bitcoin Approaches \$58,000: Short Covering on Realignment to China & Supply Chain Risks

Bitcoin rose 13.5% week-on-week (WoW), settling at \$54,701 as of midnight UTC on 10/1. The gains continue this morning, as current spot now resides at \$57,295.

The narrative driving Bitcoin prices is evolving: Is it an investment hedge? We don't think so, although it has performed well recently while the equity markets have stalled. Is it an inflation hedge? A lot of commodities are up YTD and over the past 1 / 3 months, and inflation fears are certainly rising. Maybe, but gold and silver are two of the major commodities that have sidestepped the commodity rally, so the classic inflation trade isn't really at play here. What is noteworthy is that Bitcoin has shown strong performance recently, and has outperformed both Ethereum and the broader asset class meaningfully. Bitcoin now represents ~44% of the crypto market cap, up 6.7% in just the past week. **We continue to think Bitcoin prices are being driven right now by China, accompanied by short covering.**

Total BTC earnings per PH/s are ~6.4 mBTC, down from ~6.69 mBTC / PH/s last week after the last difficulty increase of 4.7% last week. (1mBTC or milliBTC = 1/1000 BTC). Transaction fees rose 20 bps WoW to 1.3% of miner rewards, or 0.08 BTC per block. The "Mempool" is moderately congested, with ~17,000 pending transactions. The target Hashrate is now 142.3 EH/s, but observed Hashrate has been fluctuating significantly, between 135EH/s and 160EH/s. Almost halfway through the current

difficulty epoch, we are tracking a slight dip in difficulty, but the variability in daily hash leads to a low confidence in this outcome. We continue to model a 2-4% increase at the next reset.

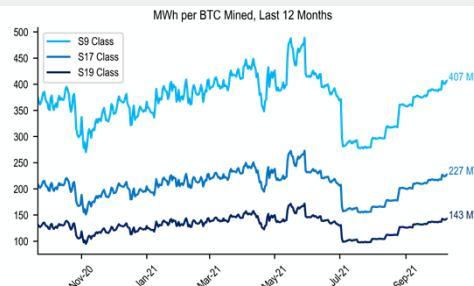
Bitcoin mining revenue gained to \$350 / PH/s per day and \$382/MWh. Price increases outpaced the difficulty increase to drive revenue growth.

The BitOoda North American Hash Spread™ gained 11.8% from \$306 to \$343. We define the BitOoda Hash Spread™ as the difference between the cost of power per MWh and the Bitcoin mining revenue per MWh. This gives miners a quick sense of the surplus generated by their business to cover personnel, overhead, depreciation, and profit. The weighted average around the clock U.S. wholesale industrial power price (5 markets) of \$39.10 / MWh leads to an aggregate spread of \$343.

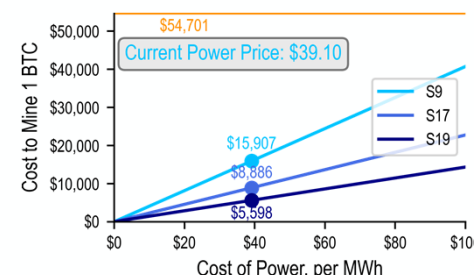
	S9 Class	S17 Class	S19 Class
Hash Spread	\$68	\$240	\$343
Week on Week	26.6%	13.2%	11.8%

Older-gen S9-class devices saw their Hash Spread™ up ~27% to \$68/MWh. S17-class devices, the bulk of the installed base, saw a hash spread of about \$240/ MWh.

It now takes 143MWh to mine 1 BTC using S19-class rigs, while S17-class machines would consume 227 MWh, and S9-class, 407MWh.



The 143 MWh required to mine 1 BTC with S19-class rigs translates into \$5,598 in power expense. It costs \$15,907 using S9 rigs, a ~71% margin, excluding labor.



Takeaways

- Mining margins continue to improve, with the China mining ban and potential supply disruptions presenting an opportunity to deploy capital into a relatively benign Hash environment
- We assess this presents an opportunity for emerging US-based fabless rig makers to establish themselves and gain share of network hash
- The next few months could see the hardware market realign unpredictably with increasing supply and delivery risks for existing rig models.

Research

Sam Doctor^{ac}
 Chief Strategy Officer | Head of Research
 sam@bitooda.io
 @CryptoSamDoctor | @Sam_Doc

Mark Chin | mchin@bitooda.io

BTC Price (10/11 at 10am EDT) \$57,295

Obs Hashrate 142EH/s

Key Takeaways

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BitOoda Hash™ Dashboard

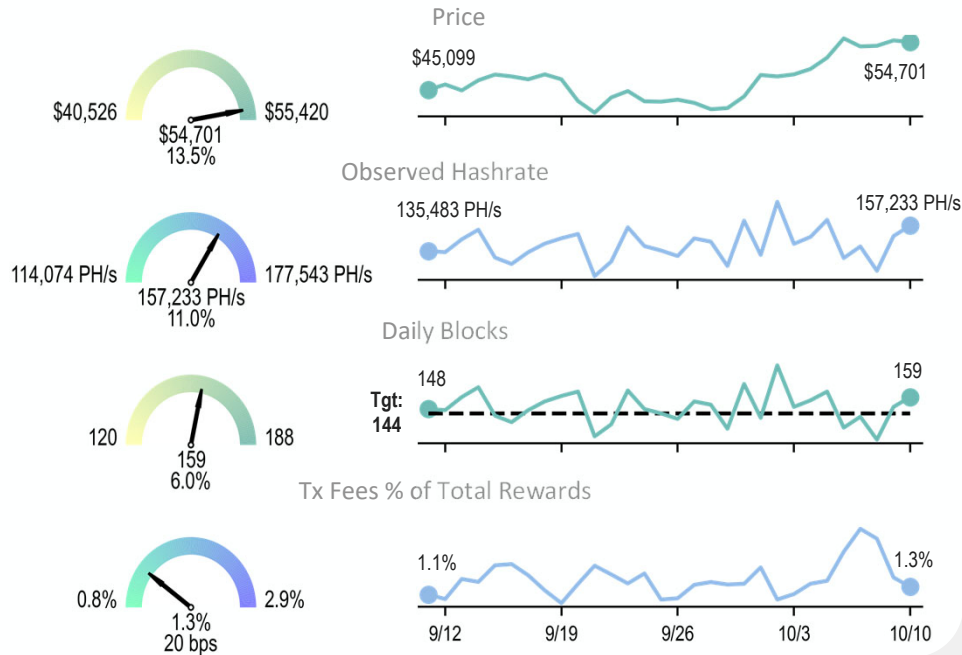
October 11, 2021

Definitions

Hash Spread: the difference between the revenue per MWh from mining BTC and the weighted average cost of peak and off-peak power across 8 US zones. It is a quick measure of the profitability of US-based latest-generation mining rigs.

MWh: Megawatt hour
PH/s: Petahash per second
Tx Fees: Fees for BTC transactions

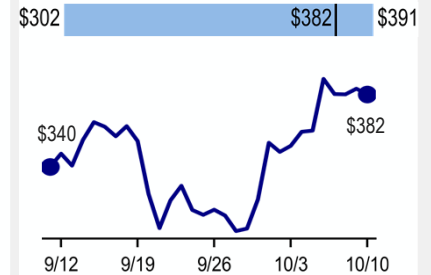
30 Day Range and 7-day % change



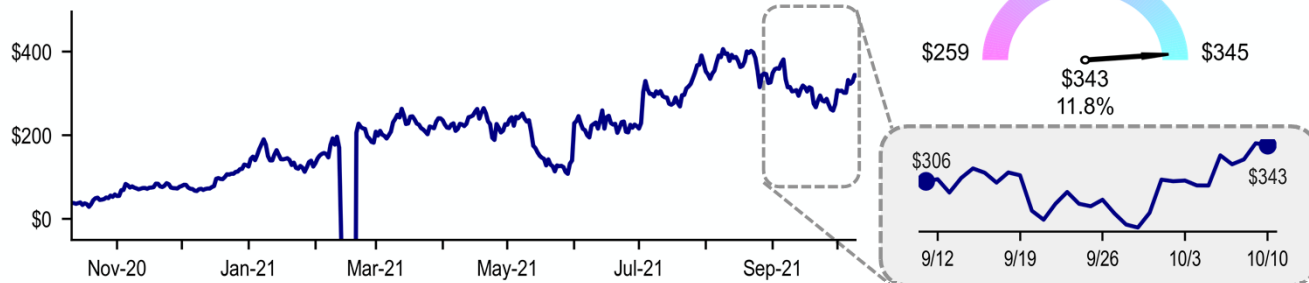
Daily Revenue per PH/s



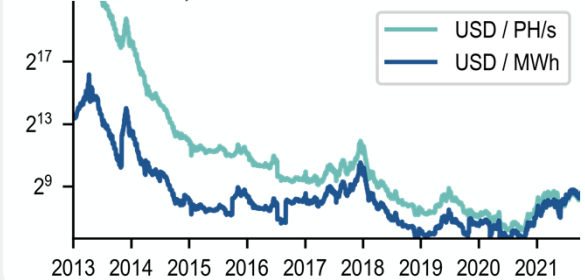
Revenue per MWh (\$19 Class)



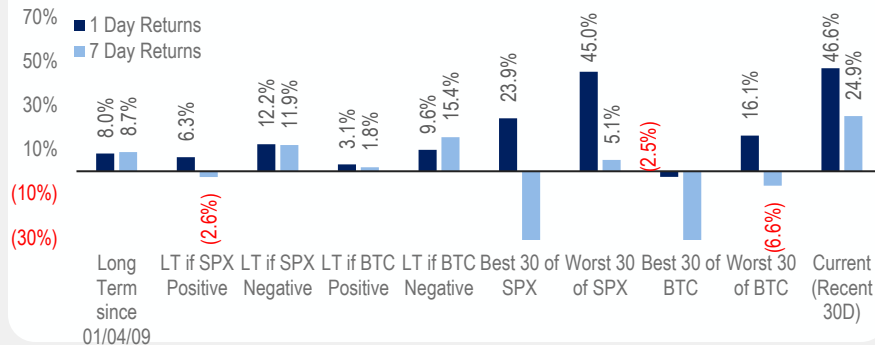
BitOoda North American Hash Spread™



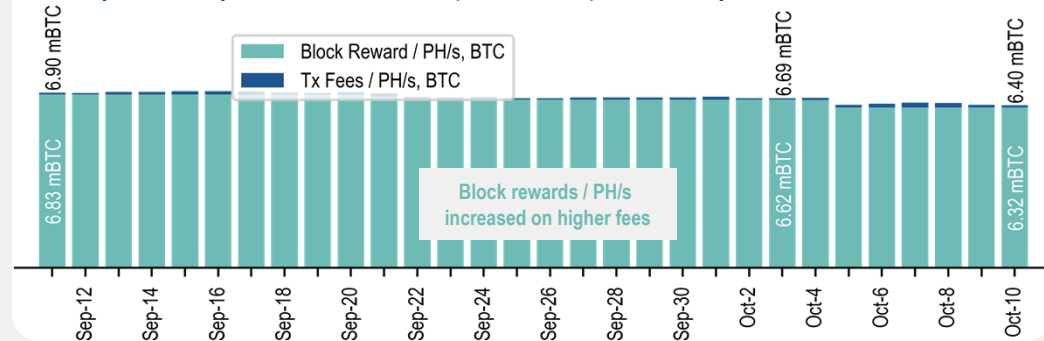
Revenue, since 2013



Historical BTC Correlation to S&P500



Daily Rewards per PH/s, in milliBTC (1/1000 BTC), last 30 days





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