Antminer U2 V1.2 ASIC Bitcoins Hash BM1380 test
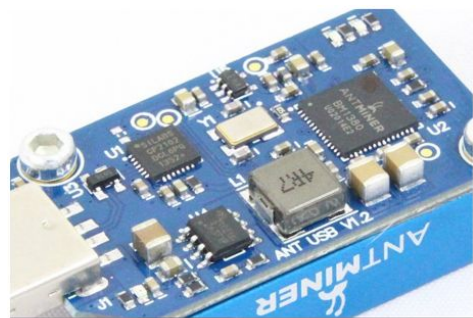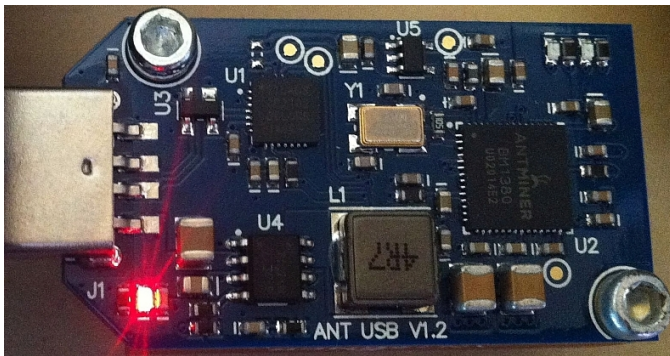
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Abstract

A brief introduction to a test conducted on USB device Antminer V1.2 based on the ASIC BM1380 with the tool **cgminer 4.4.0** with calculations around 1.5 GigaHash/sec.

Keywords: Antminer, bitcoins, BM1380, mining, wallet

http://www.amazon.co.uk/Bitmain-AntMiner-U2-Bitcoin-miner/dp/B00ITR1X16

1. Introduction

In June 2014, I so tested the Antminer U2 USB interconnected to a Windows 7 laptop for testing purpose and paid it US $16.00. This ASIC is provided by **Bitmain Technologies Limited** https://www.bitmaintech.com but I got mine from http://www.aliexpress.com. The goal for me was definitely not to gain any money but just become familiar with the **bitcoins** vocabulary and techniques.
The Antminer U2 from Bitmain works on SHA256 cryptocoins with up to a theoric 2GH/S speed and is based on ASIC BM1380.[1]

2. Antminer U2 test steps

1. Review startbitcoin.com[2]

2. Get your Bitcoin wallet https://bitcoin.org/en/download, this is a wallet.dat file.

3. Get Bitcoin Core https://bitcoin.org/en/download, at the time of the test I used a Version 0.9.2.1. When installed the process is bitcoin-qt.exe. At startup the tool is indicating that it is loading the blocks index. A debug.log is created, main subdirectories created are database, chainstate and blocks.

4. Become member of a pool like http://mining.bitcoin.cz.

5. Get BFgminer http://bfgminer.org, at the time of this test I used a version 4.4.0-win64.

6. Run the Bitcoin Core tool until having a block (can take days...).

7. Install a generic USB driver http://zadig.akeo.ie/, at the time of this test I used Zadig v2.1.0. The device was detected as

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1. http://buy-antminer.com/guide/datasheet/BM1380_Datasheet_v1.0.pdf
2. http://www.startbitcoin.com

"CP2102 USB to UART Bridge Controller in my case.

8. Plug the USB device, if OK the Red LED should be on.

9. Run Bfgminer, provide the url which is with bitcoin.cz : startum.bitcoin.cz :3333 and the login/password.

3. Bitcoins

According to wikipedia, [3] **Satoshi Nakamoto** is a person or group of people who created the **Bitcoin protocol**.
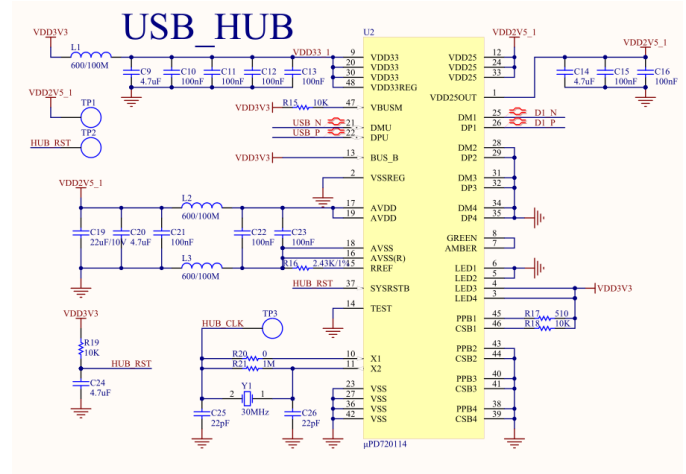
4. Antminer U2 Specifications

— Power : 1.2-2 Watts
— USB version : 3.0
— Detailed model : ASIC Bitcoins U2 V1.2 Hash : BM 1380 U020114E2

4.1. ASIC Control Unit schema part

Control board PCB was provided as "open-source" with PCB schema [4]. I reproduce herebe-low only the schema around the ASIC BM1380 aka U2.

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3. http://en.wikipedia.org/wiki/Satoshi_Nakamoto

4. Orignal schema from Bitmain Technologies : ANT_Miner_CtrlUnit_V1.2.pdf

5. cgminer

Output example from cgminer version 3.12.3 :

```
cgminer version 3.12.3 - Started: [2014-02-14 14:50:35]
%----------------------------------------------------------
%(5s):1.647G (avg):1.600Gh/s | A:0  R:0  HW:20  WU:22.5/m
%ST: 2  SS: 0  NB: 51  LW: 0  GF: 0  RF: 0
%Connected to
%127.0.0.1 diff 2.62G without LP as user username
%Block: c0d78cc9...  Diff:2.62G  Started: [17:38:39]  Best share:
    21.3K
%----------------------------------------------------------
%[P]ool management [ S]ettings [D]isplay options [Q]uit
%ANU 0:             | 1.595G/1.600Gh/s | A:0 R:0 HW:20 WU
    :22.5/m
%----------------------------------------------------------
%[2014-02-14 17:21:13] Network diff set to 2.62G
```

Output example from cgminer version 4.4 :

6. Conclusion

Based on the dashboard from https://mining.bitcoin.cz/accounts/profile/ my Total Reward was 0.00012062 BTC... I found this pragmatic approach very useful to have a better understanding of the cryptocurrencies world.