1. HARDWARE COMPARAISON
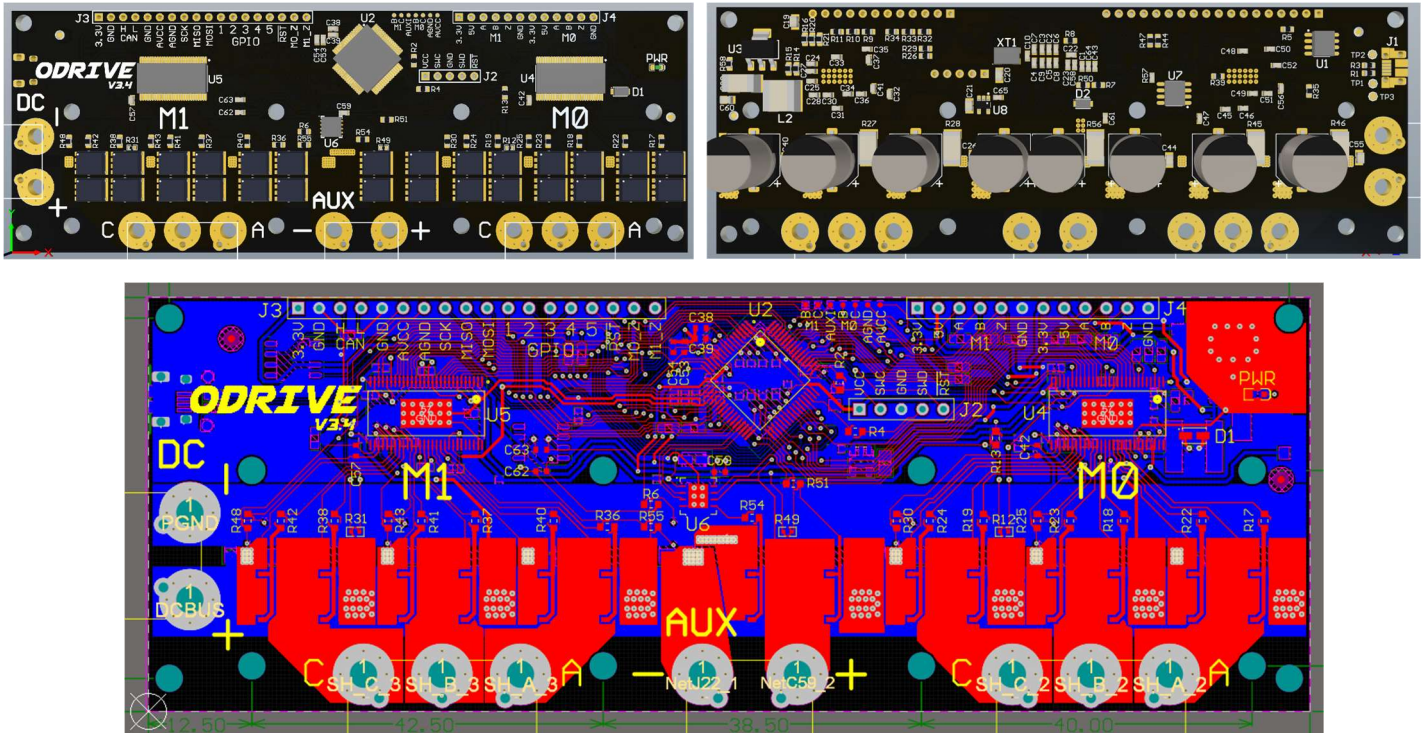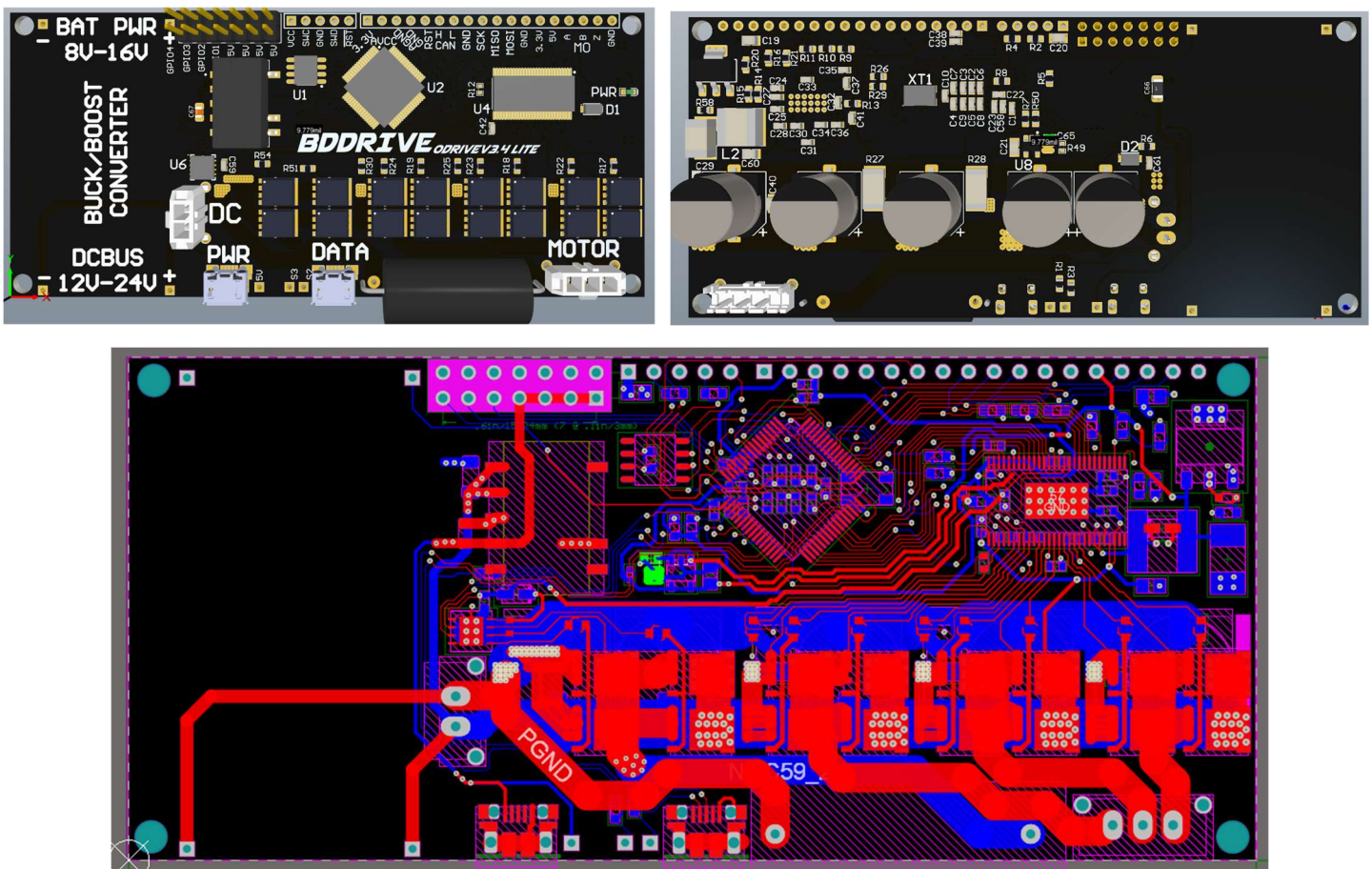
ODrive v3.4

BDDrive : ODrive v3.4 modified

The polygon pours are not shown on this board, or else we wouldn`t see anything

2. MODIFICATIONS

- Remove support for two motors (remove M1), so right now BDDrive can only control one brushless DC motor
- Use Molex connectors instead of screw in connectors to facilitate harness setup and the screw in connectors were proven as unreliable
- Add another 5V @ 1A power supply to supply a Raspberry Pi with the BDDrive (it was estimated that the consumption of a Raspberry Pi Zero would be under 200 mA)
- Add external header with 5V supply outputs (4 power pins and 4 GND pins) and access to GPIO ports (3 GPIO pins and 3 GND pins)
- Fix problems with the ODrive v3.4 which are documented here:
  - From the hardware GitHub: https://github.com/madcowswe/ODriveHardware
    - Check docs of v3.4 and v3.5 folders
    - Check CHANGELOG.md of v3 folder
  - https://discourse.odriverobotics.com/t/drv-fault-on-odrive-v3-4/558?u=madcowswe
  - Go from two layers to four layers to keep the GND uniformed
  - Fix routing problems
- Modify shunt resistors to be able to have a low power motor (below 5 Amps)
  - https://discourse.odriverobotics.com/t/current-sensing-resistor-for-low-current-motors/377/2
  - https://discourse.odriverobotics.com/t/maxon-272763-motor/989/8