

ESP-01

DuinoCoin

Miner PCB

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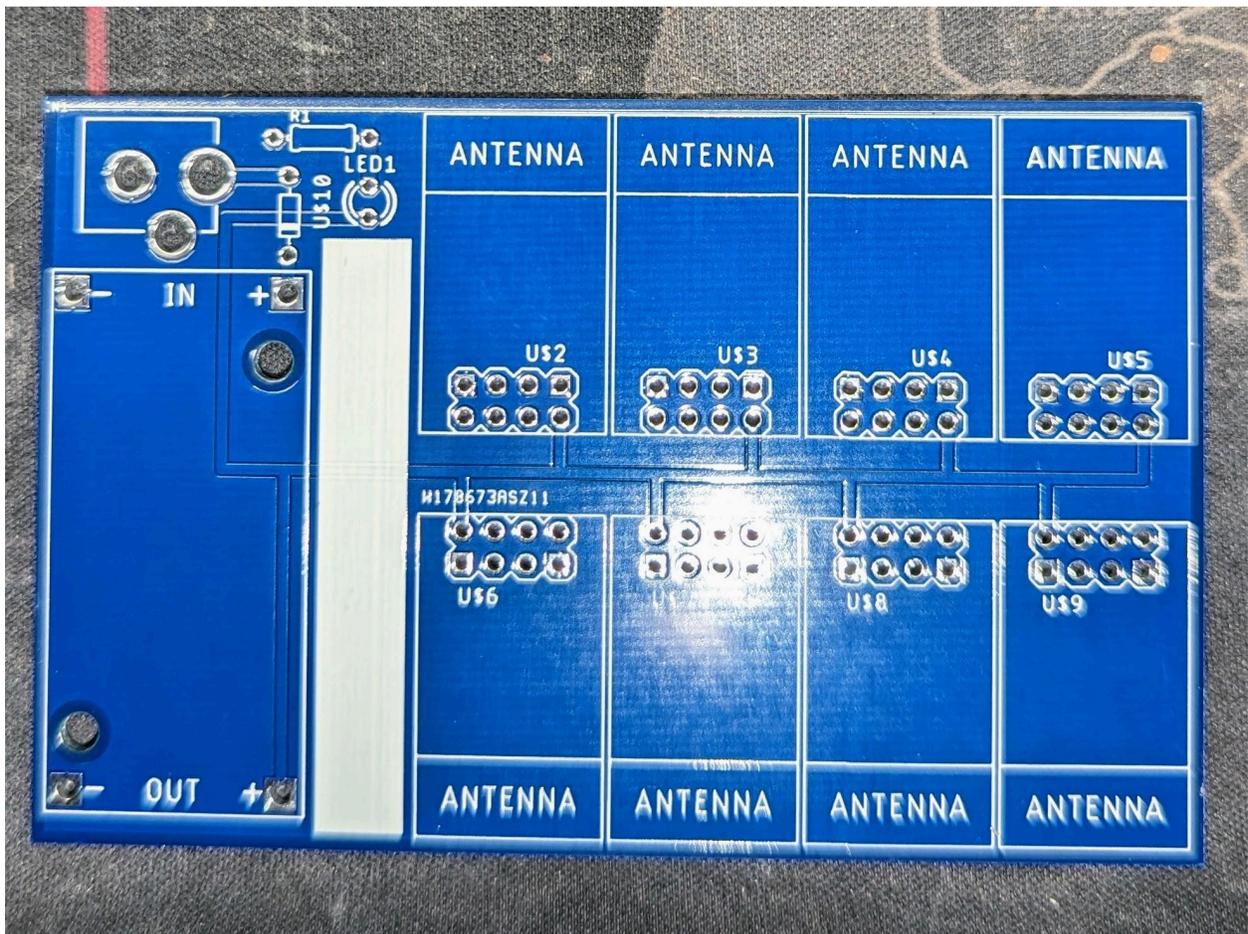


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Parts List

- ESP-01 DuinoCoin Microcontroller carrier board

The following additional non-supplied parts will be required to complete this project

- ESP-01 Microcontroller with WiFi (x8 Pieces)
- DC Jack 2.1MM
- LM2950 switch mode DC-DC “buck boost” power supply module
- 3MM LED
- 2.2K $\frac{1}{4}$ watt resistor
- 1N4001 diode
- External power supply of at least 5v @ 1Amp
- 4x 2.54mm header male pins
- 2x4 8 pin double row 2.54mm header PCB female socket (x8 pieces)
- ESP-01 programmer

Tools required

- Soldering iron
- Solder
- Digital Voltage Meter
- Computer
- Arduino IDE

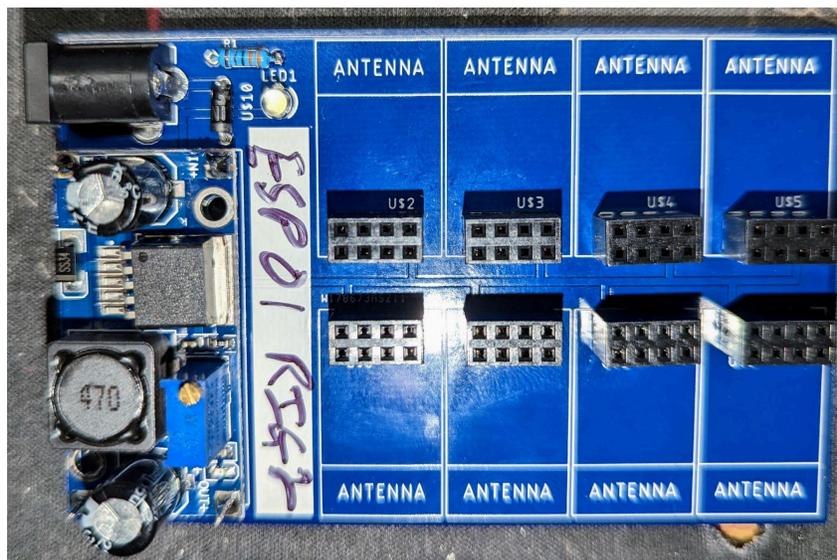
Construction

On a clean, static free work surface install the headers into the PCB. Install one male header pin in each corner of the buck-boost module location. Install a 2x4 header socket into each of the 8 pin locations on the PCB. Ensure the parts are vertically aligned.



Now might be a good time to label your board. Using a Sharpie marker, write your label onto the white stripe. A label helps identify this board amongst a group of others.

Install the remaining components. Ensure the correct polarity of the LED. The long leg of the LED goes towards the white stripe on the PCB. Ensure the polarity of the LM2956 buck-boost module. In to In. Out to Out. **Do not install the ESP-01's!**



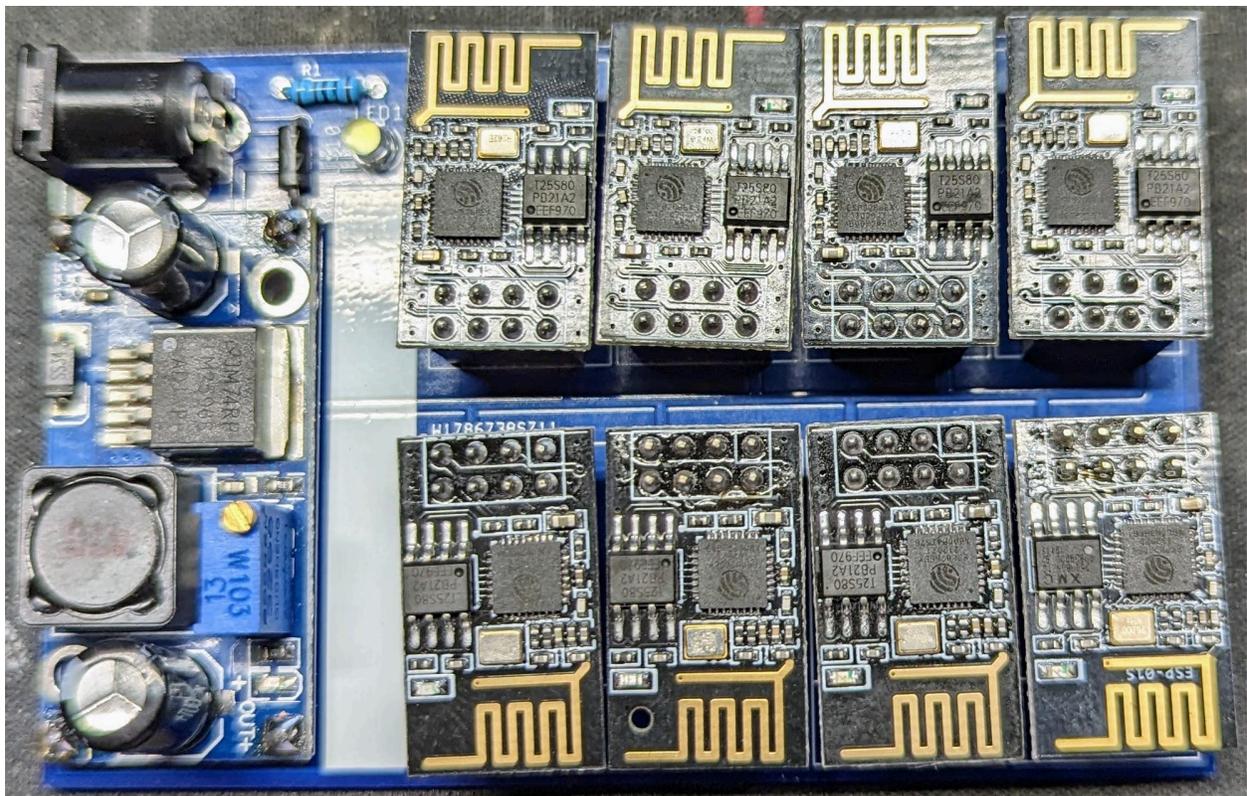
Adjust the buck-boost power output

Connect your PCB to a power supply of at least 5 volts DC. Note that the LEDs on the buck-boost and the PCB should light up.

Connect a voltage meter to the “OUT” end of the buck-boost module and measure the voltage. Adjust the screw on the module to lower the output to 3.3 volts.

Program the ESP-01's

Install one of your ESP-01's into your programmer. Configure the DuinoCoin firmware with your WiFi credentials and a unique board identifying name and program the ESP. Turn on the serial monitor in the Arduino IDE. Watch the ESP-01 connect to your WiFi network and then start mining coins. Assuming everything is OK, transfer the ESP-01 to the PCB with the antenna facing outwards.



Circuit diagram

