

Elektrotechnik Studierreis & Workshops in China - 2019



Doelstellingen Studiereis

Kennismaken met een internationaal maakindustrie en de Chinese cultuur.

Versterken van de competenties rondom hardware design en PCB fast prototyping.

PCB Design Workshops

Having fun !!

Shenzhen Elektronika Markt



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PCB Ontwerp van een hartslagmeter met BLE, ESP32, USB->UART

The image displays the KiCad PCB design environment for a heart rate sensor project. The top window shows a detailed schematic diagram of the circuit. Key components include:

- Power Section:** A coin cell battery (CR2032) connected to a 3V to 1.8V buck converter. The output is regulated to 1.8V (VDD1B) and 3.3V (VDD33).
- Microcontroller:** An ESP32 (U2) with various pins connected to the power rails and other components.
- Flash Memory:** A 4M FLASH BQ SOIC (U3) connected to the ESP32's SPI interface.
- UART Interface:** A USB-to-UART bridge (U4) connected to the ESP32's UART pins.
- Heart Rate Detector:** An analog front end (U1) connected to the ESP32's ADC pins.
- Other Components:** A reset switch (SW1), a crystal oscillator (U5), and various passive components like capacitors and resistors.

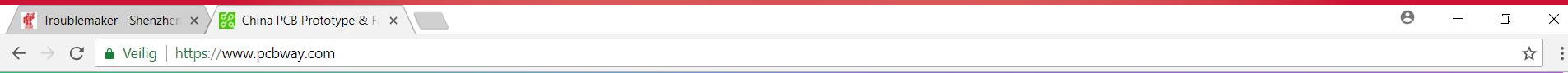
The bottom window shows the PCB layout of the sensor. The board is populated with the components from the schematic, including the ESP32, flash memory, and heart rate detector. The layout includes a large circular area for the heart rate sensor and a USB connector. The board is labeled "J.W. Roeloffs v1.0 Heartbeat sensor".

At the bottom of the KiCad interface, the following statistics are displayed:

Category	Count
Pads	79
Vias	397
Track Segments	130
Nodes	35
Nets	158
Links	112
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