Jegatron Electronics

BBB, Bestest Button Brick - Design Description

Overview

The BBB is a multipurpose user programmable input device and also serves as an exercise product to hone my skills and try out different circuit solutions. Not all features and component make sense from a real product perspective, but serves as a learning experience.

It all started with the desire to have a more professional feel to my hobby and learning projects. So instead of using the classical tactile buttons forced down into a breadboard entangled in jumper wires, I bought some random mechanical keyboard switches and 3d-printed an enclosure for them. Then came the time to make the circuit board to empower this.

Feature creep. That is the spirit of this project. Because of personal projects I need the BBB need to be Zigbee enabled and preferably also wifi capable. Since I had already used the ESP32-C6 for such purposes I decided to use this.

The hardware architecture can be seen in figure 1.

Features

- Nine user programmable buttons
- ESP32-C6 - Zigbee, Wifi, BLE etc
- LiPo charger with Power Path
- USB-C sink IC
- LED lights

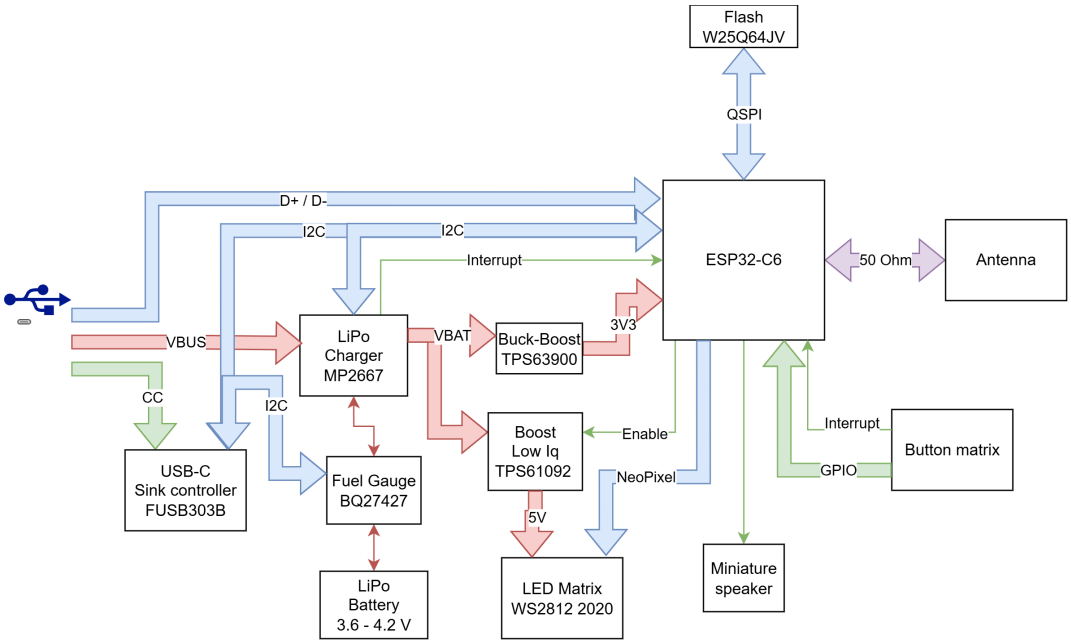

Figure 1: The hardware architecture of the BBB

Contents

Hardware design

Charger Circuit