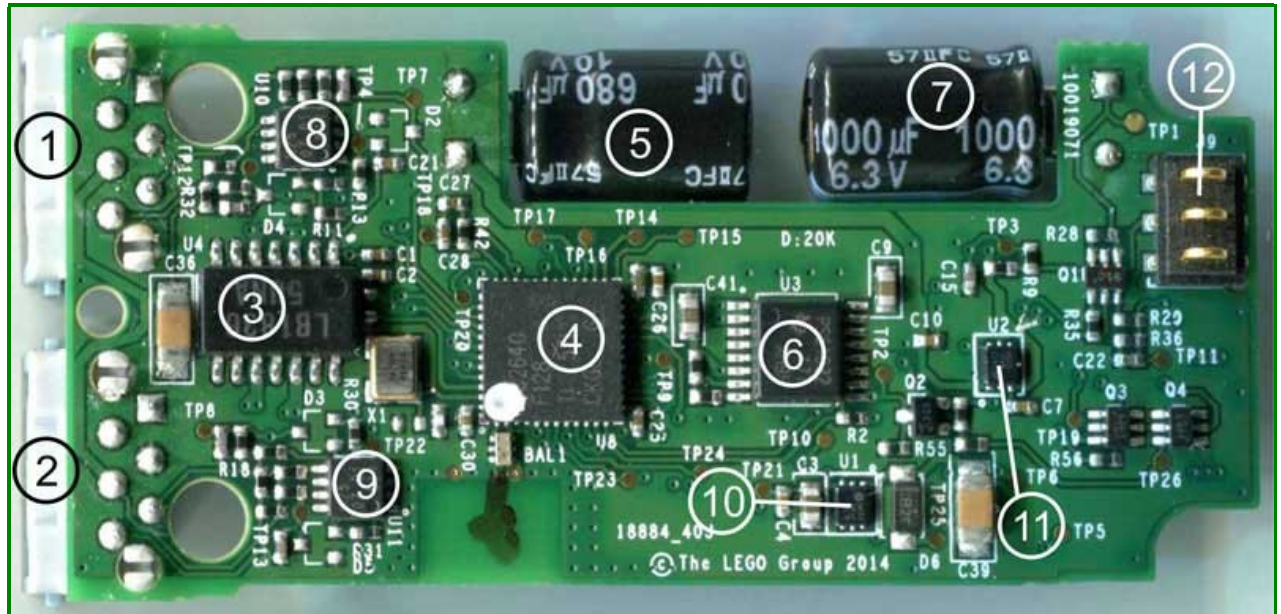


What's inside WeDo 2.0 controller brick

Detailed description of WeDo 2.0 controller brick PCB

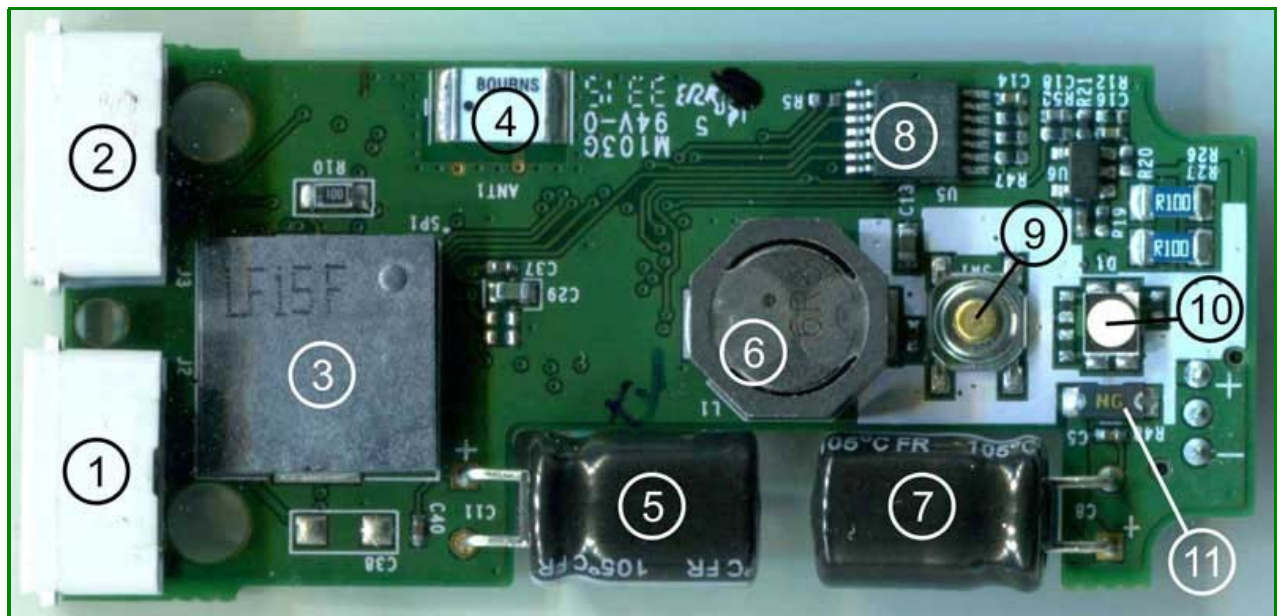
Warning: this information was gathered by close looking at PCB and making some voltages and continuity measurement. I may be wrong sometimes!

PCB top



- 1, 2 I/O connectors, dubbed "Power Functions 2.0". LEGO proprietary design, 1.27mm pitch. Square pad denotes pin 1.
- 3 Dual motor driver, On Semiconductor LB1836. Same chip used in NXT, EV3, Power Functions receiver.
- 4 CPU / Bluetooth radio, Texas Instruments CC2640.
- 5 +5V filtering capacitor.
- 6 Boost switcher converter, Texas Instruments TPS61032. Generates +5V supply from battery. Chip is 1A rated.
- 7 +Vbattery filtering capacitor.
- 8, 9 Conditionning chip for IO connectors pin 5/6. Exact function yet to be determined. Powered from +3.3V_CPU
- 10 +3.3V linear regulator (LDO). Exact type unknown. Converts +5V to +3.3V_CPU for CC2640 and (8)(9) conditionning chips.
- 11 +3.3V linear regulator (LDO). Exact type unknown. Converts +5V to +3.3V_IO for I/O connectors.
- 12 Battery connector. Middle pin function unknown, might allow to distinguish between alkaline cells and rechargeable battery.

PCB bottom



- 1, 2 I/O connectors, dubbed "Power Functions 2.0". LEGO proprietary design, 1.27mm pitch.
- 3 Piezoelectric buzzer
- 4 Ceramic Bluetooth antenna
- 5 +5V filtering capacitor.
- 6 Boost switcher converter inductor.
- 7 +Vbattery filtering capacitor.
- 8 Hex Schmidt trigger (74HCT14), +5V powered. Function unknown. Lower threshold of HCT compared to HC could mean it's used as level translator for 3.3V signals to 5V domain.
- 9 Power on push button.
- 10 RGB LED.
- 11 Input fuse on +Vbattery. Seems to be a Bourns MF-NSML150 resettable fuse, 1.5A rated.

