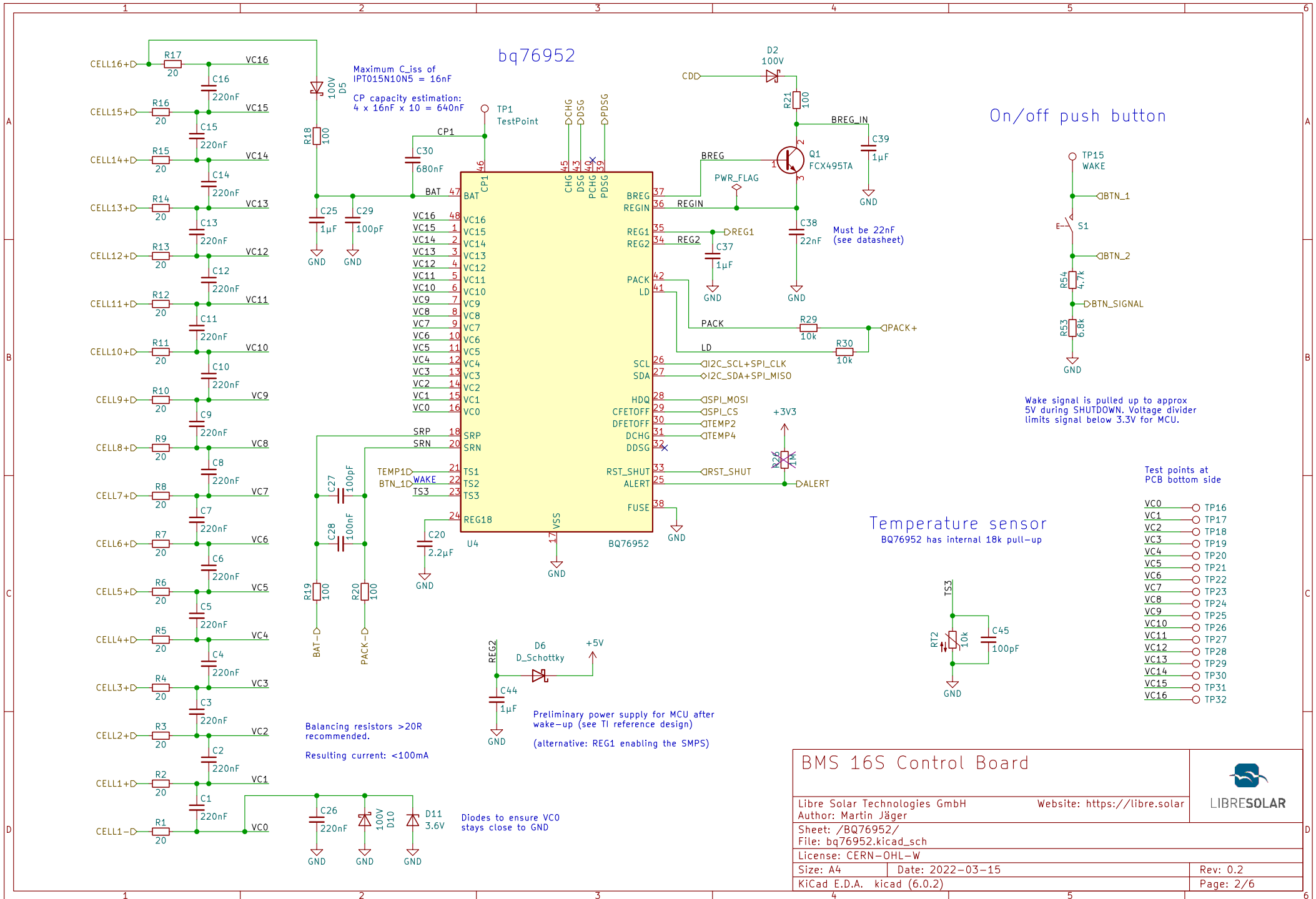
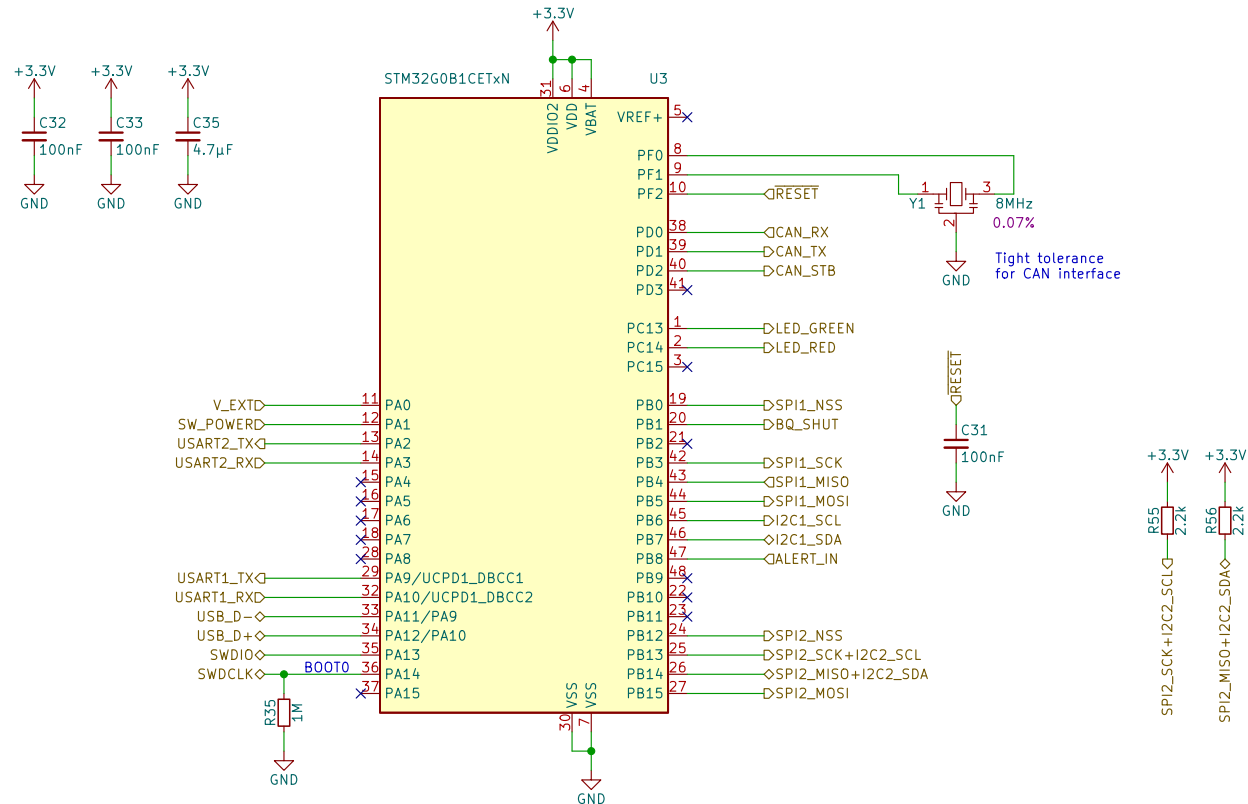



Based on TI bq76952 with STM32G0B1 or ESP32-C3





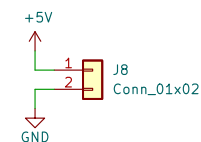
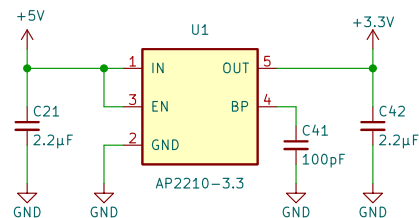
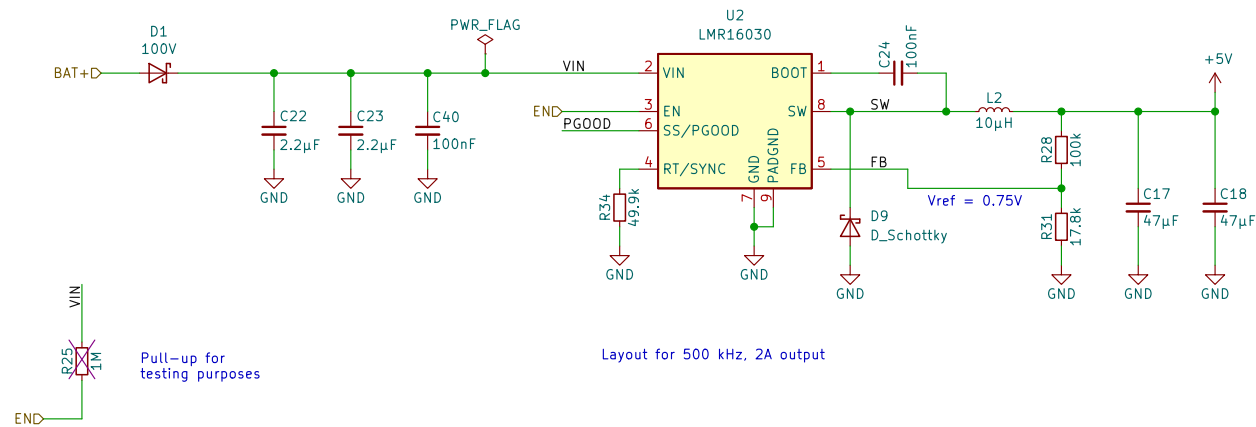
MCU STM32G0B1



BMS 16S Control Board		
Libre Solar Technologies GmbH		Website: https://libre.solar
Author: Martin Jäger		<div>LIBRESOLAR</div>
Sheet: /STM32 MCU/		
File: stm32.kicad_sch		
License: CERN-OHL-W		
Size: A4	Date: 2022-03-15	
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Battery to 3.3V (SMPS)

Remark: LMR38020 is a more suitable alternative for the LMR16030, but it was not available as of 02/2022 due to chip crisis.



Auxiliary power supply
(e.g. for GSM module)

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Website: <https://libre.solar>



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File: power_supply.kicad_sch

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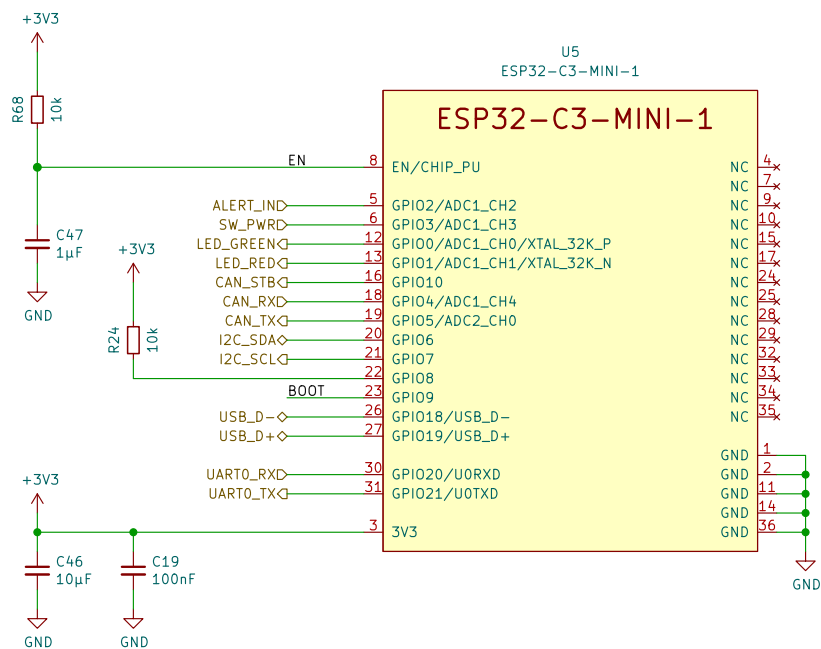
Size: A4 Date: 2022-03-15

Rev: 0.2

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ESP32-C3 module



The ESP32-C3 has only one I2C peripheral, which is required for communication with the BMS IC bq76952.

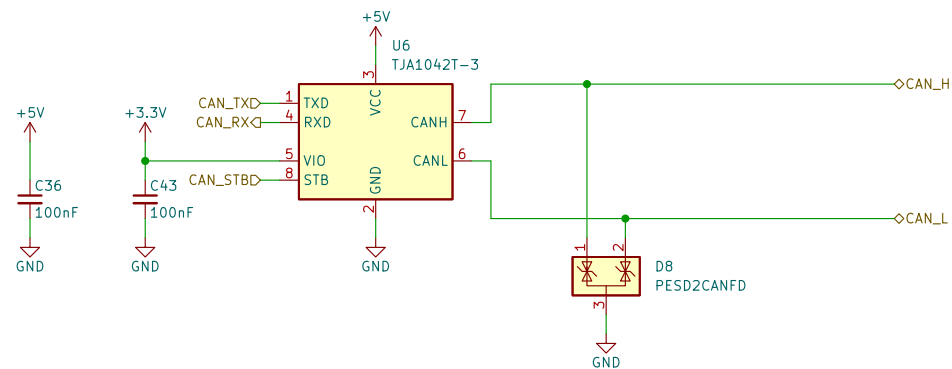
The UEXT I2C pins will not be connected.

SPI0 and SPI1 are used internally for flash memory access, so we use SPI2 here.

BOOT pin (GPIO9) has an internal pull-up. If connected to GND during start-up, chip enters bootloader mode.
Expecting BOOT pin is not required if built-in JTAG is used for firmware upload.

GPI02 needs to be pulled high during start-up, which is achieved by the bq76952 ALERT pull-up.

CAN-FD transceiver



BMS 16S Control Board

Libre Solar Technologies GmbH
Author: Martin Jäger

Website: <https://libre.solar>



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