

ACS712 Actually requires VCC = 5V, not 3.3V according to datasheet?

People on the internet indicate that they seem to work fairly fine on VCC=3.3V, though.

There is 3.3V version so we should use that one!

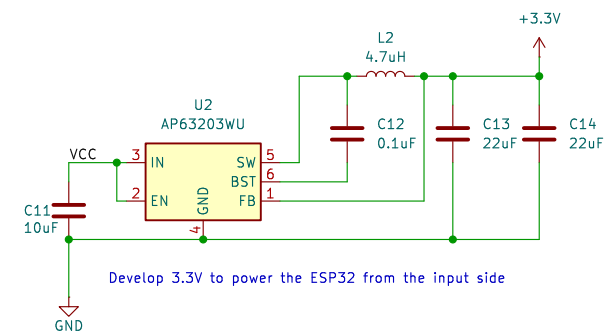
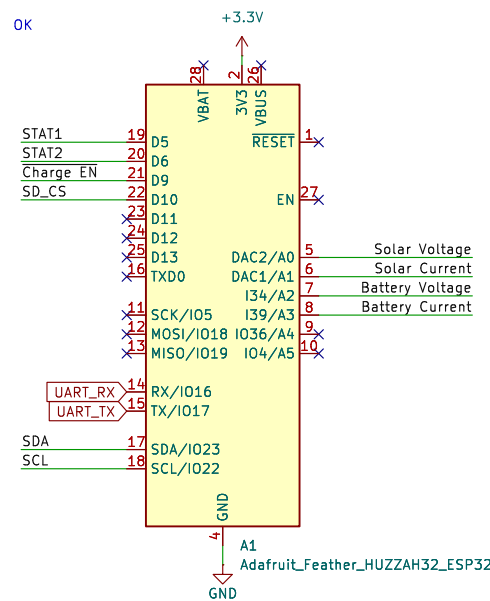
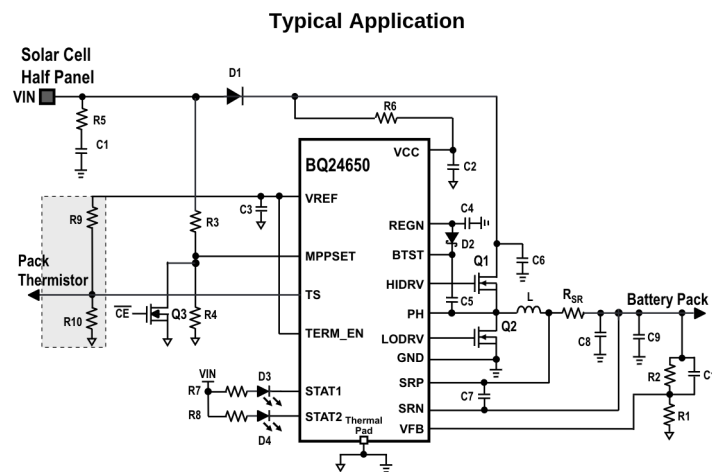
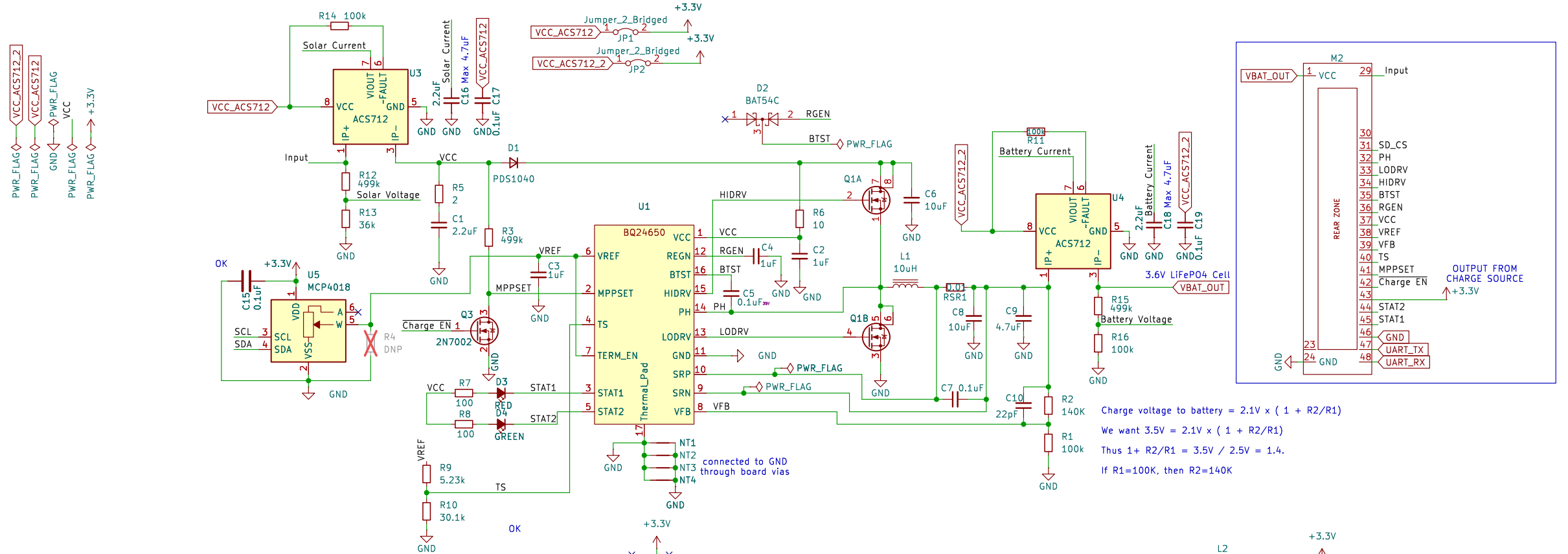
RSR1 sets max charge current:  
 $I_{MAX} = 40\text{mOhms} / RSR1$

20mOhms thus limits to 2A

ACS712 on VCC=5V will have output on VIOUT to 3.3V ADC below 3.3V upto about 4A, or 7A if the 20A version of the ACS712 is used.

Thus we can use 10mOhms to allow upto 4A charging. With a 10Ah LiFePO4 is his 0.4C, which is below the save limit of 1.0C

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Adapted for 3.5V output voltage  
 Adapted for MEGAPHONE module format

Sheet: /  
 File: MPPT Charge Controller.kicad\_sch

**Title: MEGAPHONE MPPT Charge Controller**

Size: A3 Date: 2025-08-11  
 KiCad E.D.A. 9.0.2

Rev: 20250216  
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