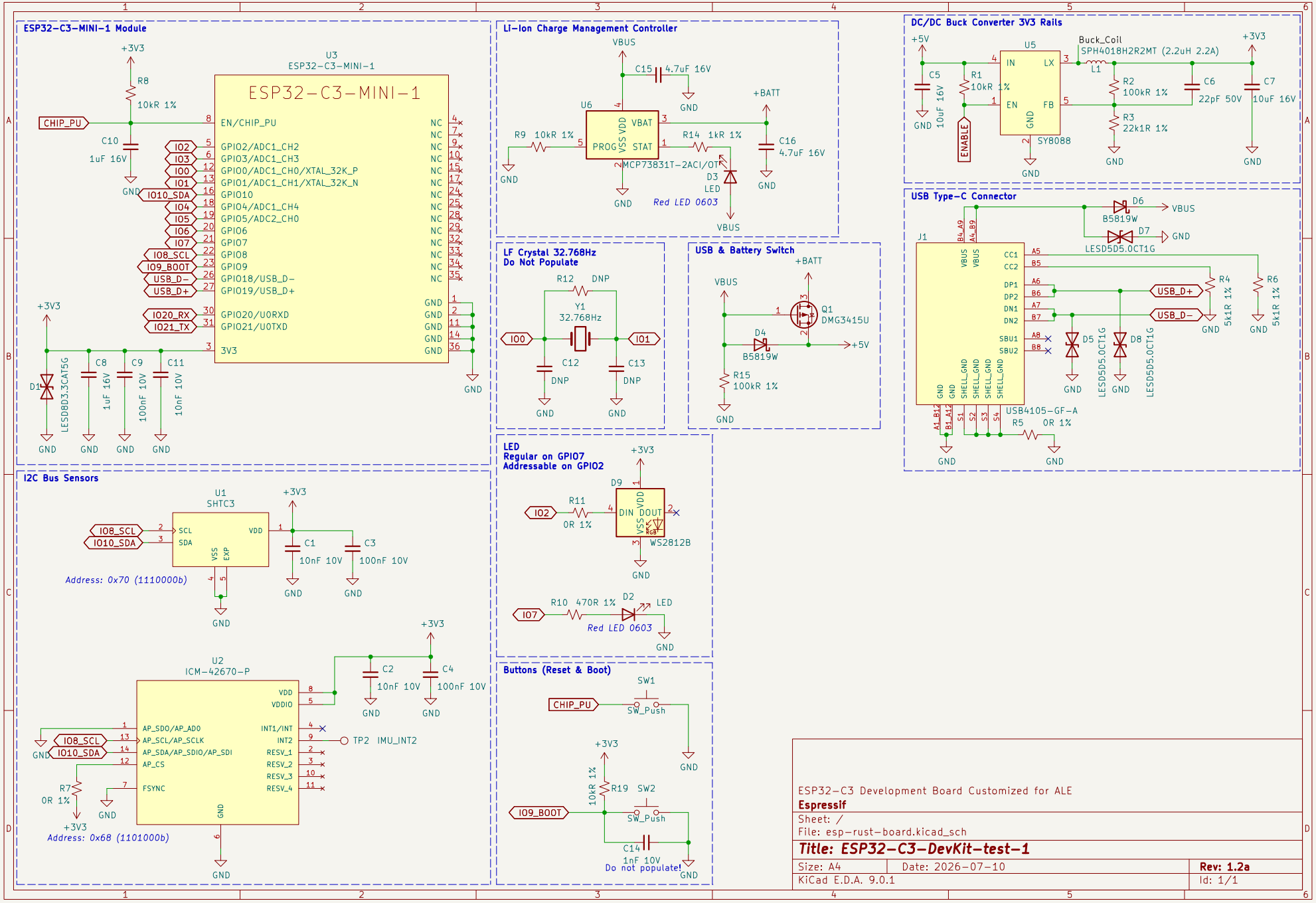
ESP32-C3-MINI-1 Module
U3
ESP32-C3-MINI-1
ESP32-C3-MINI-1
CHIP_PU
EN/CHIP_PU
GPIO2/ADC1_CH2
GPIO3/ADC1_CH3
GPIO0/ADC1_CH0/XTAL_32K_P
GPIO1/ADC1_CH1/XTAL_32K_N
GPIO10
GPIO4/ADC1_CH4
GPIO5/ADC2_CH0
GPIO6
GPIO7
GPIO8
GPIO9
GPIO18/USB_D-
GPIO19/USB_D+
GPIO20/U0RXD
GPIO21/U0TXD
3V3
I02
I03
I00
I01
I010_SDA
I04
I05
I06
I07
I08_SCL
I09_BOOT
USB_D-
USB_D+
I020_RX
I021_TX
R8 10kR 1%
C10 1uF 16V
D1 LESD8D3.3CAT5G
C8 1uF 16V
C9 100nF 10V
C11 10nF 10V
Li-Ion Charge Management Controller
U6
MCP73831T-2ACI/OT
C15 4.7uF 16V
R9 10kR 1%
R14 1kR 1%
C16 4.7uF 16V
D3 LED
Red LED 0603
LF Crystal 32.768Hz
Do Not Populate
R12 DNP
Y1 32.768Hz
C12 DNP
C13 DNP
USB & Battery Switch
Q1 DMG3415U
D4 B5819W
R15 100kR 1%
DC/DC Buck Converter 3V3 Rails
U5
SY8088
Buck_Coil
SPH4018H2R2MT (2.2uH 2.2A)
L1
C5 10uF 16V
R1 10kR 1%
R2 100kR 1%
R3 22k1R 1%
C6 22pF 50V
C7 10uF 16V
ENABLE
USB Type-C Connector
J1
D6 B5819W
D7 LESD5D5.0CT1G
R4 5k1R 1%
R6 5k1R 1%
D5 LESD5D5.0CT1G
D8 LESD5D5.0CT1G
R5 0R 1%
USB4105-GF-A
I2C Bus Sensors
U1
SHTC3
Address: 0x70 (1110000b)
C1 10nF 10V
C3 100nF 10V
U2
ICM-42670-P
Address: 0x68 (1101000b)
C2 10nF 10V
C4 100nF 10V
R7 0R 1%
TP2 IMU_INT2
LED
Regular on GPIO7
Addressable on GPIO2
D9 WS2812B
R11 0R 1%
R10 470R 1%
D2 LED
Red LED 0603
Buttons (Reset & Boot)
SW1 SW_Push
SW2 SW_Push
R19 10kR 1%
C14 1nF 10V
Do not populate!
ESP32-C3 Development Board Customized for ALE
Espressif
Sheet: /
File: esp-rust-board.kicad_sch
Title: ESP32-C3-DevKit-test-1
Size: A4
Date: 2026-07-10
Rev: 1.2a
KiCad E.D.A. 9.0.1
Id: 1/1