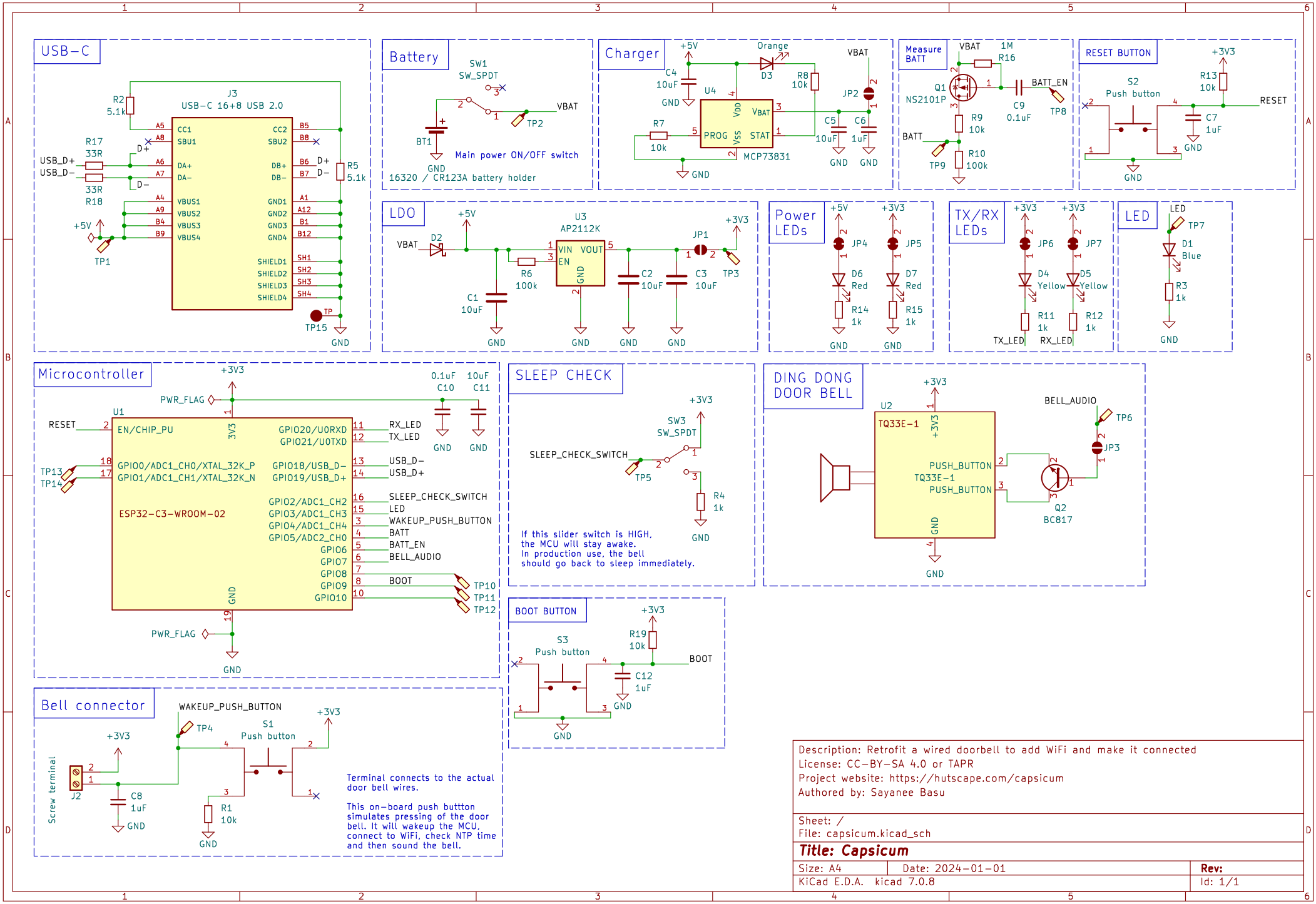
USB-C
J3
USB-C 16+8 USB 2.0
R2 5.1k
R17 33R
R18 33R
USB_D+
USB_D-
R5 5.1k
TP1
TP15
Battery
SW1
SW_SPDT
VBAT
TP2
BT1
Main power ON/OFF switch
16320 / CR123A battery holder
Charger
Orange
D3
R8 10k
C4 10uF
U4
MCP73831
R7 10k
C5 10uF
C6 1uF
JP2
Measure BATT
Q1 NS2101P
R16 1M
R9 10k
R10 100k
C9 0.1uF
BATT_EN
TP8
TP9
RESET BUTTON
S2
Push button
R13 10k
C7 1uF
RESET
LDO
U3
AP2112K
D2
R6 100k
C1 10uF
C2 10uF
C3 10uF
JP1
TP3
Power LEDs
JP4
JP5
D6 Red
D7 Red
R14 1k
R15 1k
TX/RX LEDs
JP6
JP7
D4 Yellow
D5 Yellow
R11 1k
R12 1k
TX_LED
RX_LED
LED
TP7
D1 Blue
R3 1k
Microcontroller
U1
ESP32-C3-WROOM-02
EN/CHIP_PU
GPIO20/U0RXD
GPIO21/U0TXD
GPIO0/ADC1_CH0/XTAL_32K_P
GPIO1/ADC1_CH1/XTAL_32K_N
GPIO18/USB_D-
GPIO19/USB_D+
GPIO2/ADC1_CH2
GPIO3/ADC1_CH3
GPIO4/ADC1_CH4
GPIO5/ADC2_CH0
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
RX_LED
TX_LED
USB_D-
USB_D+
SLEEP_CHECK_SWITCH
LED
WAKEUP_PUSH_BUTTON
BATT
BATT_EN
BELL_AUDIO
BOOT
TP10
TP11
TP12
TP13
TP14
PWR_FLAG
0.1uF C10
10uF C11
SLEEP CHECK
SW3
SW_SPDT
R4 1k
If this slider switch is HIGH,
the MCU will stay awake.
In production use, the bell
should go back to sleep immediately.
DING DONG DOOR BELL
U2
TQ33E-1
PUSH_BUTTON
BELL_AUDIO
TP6
JP3
Q2 BC817
BOOT BUTTON
S3
Push button
R19 10k
C12 1uF
Bell connector
WAKEUP_PUSH_BUTTON
TP4
S1
Push button
J2
Screw terminal
C8 1uF
R1 10k
Terminal connects to the actual
door bell wires.
This on-board push buttton
simulates pressing of the door
bell. It will wakeup the MCU,
connect to WiFi, check NTP time
and then sound the bell.
Description: Retrofit a wired doorbell to add WiFi and make it connected
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Project website: https://hutscape.com/capsicum
Authored by: Sayanee Basu
Sheet: /
File: capsicum.kicad_sch
Title: Capsicum
Size: A4
Date: 2024-01-01
Rev:
KiCad E.D.A. kicad 7.0.8
Id: 1/1