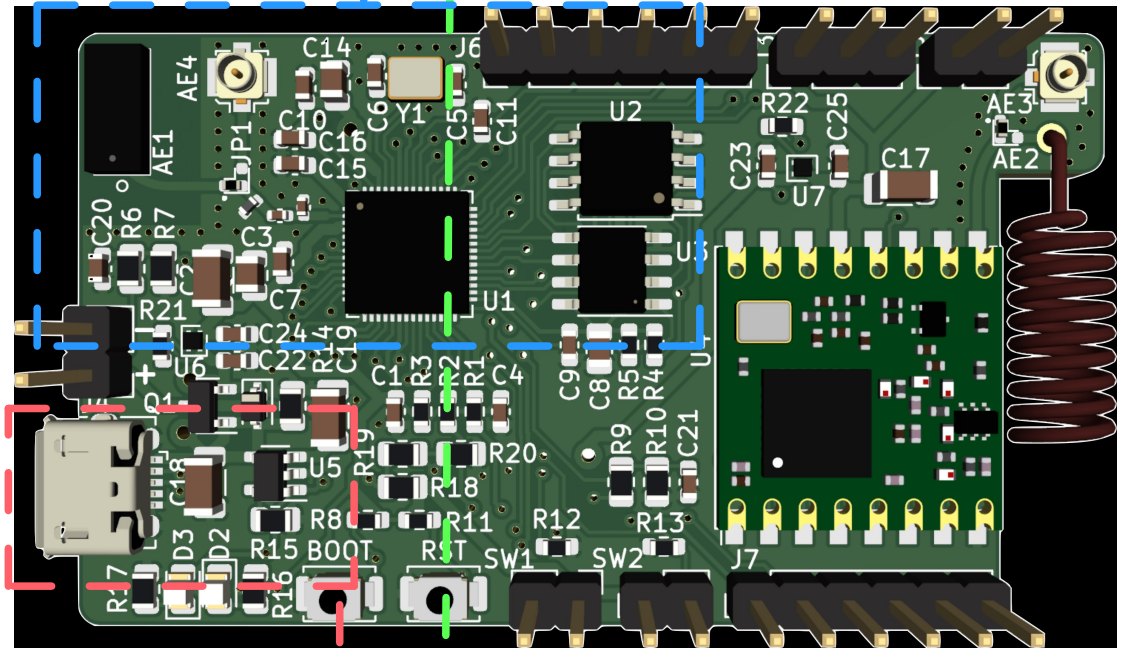
MCU

MCU

File: MCU.kicad_sch

Iot-PostBox
sensor



INTERFACE

INTERFACES

File: INTERFACE.kicad_sch

POWER

POWER

File: POWER.kicad_sch

IoT-PostBox board based on ESP32-S2
https://github.com/paclema/iot-postbox

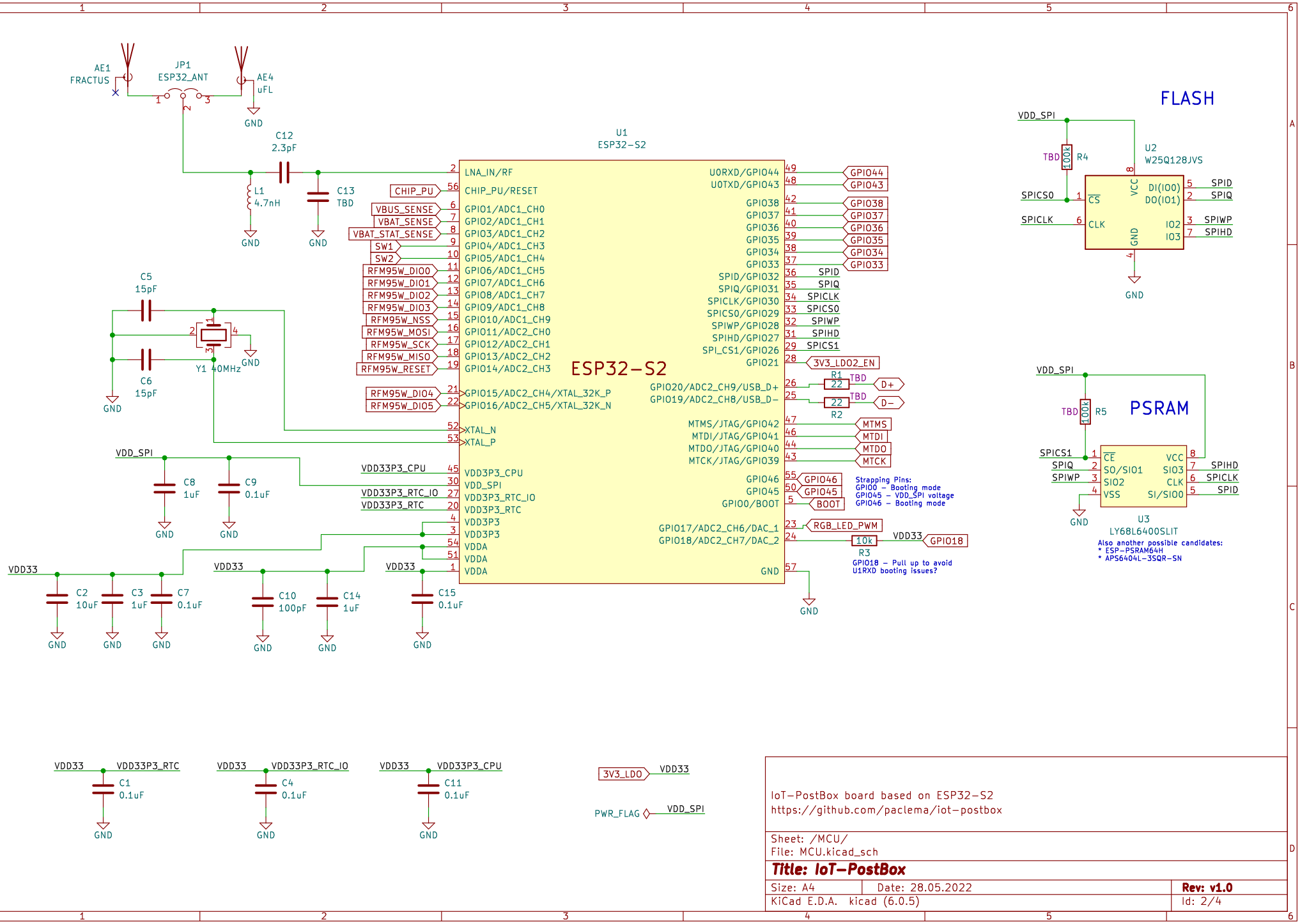
LOGO2

LOGO1

Sheet: /
File: iot-postbox_v1.kicad_sch

Title: IoT-PostBox

Size: A4	Date: 28.05.2022	**Rev: v1.0**
KiCad E.D.A. kicad (6.0.5)		Id: 1/4


AE1
FRACTUS
JP1
ESP32_ANT
AE4
uFL
GND
C12
2.3pF
L1
4.7nH
C13
TBD
U1
ESP32-S2
CHIP_PU
VBUS_SENSE
VBAT_SENSE
VBAT_STAT_SENSE
SW1
SW2
RFM95W_DIO0
RFM95W_DIO1
RFM95W_DIO2
RFM95W_DIO3
RFM95W_NSS
RFM95W_MOSI
RFM95W_SCK
RFM95W_MISO
RFM95W_RESET
RFM95W_DIO4
RFM95W_DIO5
C5
15pF
C6
15pF
Y1 40MHz
VDD_SPI
C8
1uF
C9
0.1uF
VDD33P3_CPU
VDD33P3_RTC_IO
VDD33P3_RTC
VDD33
C2
10uF
C3
1uF
C7
0.1uF
C10
100pF
C14
1uF
C15
0.1uF
LNA_IN/RF
CHIP_PU/RESET
GPIO1/ADC1_CH0
GPIO2/ADC1_CH1
GPIO3/ADC1_CH2
GPIO4/ADC1_CH3
GPIO5/ADC1_CH4
GPIO6/ADC1_CH5
GPIO7/ADC1_CH6
GPIO8/ADC1_CH7
GPIO9/ADC1_CH8
GPIO10/ADC1_CH9
GPIO11/ADC2_CH0
GPIO12/ADC2_CH1
GPIO13/ADC2_CH2
GPIO14/ADC2_CH3
GPIO15/ADC2_CH4/XTAL_32K_P
GPIO16/ADC2_CH5/XTAL_32K_N
XTAL_N
XTAL_P
VDD3P3_CPU
VDD_SPI
VDD3P3_RTC_IO
VDD3P3_RTC
VDD3P3
VDD3P3
VDDA
VDDA
VDDA
U0RXD/GPIO44
U0TXD/GPIO43
GPIO38
GPIO37
GPIO36
GPIO35
GPIO34
GPIO33
SPID/GPIO32
SPIQ/GPIO31
SPICLK/GPIO30
SPICS0/GPIO29
SPIWP/GPIO28
SPIHD/GPIO27
SPI_CS1/GPIO26
GPIO21
GPIO20/ADC2_CH9/USB_D+
GPIO19/ADC2_CH8/USB_D-
MTMS/JTAG/GPIO42
MTDI/JTAG/GPIO41
MTDO/JTAG/GPIO40
MTCK/JTAG/GPIO39
GPIO46
GPIO45
GPIO0/BOOT
GPIO17/ADC2_CH6/DAC_1
GPIO18/ADC2_CH7/DAC_2
GND
3V3_LDO2_EN
R1
22
TBD
D+
D-
R2
MTMS
MTDI
MTDO
MTCK
GPIO46
GPIO45
BOOT
RGB_LED_PWM
10k
R3
VDD33
GPIO18
Strapping Pins:
GPIO0 - Booting mode
GPIO45 - VDD_SPI voltage
GPIO46 - Booting mode
GPIO18 - Pull up to avoid U1RXD booting issues?
FLASH
U2
W25Q128JVS
R4
100k
SPICS0
SPICLK
SPID
SPIQ
SPIWP
SPIHD
PSRAM
U3
LY68L6400SLIT
R5
SPICS1
SPIHD
SPICLK
SPID
Also another possible candidates:
* ESP-PSRAM64H
* APS6404L-3SQR-SN
C1
0.1uF
C4
0.1uF
C11
0.1uF
3V3_LDO
PWR_FLAG
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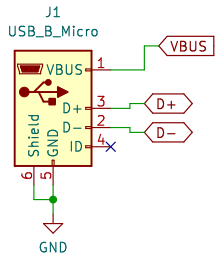
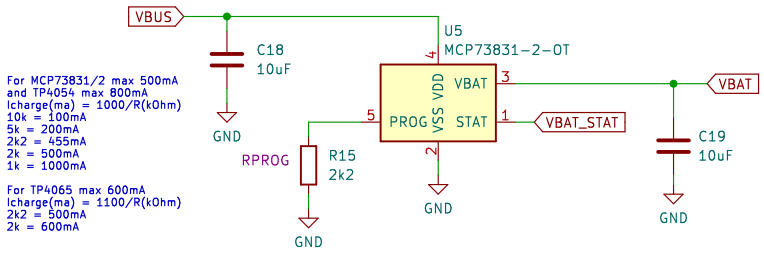
Rev: v1.0
KiCad E.D.A. kicad (6.0.5)
Id: 2/4

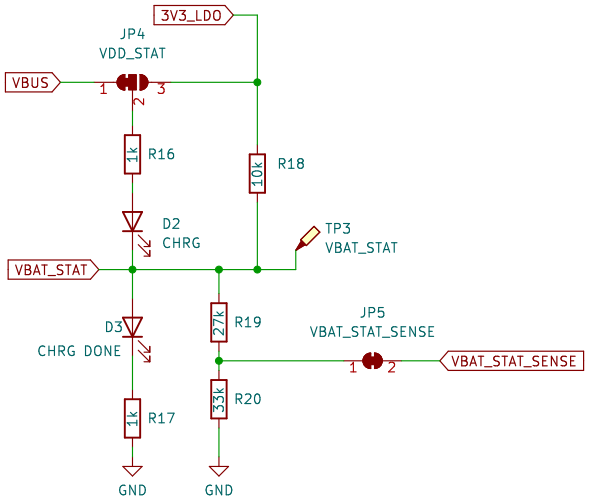
USB CONNECTOR



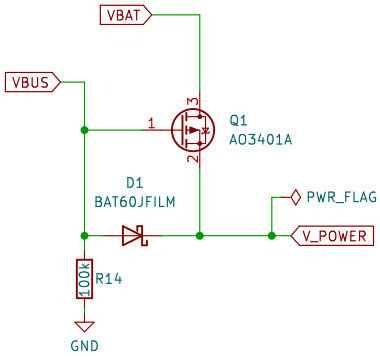
LIPO CHARGER



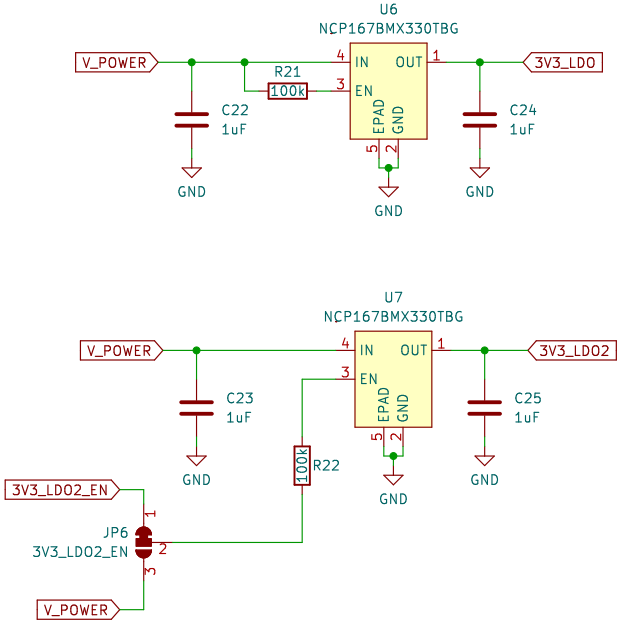
CHARGER STATUS



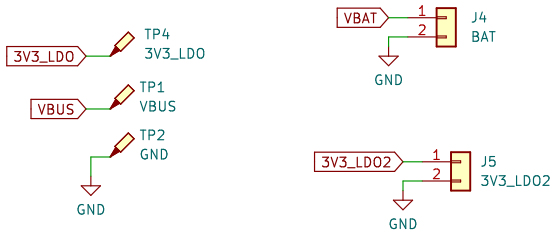
LOAD SHARING



POWER AND FILTERING



POWER CONNECTORS



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Size: A4	Date: 28.05.2022	**Rev: v1.0**
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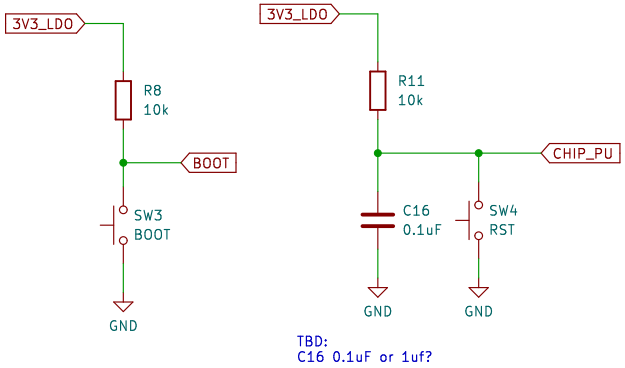
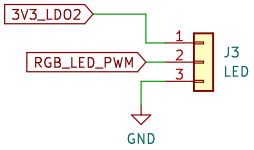
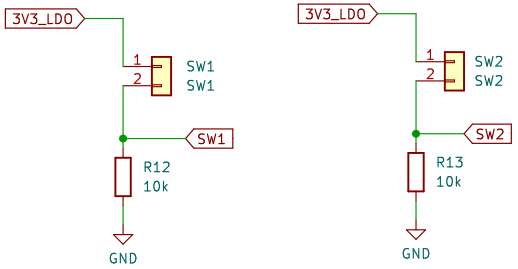
PUSH BUTTONS



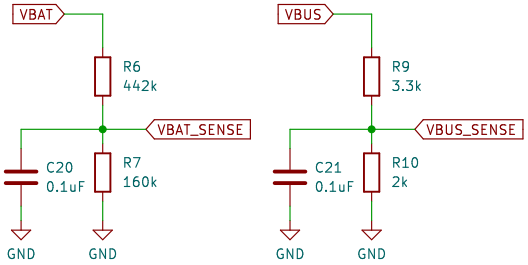
RGB LED STRIP



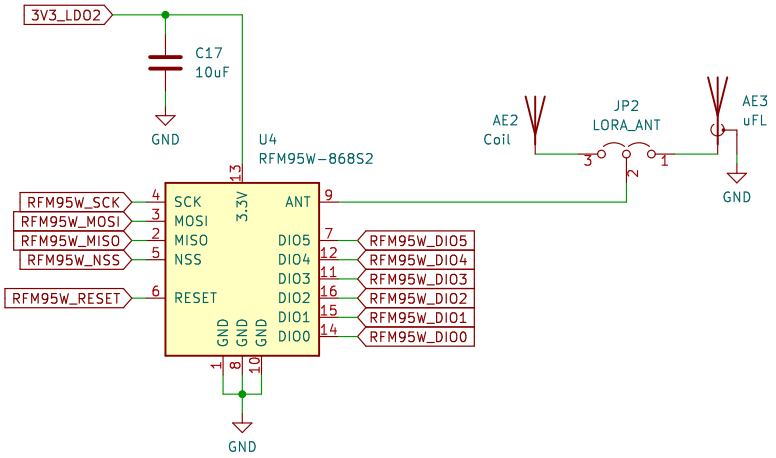
SWITCH SENSORS



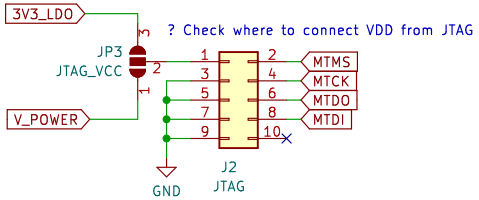
ADC SENSE



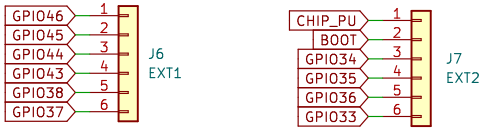
LORA



JTAG



EXTENSION PORTS



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KiCad E.D.A. kicad (6.0.5)		Id: 4/4