RGB LED STRIP DRIVER

MICROCONTROLLER CONNECTIONS

U1
ESP-12S

VDD

VCC — 8

EN — 3 — EN
1 — RST
IO0 — 12 — IO0

RX — 16 — TXD0
TX — 15 — RXD0

IO2 — 11
IO4 — 13
IO5 — 14

IO12 — 6 — PWM_GREEN
IO13 — 7 — PWM_BLUE
IO14 — 5
IO15 — 10
IO16 — 4 — PWM_RED
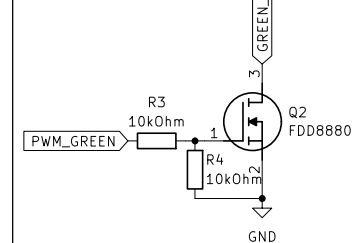
2 — ADC

EXP — 17
GND — 9 — PWR_FLAG

GND

POWER CONNECTOR

PJ-102A   PWR_FLAG
J1
1 — PWR_IN
3
2
GND

LED STRIP CONNECTOR

PWR_IN — 1 — 1
RED_OUT- — 2 — 2
GREEN_OUT- — 3 — 3
BLUE_OUT- — 4 — 4
J2

S4B-ZR-SM4A
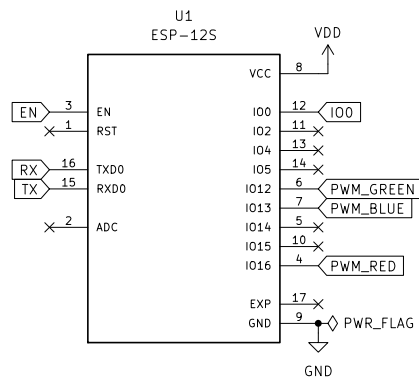
POWER REGULATION CIRCUIT
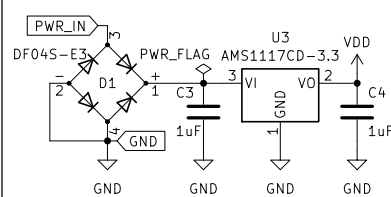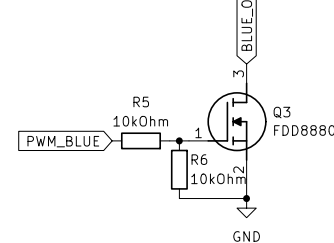
PWR_IN
DF04S-E3   PWR_FLAG   AMS1117CD-3.3   VDD
U3
D1
C3   3 — VI   VO — 2   C4
1uF   GND   1uF
GND   GND   GND   GND

SWITCH BUTTON

VDD   VDD

R8   R7
10kOhm   10kOhm

S2   IO0   S1   EN
C2   C1
1nF   1nF
Boot   Reset
GND   GND

PROG INTERFACE

J3
20021121-00006C1LF

EN — 1 — 2 — VDD
TX — 3 — 4 — GND
RX — 5 — 6 — IO0

BLUE CHANNEL

BLUE_OUT-
3
R5   Q3
10kOhm   FDD8880
PWM_BLUE — 1
R6
10kOhm — 2
GND

RED CHANNEL

GREEN_OUT-
3
R3   Q2
10kOhm   FDD8880
PWM_GREEN — 1
R4
10kOhm — 2
GND

GREEN CHANNEL

RED_OUT-
3
R1   Q1
10kOhm   FDD8880
PWM_RED — 1
R2
10kOhm — 2
GND
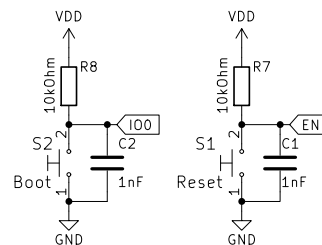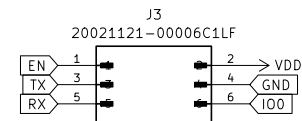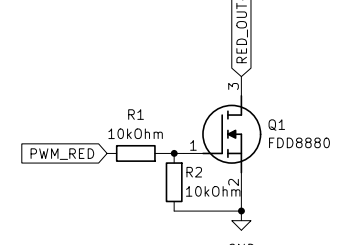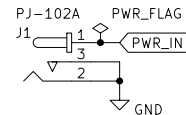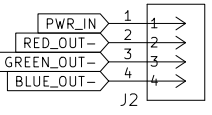
Author: Juan Antonio Hidalgo Torres
Schematic
Sheet: /
File: DriverRGB_v2.kicad_sch
Title: RGB LED STRIP DRIVER
Size: A4   Date: 19/03/2024   **Rev: v02**
KiCad E.D.A. kicad 7.0.7   Id: 1/1