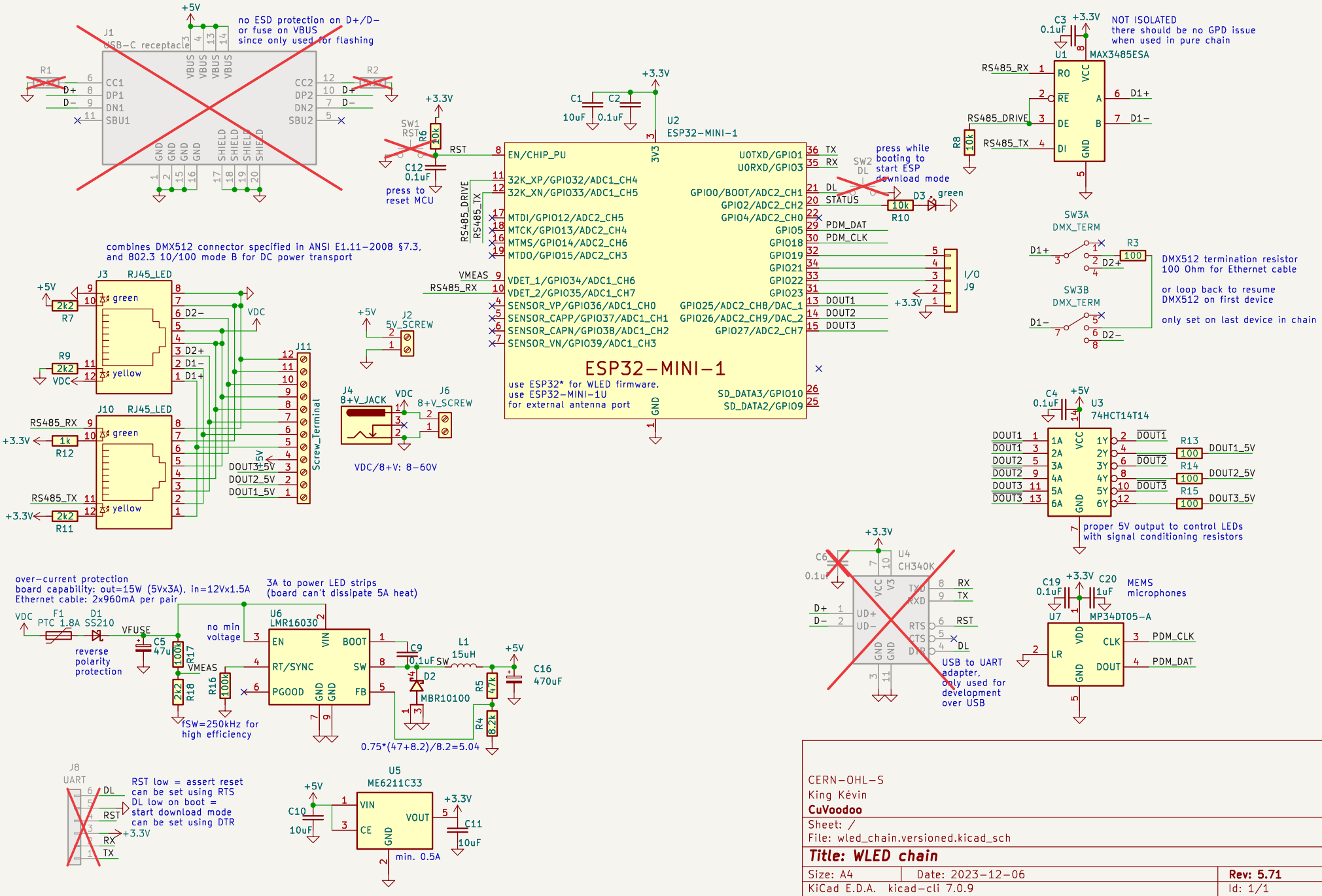
J1
USB-C receptacle
no ESD protection on D+/D-
or fuse on VBUS
since only used for flashing
U2
ESP32-MINI-1
EN/CHIP_PU
32K_XP/GPIO32/ADC1_CH4
32K_XN/GPIO33/ADC1_CH5
MTDI/GPIO12/ADC2_CH5
MTCK/GPIO13/ADC2_CH4
MTMS/GPIO14/ADC2_CH6
MTDO/GPIO15/ADC2_CH3
VDET_1/GPIO34/ADC1_CH6
VDET_2/GPIO35/ADC1_CH7
SENSOR_VP/GPIO36/ADC1_CH0
SENSOR_CAPP/GPIO37/ADC1_CH1
SENSOR_CAPN/GPIO38/ADC1_CH2
SENSOR_VN/GPIO39/ADC1_CH3
U0TXD/GPIO1
U0RXD/GPIO3
GPIO0/BOOT/ADC2_CH1
GPIO2/ADC2_CH2
GPIO4/ADC2_CH0
GPIO5
GPIO18
GPIO19
GPIO21
GPIO22
GPIO23
GPIO25/ADC2_CH8/DAC_1
GPIO26/ADC2_CH9/DAC_2
GPIO27/ADC2_CH7
SD_DATA3/GPIO10
SD_DATA2/GPIO9
ESP32-MINI-1
use ESP32* for WLED firmware.
use ESP32-MINI-1U
for external antenna port
press while
booting to
start ESP
download mode
press to
reset MCU
U1
MAX3485ESA
NOT ISOLATED
there should be no GPD issue
when used in pure chain
combines DMX512 connector specified in ANSI E1.11-2008 §7.3,
and 802.3 10/100 mode B for DC power transport
J3
RJ45_LED
J10
RJ45_LED
J11
Screw_Terminal
J2
5V_SCREW
J4
8+V_JACK
J6
8+V_SCREW
VDC/8+V: 8-60V
SW3A
DMX_TERM
SW3B
DMX_TERM
DMX512 termination resistor
100 Ohm for Ethernet cable
or loop back to resume
DMX512 on first device
only set on last device in chain
I/O
J9
U3
74HCT14T14
proper 5V output to control LEDs
with signal conditioning resistors
over-current protection
board capability: out=15W (5Vx3A), in=12Vx1.5A
Ethernet cable: 2x960mA per pair
reverse
polarity
protection
3A to power LED strips
(board can't dissipate 5A heat)
U6
LMR16030
no min
voltage
fSW=250kHz for
high efficiency
0.75*(47+8.2)/8.2=5.04
U4
CH340K
USB to UART
adapter,
only used for
development
over USB
U7
MP34DT05-A
MEMS
microphones
J8
UART
RST low = assert reset
can be set using RTS
DL low on boot =
start download mode
can be set using DTR
U5
ME6211C33
min. 0.5A
CERN-OHL-S
King Kévin
CuVoodoo
Sheet: /
File: wled_chain.versioned.kicad_sch
Title: WLED chain
Size: A4
Date: 2023-12-06
Rev: 5.71
KiCad E.D.A. kicad-cli 7.0.9
Id: 1/1