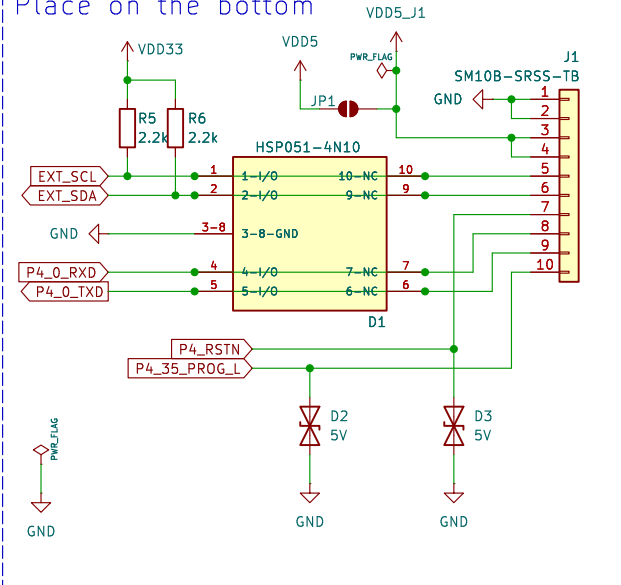
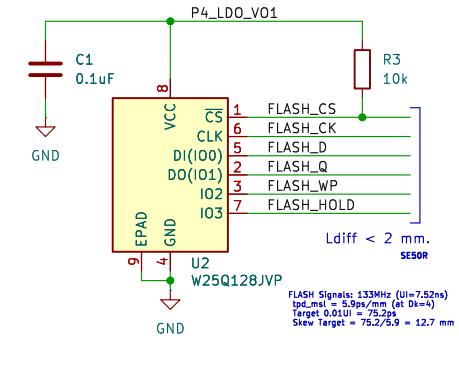


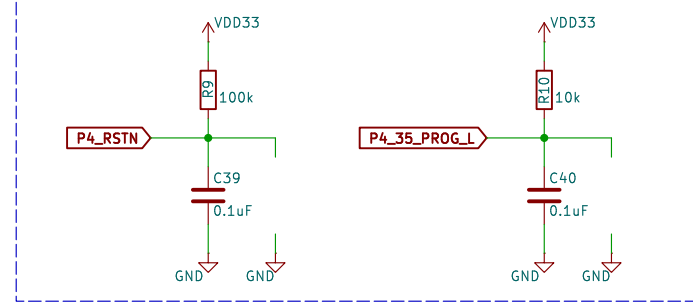
Conn. for embedded use
Place on the bottom



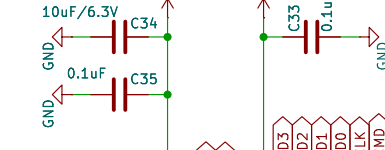
FLASH



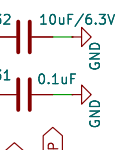
Prog/Reset Switches



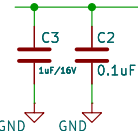
for Core



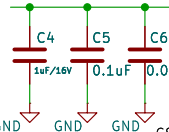
for RTC



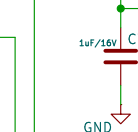
For QSPI



For D-PHY



For USB



ESP32-P4

ESP32-P4

ESP32-P4

ESP32-P4

ESP32-P4

ESP32-P4

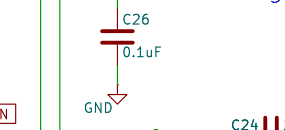
ESP32-P4

ESP32-P4

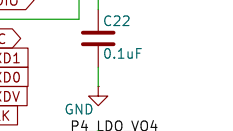
ESP32-P4

ESP32-P4

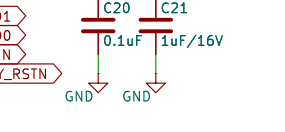
for Analog



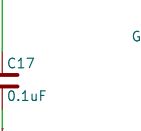
for Core



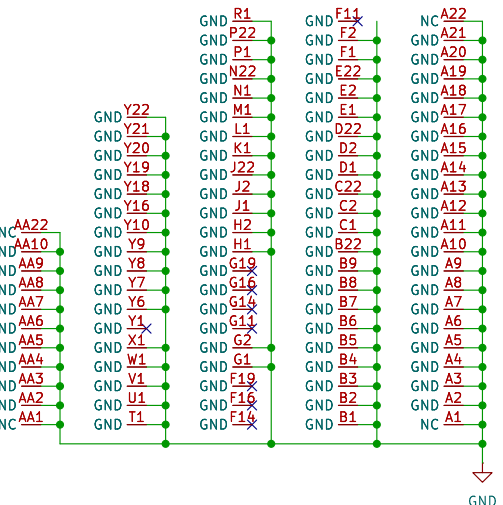
for SDIO



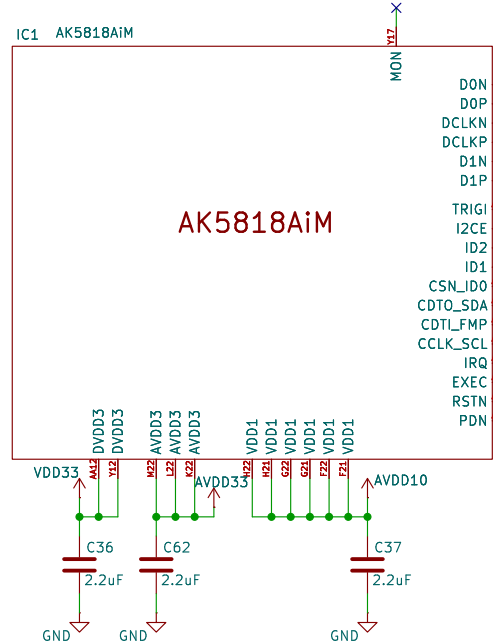
for Core



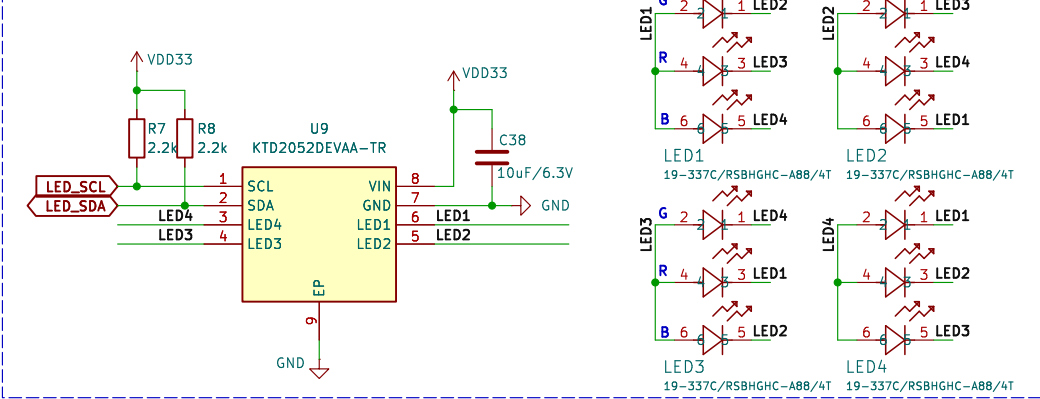
F11,G11,F14,G14,F16,G16,F19,G19 must be NC.



AK5818AiM



LEDs



VDD5 Auto selector (VDD5_J1 / VBUS)

The diagram illustrates a VDD5 Auto selector circuit. It features two input sources: VDD5_J1 (From debug Pin Header) and VBUS (From USB-C). VDD5_J1 is connected to a 100k resistor (R35) and a 0.1uF capacitor (C56) to GND. VBUS is connected to a 10uF/6.3V capacitor (C58) and a 4uF capacitor (C57) to GND. The circuit uses four 20V/Dual PMOS transistors (Q1A, Q1B, Q2A, Q2B) of type SIA923AEDJ. Q1A and Q2A have their gates connected to VDD5_J1 and their drains to VDD5. Q1B and Q2B have their gates connected to VBUS and their drains to VDD5. A 100k resistor (R34) is connected between the gates of Q1B and Q2B. A PWR_FLAG signal is connected to the drains of Q1B and Q2B. A 22uF capacitor (C59) is connected between VDD5 and GND. A 1uF capacitor is connected between VDD5 and a 5V pin labeled '5V(1.8Amax) (0.5A for ext device)'.

5.0V to 3.3V Buck converter

The diagram illustrates a 5.0V to 3.3V Buck converter using the TPS62A01ADRLR (U4). The input is VDD5 (5.0V) with a 4.7uF/2012M capacitor (C61). The converter's VIN (pin 3) is connected to VDD5, EN (pin 4) to GND, and PG (pin 6) to GND. The output SW (pin 2) is connected to an inductor L1 (1.0uH/3.3A) and a diode R35 (30.14 1%). The output FB (pin 5) is connected to a feedback network consisting of a resistor R36 (6.49k 1%) and a capacitor C63 (22uF/2012M) in parallel, which is then connected to a 14uF@3.3V capacitor. The output is VDD33 (3.3V) with a 0.97A+xx current. The diode R35 has a forward voltage of 0.97A+xx. The feedback network has a current of 0.24A. The output is also connected to VDD33 and AVDD33. The diode R35 has a forward voltage of 0.97A+xx. The feedback network has a current of 0.24A. The output is also connected to VDD33 and AVDD33.

3.3V to 1.2V Buck converter

VDD33

VDD33

4.7uF/2012M

C64

GND

0

R46

3

VIN

U6

SW

2

1.0uH/3.3A

L2

220V/1.2Amax

1.2V/1.2Amax

PWR_FLAG

VDD12

1.2A

100k

R47

4

EN

5

FB

6

PG

2A/2.4MHz

1

GND

499k 1%

R41

499k 1%

R42

10uF/6.3V

C67

22uF/2012M

C66

14uF@3.3V

GND

GND

GND

Short and w/1 Shield

Wired but recommended by Espressif.

P4_DCDC_FB

1.2V to 1.0V(1A) LDO

[illegible]

ESP32-C6 (WiFi/BLE)

SDIO Signals: 50MHz (UI=20ns)
 tpd_msl = 5.9ps/mm (at Dk=4)
 Target 0.01UI = 200ps
 Skew Target = 200/5.9 = 34 mm

U3
 ESP32-C6-MINI-1

C6_EN 8 EN/CHIP_PU

C6_WAKEUP 5 GPIO0/ADC1_CH0/XTAL_32K_P

12 GPIO1/ADC1_CH1/XTAL_32K_N

13 GPIO2/ADC1_CH2

14 GPIO3/ADC1_CH3

9 MTMS/GPIO4/ADC1_CH4

10 MTDI/GPIO5/ADC1_CH5

15 MTCK/GPIO6/ADC1_CH6

16 MTD0/GPIO7

U0TXD/GPIO16

U0RXD/GPIO17

GPIO13/USB_D+

GPIO12/USB_D-

GPIO8

GPIO9

GPIO14

GPIO15

GPIO18

GPIO19

GPIO20

GPIO21

GPIO22

GPIO23

ESP32-C6-MINI-1

VDD33

GND

C41 0.1uF

C42 10uF/6.3V

R12 10k

R13 10k

DNP R14

P4_35_PROG_L

C6_9_PROG_L

C6_USBFS_JTAG+

C6_USBFS_JTAG-

C6_SDIO_CMD

C6_SDIO_CLK

C6_SDIO_D0

C6_SDIO_D1

C6_SDIO_D2

C6_SDIO_D3

R15 10k

R16 10k

R17 10k

R18 10k

R19 10k

R20 10k

VDD33

Conn. for program/debug use

Place on the bottom

HSP051-4N10

1Aa/L1.95A
0.5Aq#85c

VDD5

F2

1 2 3 4 5 6 7 8

C6_USBFS_JTAG+ 1
C6_USBFS_JTAG- 2
GND 3-8
P4_USBFS_JTAG+ 4
P4_USBFS_JTAG- 5
C6_9_PROG_L 6
C6_EN 7

1-1/0 10-NC 10
2-1/0 9-NC 9
3-8-GND
4-1/0 7-NC 7
5-1/0 6-NC 6

VDD5 EXT

5V/0.5A Max to External

J2 SM08B-SRSS-1

D5 5V
D4 5V

GND

Ethernet

TI Recommended Length 5-15cm

RMII Signals: 50MHz (UI=20ns)
tpd_msl = 5.9ps/mm (at Dk=4)
Target 0.01UI = 200ps
Skew Target = 200/5.9 = 34 mm

U8 DP83825IRMQR

ETH_SHLD

J3 JOC-0005NLT

Mounting Holes

The diagram shows three circular mounting holes on a white PCB. The first hole on the left is labeled 'H1' above and 'M2' below. The second hole in the middle is labeled 'H3' above and 'M2' below. The third hole on the right is labeled 'H4' above and 'M2' below. The holes are arranged in a horizontal line.

Title:		
Size: A3	Date:	Rev:
KiCad E.D.A. 8.0.8		Id: 3/3