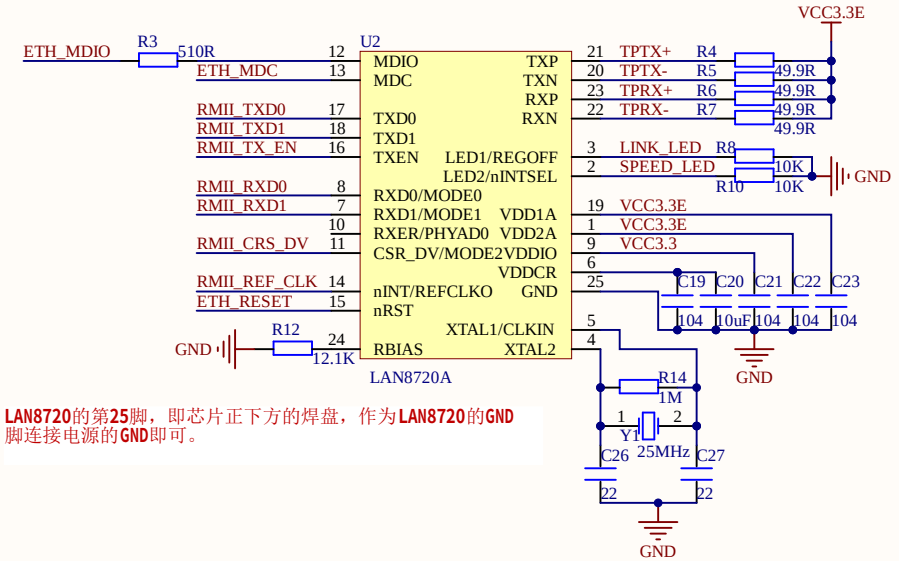
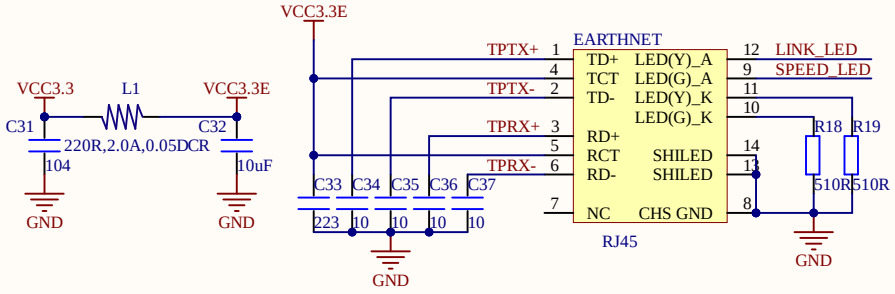
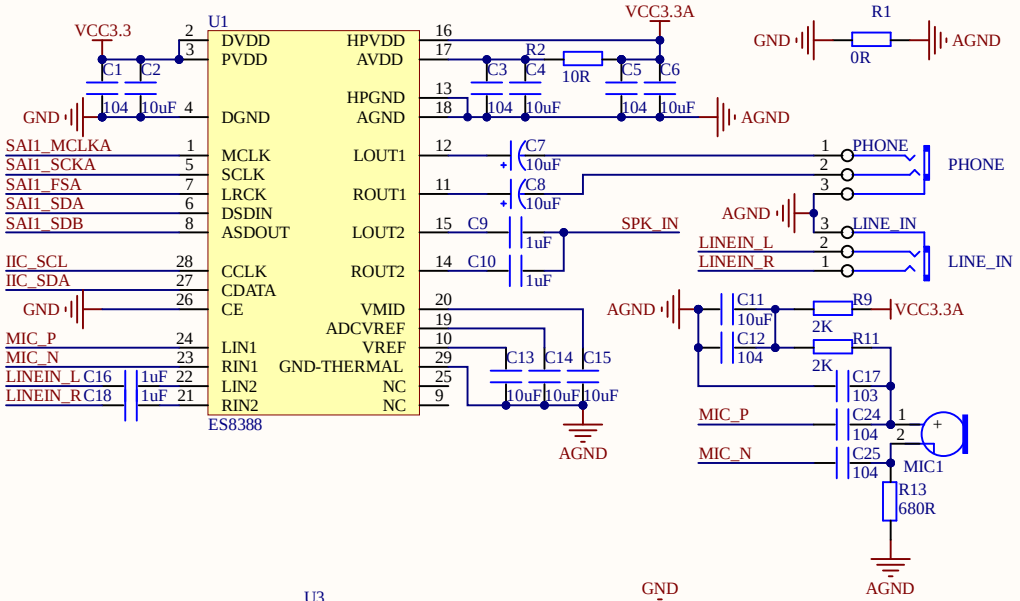
## EARTHNET

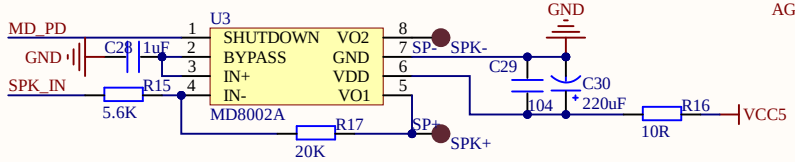



LAN8720的第25脚，即芯片正下方的焊盘，作为LAN8720的GND脚连接电源的GND即可。



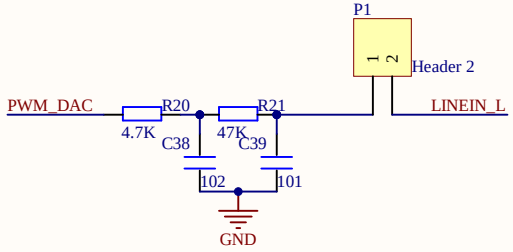

## I2S DAC&ADC




SPK+和SPK-连接开发板自带的喇叭，在开发板底部。

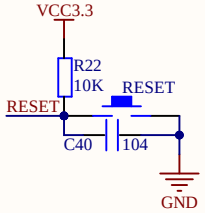
## PWM DAC/AUDIO



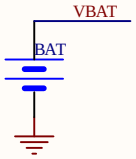

| | | |
|---|---|---|
| Title: AUDIO&ETHNET.SchDoc | | |
| Project: STM32_MOTHERBOARD_V1.2.PrjPcb | | |
| Size: A4 | Author: lycreturn@ALIENTEK | |
| Date: 2021/11/12 | Version: V1.0 | Sheet: * of * |

正点原子

## RESET




## VBAT




## CORE BOARD

M1

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LCD_HSYNC | PI12 | J1_60 | PI12 | RESET | J1_1 | RESET | | NRF_CS | JTDI | PA15 | J2_60 | PA15 | PD10 | J2_1 | PD10 | FMC_D15 | |
| LCD_VSYNC | PI13 | J1_59 | PI13 | PA0 | J1_2 | PA0 | WK_UP | | JTCK | PA14 | J2_59 | PA14 | PD9 | J2_2 | PD9 | FMC_D14 | |
| LCD_CLK | PI14 | J1_58 | PI14 | PH7 | J1_3 | PH7 | T_PEN | | JTMS | PA13 | J2_58 | PA13 | PD8 | J2_3 | PD8 | FMC_D13 | |
| LCD_DE | PK7 | J1_57 | PK7 | PH6 | J1_4 | PH6 | T_SCK | USART1_TX | | PA9 | J2_57 | PA9 | PE15 | J2_4 | PE15 | FMC_D12 | |
| LCD_B7 | PK6 | J1_56 | PK6 | PG3 | J1_5 | PG3 | T_MISO | USART1_RX | | PA10 | J2_56 | PA10 | PE14 | J2_5 | PE14 | FMC_D11 | |
| LCD_B6 | PK5 | J1_55 | PK5 | PG7 | J1_6 | PG7 | T_MOSI | | USB_D- | PA11 | J2_55 | PA11 | PE13 | J2_6 | PE13 | FMC_D10 | |
| LCD_B5 | PK4 | J1_54 | PK4 | PI8 | J1_7 | PI8 | T_CS | | USB_D+ | PA12 | J2_54 | PA12 | PE12 | J2_7 | PE12 | FMC_D9 | |
| LCD_B4 | PK3 | J1_53 | PK3 | PB5 | J1_8 | PB5 | LCD_BL | DCMI_XCLK | REMOTE_IN | PA8 | J2_53 | PA8 | PE11 | J2_8 | PE11 | FMC_D8 | |
| LCD_B3 | PJ15 | J1_52 | PJ15 | PC11 | J1_9 | PC11 | SD1_D3 | DCMI_D4 | NRF_CE | PG6 | J2_52 | PG6 | PE10 | J2_9 | PE10 | FMC_D7 | |
| LCD_B2 | PJ14 | J1_51 | PJ14 | PC10 | J1_10 | PC10 | SD1_D2 | | | DCMI_D0 | | PC6 | J2_51 | PC6 | PE9 | J2_10 | PE9 | FMC_D6 | |
| LCD_B1 | PJ13 | J1_50 | PJ13 | PC9 | J1_11 | PC9 | SD1_D1 | DCMI_D3 | | DCMI_D1 | | PC7 | J2_50 | PC7 | PE8 | J2_11 | PE8 | FMC_D5 | |
| LCD_B0 | PJ12 | J1_49 | PJ12 | PC12 | J1_12 | PC12 | SD1_CLK | | FMC_A18 | PD13 | J2_49 | PD13 | PE7 | J2_12 | PE7 | FMC_D4 | |
| LCD_G7 | PK2 | J1_48 | PJ13 | PC9 | J1_13 | PC8 | SD1_D0 | DCMI_D2 | | USART3_TX | | PB10 | J2_48 | PB10 | PD1 | J2_13 | PD1 | FMC_D3 | |
| LCD_G6 | PK1 | J1_47 | PJ12 | PC12 | J1_14 | PD2 | SD1_CMD | | | USART3_RX | | PB11 | J2_47 | PB11 | PD0 | J2_14 | PD0 | FMC_D2 | |
| LCD_G5 | PK0 | J1_46 | PK2 | PC8 | J1_15 | PD3 | | DCMI_D5 | SPI2_MOSI | PB15 | J2_46 | PB15 | PD15 | J2_15 | PD15 | FMC_D1 | |
| LCD_G4 | PJ11 | J1_45 | PK1 | PD2 | J1_16 | BOOT0 | | GBC_LED | NRF_IRQ | PB12 | J2_45 | PB12 | PD14 | J2_16 | PD14 | FMC_D0 | |
| LCD_G3 | PJ10 | J1_44 | PK0 | PD3 | J1_17 | PG12 | SPDIF_RX | DCMI_RESET | SPI2_MISO | PB14 | J2_44 | PB14 | PE5 | J2_17 | PE5 | SAI1_SCKA | |
| LCD_G2 | PJ9 | J1_43 | PJ11 | PC11 | J1_18 | PG11 | RMII_TX_EN | | SPI2_SCK | PB13 | J2_43 | PB13 | PE6 | J2_18 | PE6 | SAI1_SDA | |
| LCD_G1 | PJ8 | J1_42 | PJ10 | PG12 | J1_19 | PG13 | RMII_TXD0 | | GBC_KEY | PI11 | J2_42 | PI11 | PE4 | J2_19 | PE4 | SAI1_FSA | |
| LCD_G0 | PJ7 | J1_41 | PJ9 | PG11 | J1_20 | PG14 | RMII_TXD1 | | RMII_REF_CLK | PA1 | J2_41 | PA1 | PE3 | J2_20 | PE3 | SAI1_SDB | |
| LCD_R7 | PJ6 | J1_40 | PJ8 | PG13 | J1_21 | PG10 | 1WIRE_DQ | IIC_INT | RMII_CRS_DV | PA7 | J2_40 | PA7 | PC13 | J2_21 | PC13 | KEY2 | |
| LCD_R6 | PJ5 | J1_39 | PJ7 | PG14 | J1_22 | PB4 | JTRST | DCMI_SCL | ETH_MDIO | USART2_TX | PA2 | J2_39 | PA2 | PH2 | J2_22 | PH2 | KEY1 | |
| LCD_R5 | PJ4 | J1_38 | PJ6 | PG10 | J1_23 | PB3 | JTDO | DCMI_SDA | RMII_RXD1 | PC5 | J2_38 | PC5 | PH3 | J2_23 | PH3 | KEY0 | |
| LCD_R4 | PJ3 | J1_37 | PJ5 | PB4 | J1_24 | PE2 | SAI1_MCLKA | | RMII_RXD0 | PC4 | J2_37 | PC4 | PB0 | J2_24 | PB0 | LED1 | |
| LCD_R3 | PJ2 | J1_36 | PJ4 | PB3 | J1_25 | PB7 | | DCMI_VSYNC | ETH_MDC | PC1 | J2_36 | PC1 | PB1 | J2_25 | PB1 | LED0 | |
| LCD_R2 | PJ1 | J1_35 | PJ3 | PE2 | J1_26 | PB9 | | DCMI_D7 | USART2_RX | PA3 | J2_35 | PA3 | PH5 | J2_26 | PH5 | IIC_SDA | |
| LCD_R1 | PJ0 | J1_34 | PJ2 | PB7 | J1_27 | PB8 | | DCMI_D6 | FMC_NE1 | PD7 | J2_34 | PD7 | PH4 | J2_27 | PH4 | IIC_SCL | |
| LCD_R0 | PI15 | J1_33 | PJ1 | PB9 | J1_28 | VBAT | | | FMC_NOE | PD4 | J2_33 | PD4 | PA5 | J2_28 | PA5 | STM_ADC | |
| | | J1_32 | PJ0 | PB8 | J1_29 | | | | FMC_NWE | PD5 | J2_32 | PD5 | PA4 | J2_29 | PA4 | STM_DAC | DCMI_HREF |
| | | J1_31 | PI15 | VBAT | J1_30 | | | | VREF+ | J2_31 | | VREF+ | PA6 | J2_30 | PA6 | | DCMI_PCLK |
| | | | GND | VCC5 | | | | | | | | | | | | | |
| | | | GND | VCC5 | | | | | | | | | | | | | |

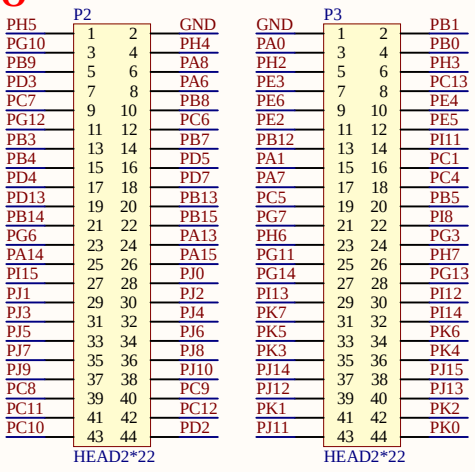
STM32H7&F7_CB

C41 104 GND

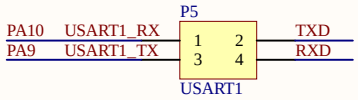
GND VCC5

核心板接口，由2个2*30P的3710F端子（母）组成，可插正点原子的STM32F750/STM32H750等核心板

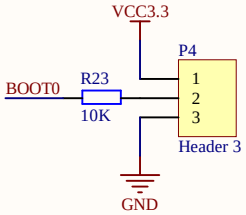
## IO



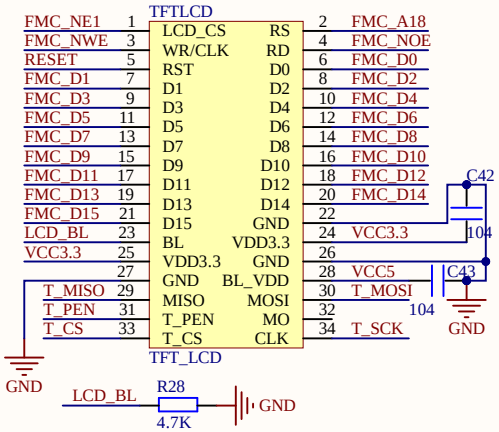

## USB_UART/USART1



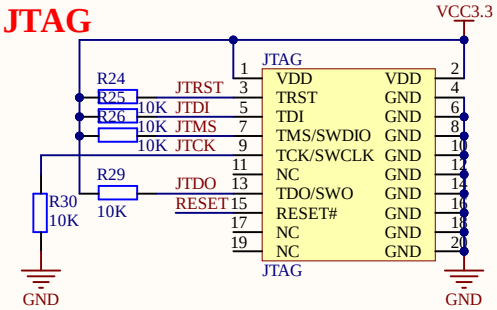

## BOOT



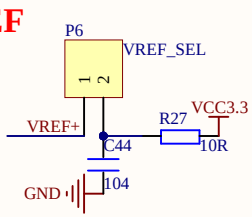

## LCD(MCU)




## JTAG



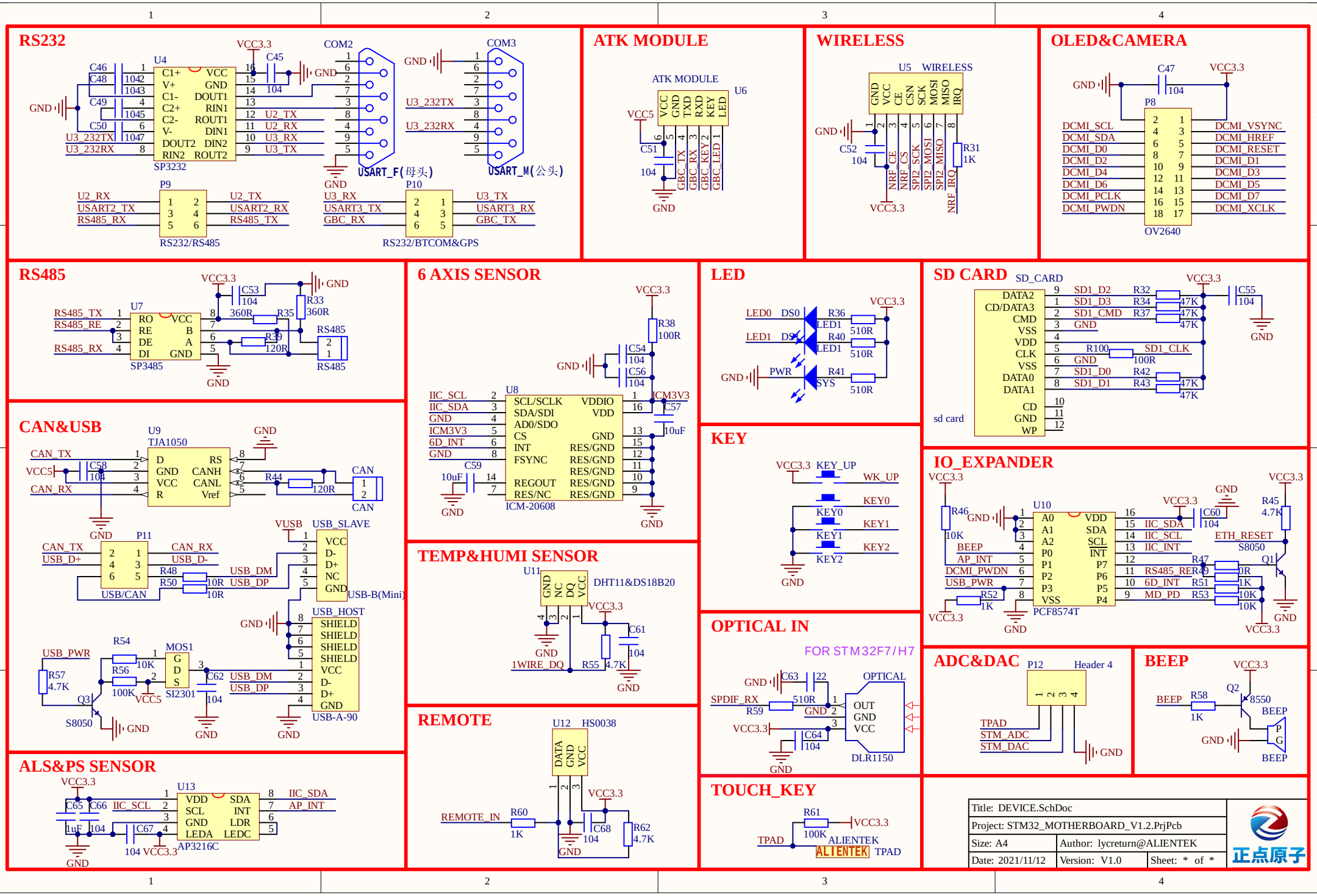

## VREF



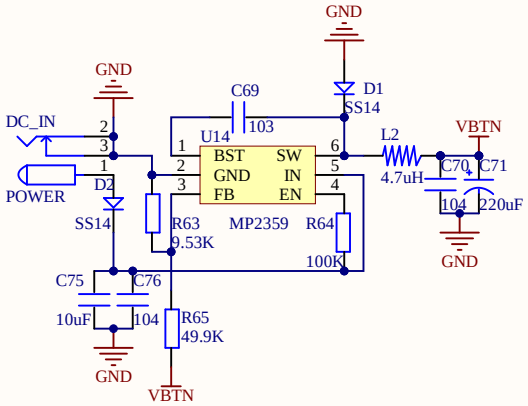

MCU参考电压选择端口，同时可以控制核心板上面LED的亮灭，如果P5短接，则核心板上面的电源灯(PWR)和DSO都不会亮。如果需要核心板上面的LED亮，拔掉P5的跳线帽即可。

| | | |
|---|---|---|
| Title: CORE.SchDoc | | |
| Project: STM32_MOTHERBOARD_V1.2.PrjPcb | | |
| Size: A4 | Author: lycreturn@ALIENTEK | |
| Date: 2021/11/12 | Version: V1.0 | Sheet: * of * |

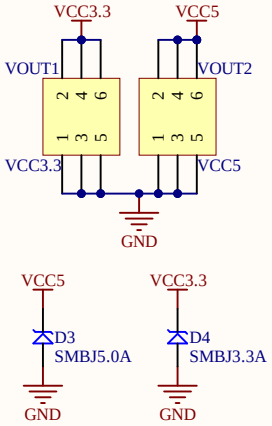
正点原子


RS232
U4
SP3232
C1+
V+
C1-
C2+
C2-
V-
DOUT2
RIN2
VCC
GND
DOUT1
RIN1
ROUT1
DIN1
DIN2
ROUT2
VCC3.3
C45
104
COM2
COM3
USART_F(母头)
USART_M(公头)
U2_TX
U2_RX
U3_TX
U3_RX
U3_232TX
U3_232RX
P9
P10
RS232/RS485
RS232/BTCOM&GPS
ATK MODULE
U6
VCC5
C51
104
GBC_TX
GBC_RX
GBC_KEY
GBC_LED
KEY
LED
WIRELESS
U5
NRF_CE
NRF_CS
SPI2_SCK
SPI2_MOSI
SPI2_MISO
NRF_IRQ
R31
1K
C52
OLED&CAMERA
C47
P8
OV2640
DCMI_SCL
DCMI_SDA
DCMI_D0
DCMI_D2
DCMI_D4
DCMI_D6
DCMI_PCLK
DCMI_PWDN
DCMI_VSYNC
DCMI_HREF
DCMI_RESET
DCMI_D1
DCMI_D3
DCMI_D5
DCMI_D7
DCMI_XCLK
RS485
U7
SP3485
RS485_TX
RS485_RX
RS485_RE
RO
RE
DE
DI
VCC
B
A
360R
120R
R33
R35
R39
C53
6 AXIS SENSOR
U8
ICM-20608
IIC_SCL
IIC_SDA
ICM3V3
6D_INT
SCL/SCLK
SDA/SDI
AD0/SDO
CS
INT
FSYNC
REGOUT
RES/NC
VDDIO
VDD
GND
RES/GND
R38
100R
C54
C56
C57
10uF
C59
LED
LED0
LED1
PWR
DS0
DS1
SYS
R36
R40
R41
510R
SD CARD
SD_CARD
sd card
DATA2
CD/DATA3
CMD
VSS
VDD
CLK
DATA0
DATA1
CD
WP
SD1_D2
SD1_D3
SD1_CMD
SD1_CLK
SD1_D0
SD1_D1
R32
R34
R37
R100
R42
R43
47K
100R
C55
CAN&USB
U9
TJA1050
CAN_TX
CAN_RX
D
GND
VCC
R
RS
CANH
CANL
Vref
R44
120R
CAN
C58
P11
USB/CAN
CAN_TX
CAN_RX
USB_D+
USB_D-
R48
R50
10R
USB_DM
USB_DP
VUSB
USB_SLAVE
USB-B(Mini)
USB_HOST
USB-A-90
SHIELD
R54
MOS1
SI2301
R56
R57
4.7K
100K
10K
Q3
S8050
C62
USB_PWR
KEY
KEY_UP
WK_UP
KEY0
KEY1
KEY2
IO_EXPANDER
U10
PCF8574T
A0
A1
A2
P0
P1
P2
P3
VSS
VDD
SDA
SCL
INT
P7
P6
P5
P4
IIC_SDA
IIC_SCL
IIC_INT
RS485_RE
6D_INT
MD_PD
ETH_RESET
S8050
Q1
R45
4.7K
R46
R47
R49
R51
R52
R53
1K
BEEP
AP_INT
DCMI_PWDN
USB_PWR
TEMP&HUMI SENSOR
U11
DHT11&DS18B20
1WIRE_DQ
R55
4.7K
C61
OPTICAL IN
FOR STM32F7/H7
OPTICAL
OUT
GND
VCC
DLR1150
SPDIF_RX
R59
510R
C63
C64
22
ADC&DAC
P12
Header 4
TPAD
STM_ADC
STM_DAC
BEEP
Q2
8550
R58
1K
REMOTE
U12
HS0038
DATA
REMOTE_IN
R60
R62
4.7K
C68
TOUCH_KEY
R61
100K
ALIENTEK
ALS&PS SENSOR
U13
AP3216C
VDD
SCL
GND
LEDA
SDA
INT
LDR
LEDC
C65
C66
C67
1uF
IIC_INT
AP_INT
Title: DEVICE.SchDoc
Project: STM32_MOTHERBOARD_V1.2.PrjPcb
Size: A4
Author: lycreturn@ALIENTEK
Date: 2021/11/12
Version: V1.0
Sheet: * of *
正点原子

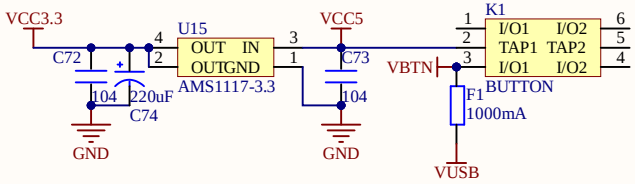
## DC POWER IN



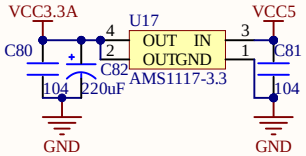

## ON BOARD POWER SOURCE



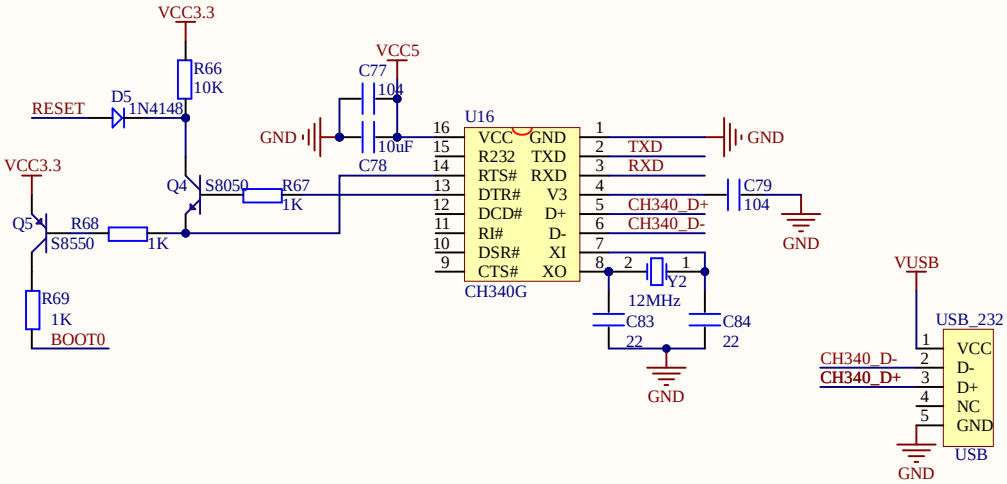

## 3.3V & POWER SWITCH




## WM8978 ANALOG POWER




## USB USART&USB POWER




| | | |
|---|---|---|
| Title: POWER&USB_USART.SchDoc | | |
| Project: STM32_MOTHERBOARD_V1.2.PrjPcb | | |
| Size: A4 | Author: lycreturn@ALIENTEK | |
| Date: 2021/11/12 | Version: V1.0 | Sheet: * of * |

正点原子