

# 野火\_鲁班猫P1 (LubanCat P1) CV1812H\_原理图\_V0.1

## 目录

Page 1	目录
Page 2	历史版本
Page 3	上电时序
Page 4	USB
Page 5	5v降压电源处理
Page 6	SOC电源
Page 7	SOC-RTC
Page 8	SOC-EMMC/SD0
Page 9	SOC-USB/EPHY
Page 10	SOC-MIPI DSI/GPIO
Page 11	WIFI
Page 12	Device-EMMC
Page 13	Device-SD卡/音频/功放
Page 14	KEY/LED/排针/MIPI
Page 15	SENSOR/以太网

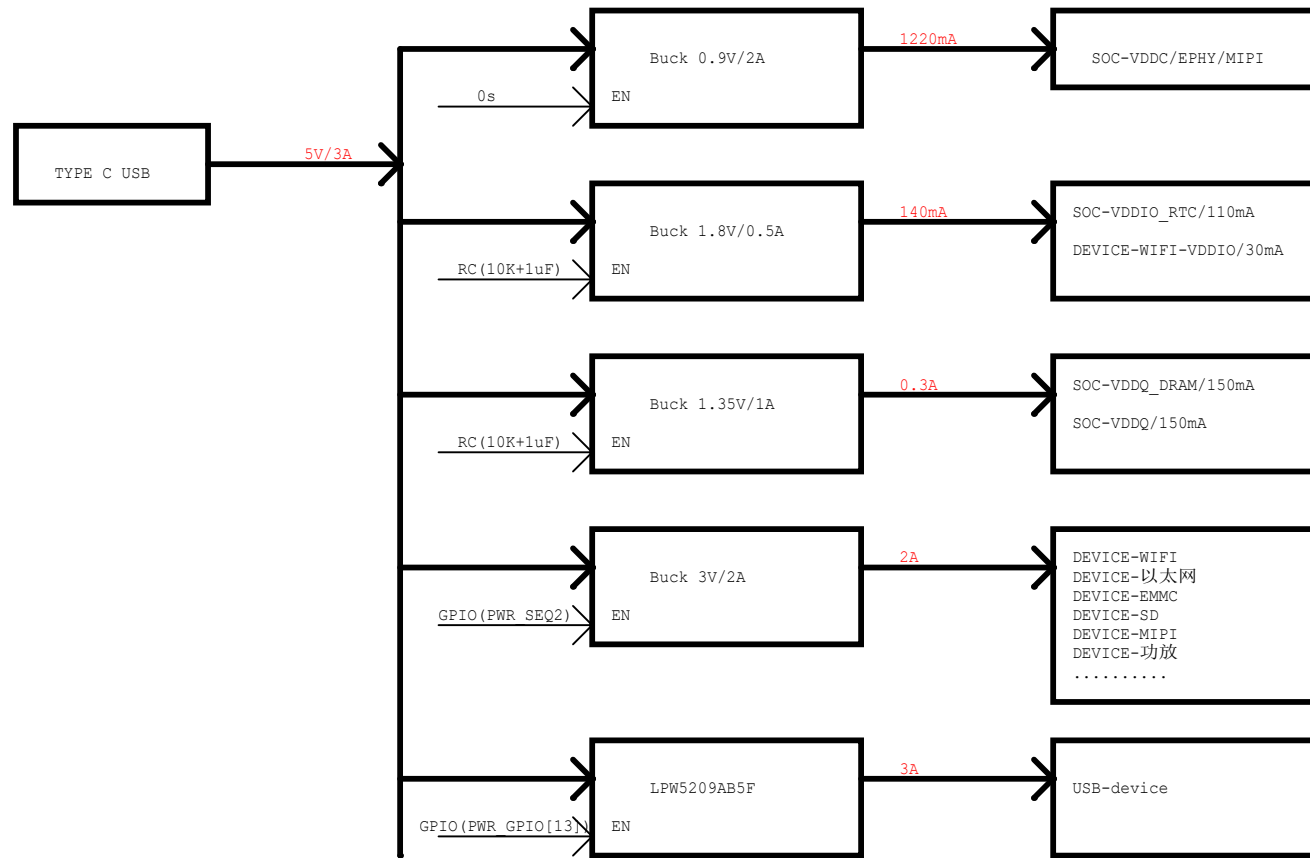
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Title 野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number 目录	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 1 of 15	

# 历史版本

版本号	日期	设计	描述
V0.1	2024-06-27	ZTC	初始版本

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Size A4	Document Number 历史版本	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 2 of 15	

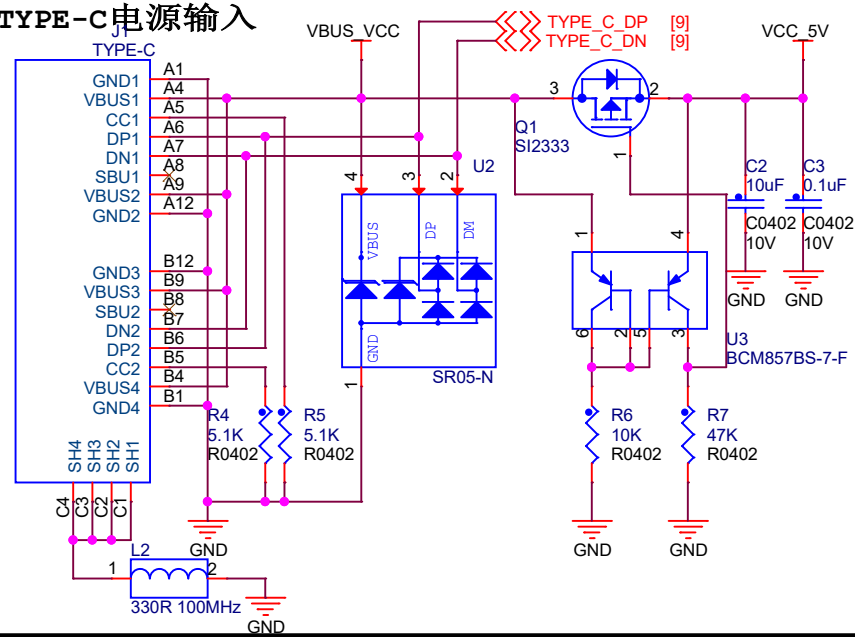
# 上电时序



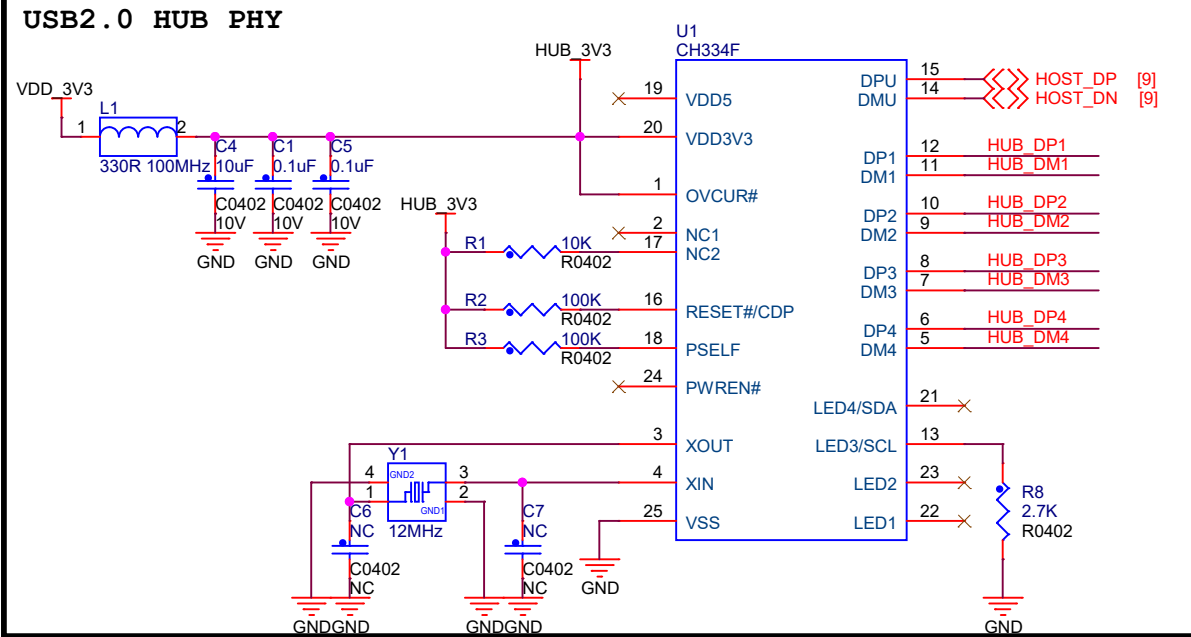
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Title		
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number 历史版本	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 3 of 15	

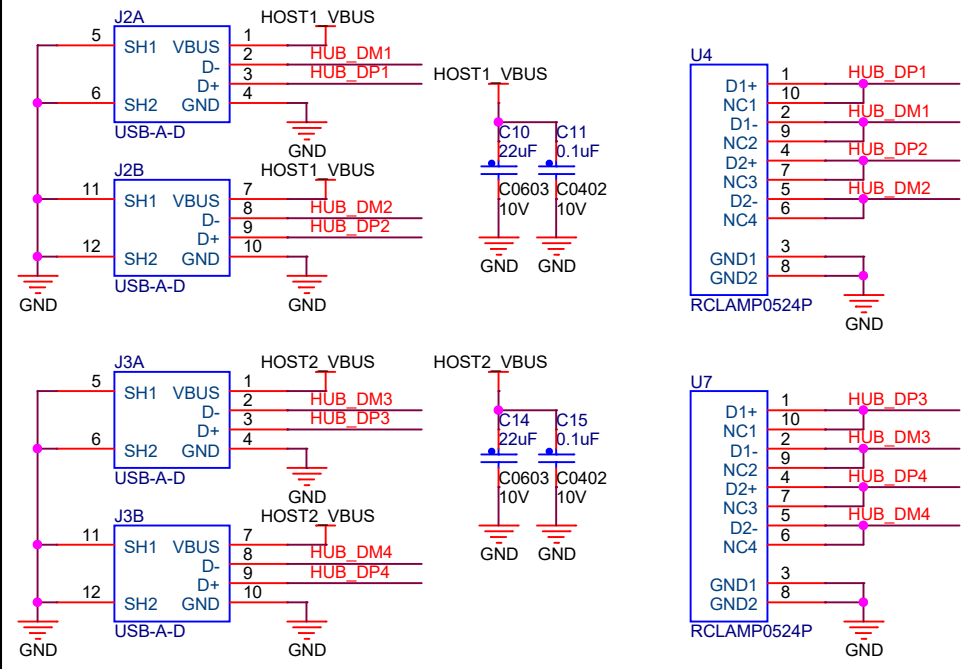
### TYPE-C电源输入



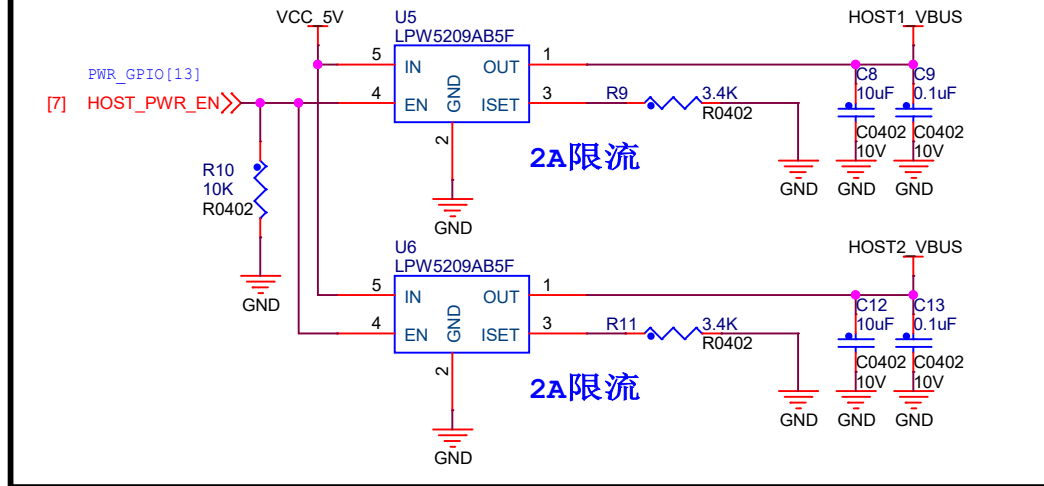
### USB2.0 HUB PHY



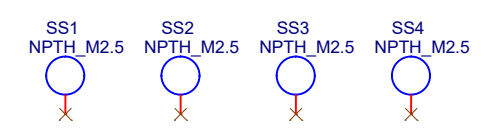
### 4\*HUB



### HUB POWER Switch

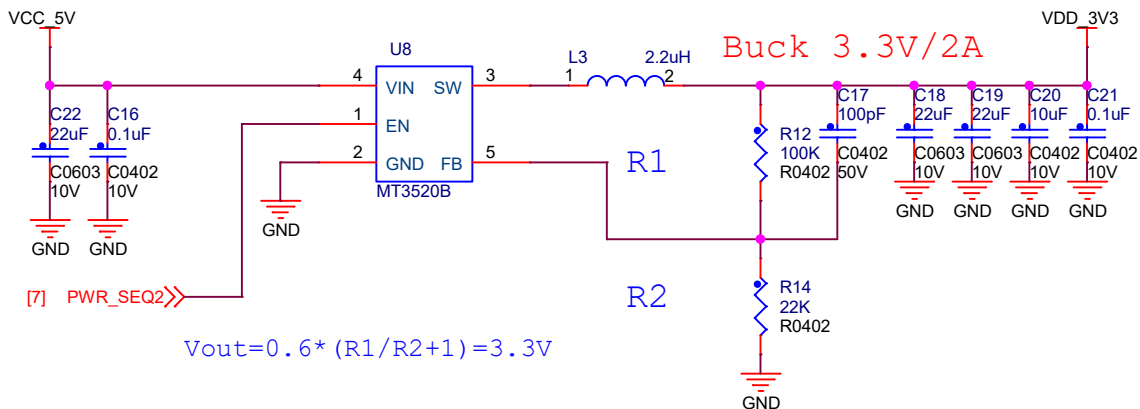


### 定位孔



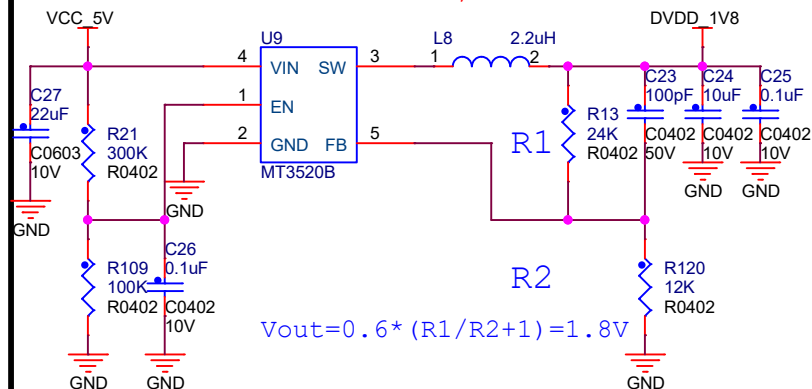
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Title 野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number USB	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 4 of 15	

### 5V转3.3V

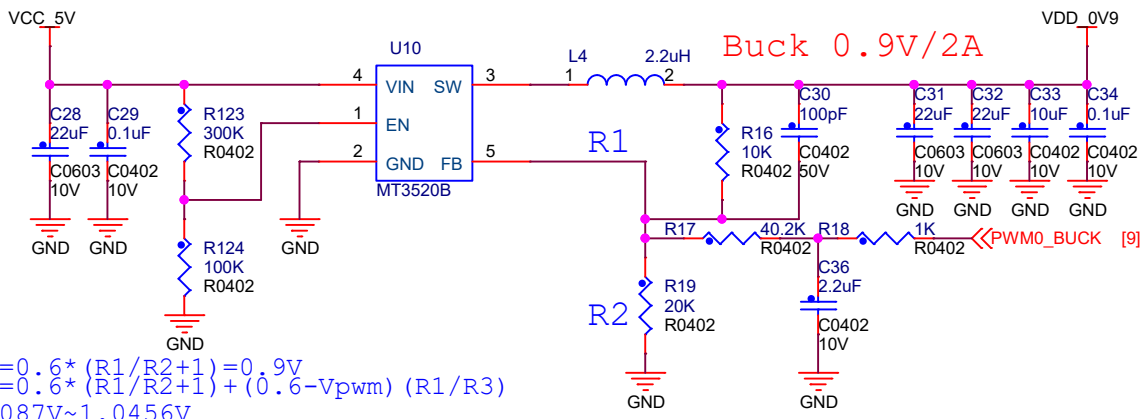


### 5V转1.8V

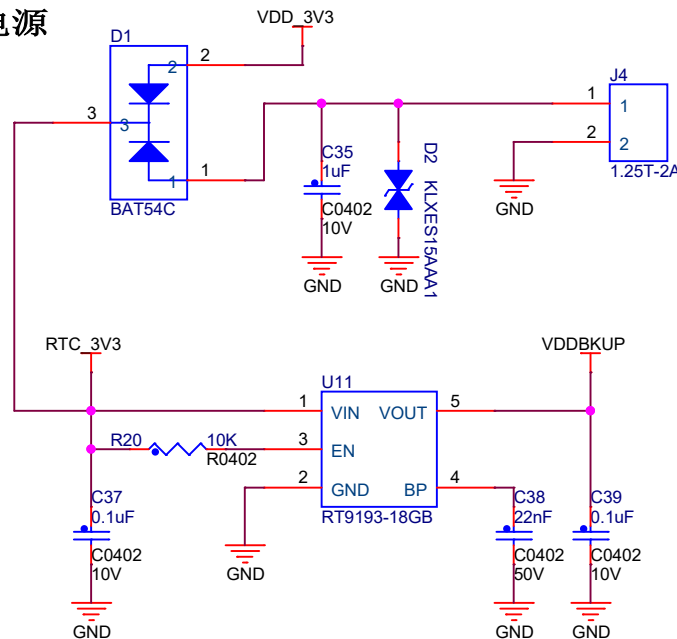
### Buck 1.8V/0.2A



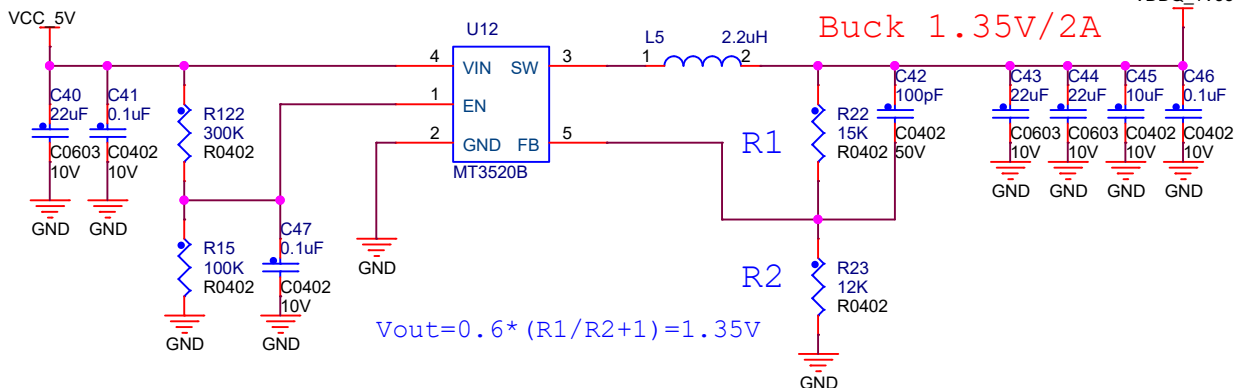
### 5V转0.9V



### RTC电源



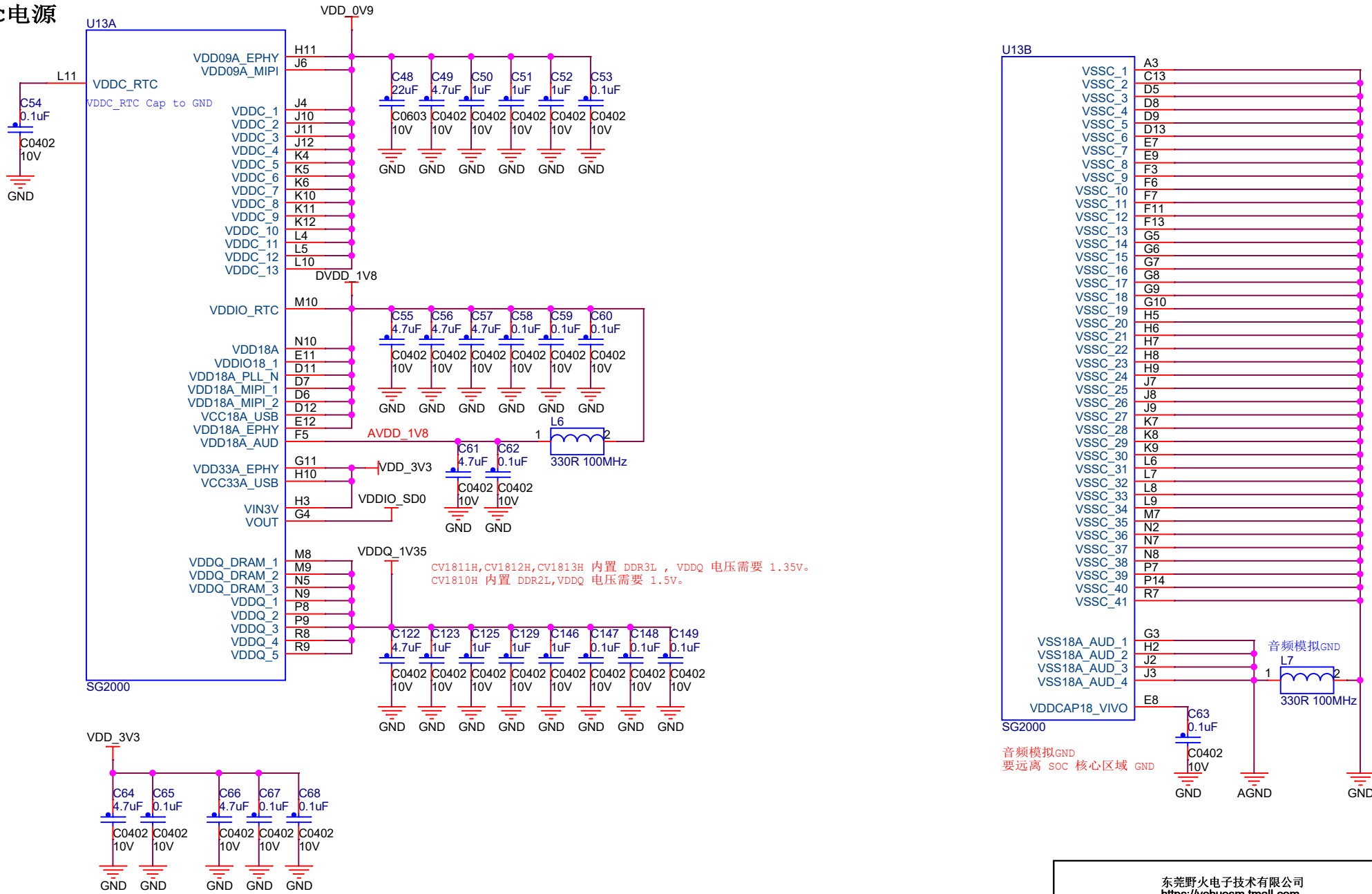
### 5V转1.35V



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Title		
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Size A4	Document Number 5V降压电源处理	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 5 of 15	

# SOC电源



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Title 野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number SOC电源	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 6 of 15	

# SOC-RTC

U13C

VDDIO\_RTC  
1p8v only

(PWR\_SEQ1/PWR\_GPIO[3]) [PD->DRV+PD]][FS] PWR\_SEQ1  
 (PWR\_SEQ2/PWR\_GPIO[4]) [PD->DRV+PD]] PWR\_SEQ2  
 (PWR\_SEQ3/PWR\_GPIO[5]) [PD->DRV+PD]][FS] PWR\_SEQ3

(PWR\_WAKEUP0/PWR\_IR0/PWR\_UART0\_TX/PWR\_GPIO[6](PWR\_IIC\_SDA)/UART1\_TX/IIC4\_SCL/EPHY\_LNK\_LED/WG2\_D0) [PD]][FS] PWR\_WAKEUP0  
 (PWR\_WAKEUP1/PWR\_IR1/PWR\_GPIO[7]/UART1\_TX/IIC4\_SCL/EPHY\_LNK\_LED/WG0\_D0) [PD]][FS] PWR\_WAKEUP1

(PWR\_VBAT\_DET(PWRSAR.VIN3)) [HIZ]] PWR\_VBAT\_DET

(PWR\_GPIO[0]/UART2\_TX/PWR\_UART0\_RX/PWM[8]) [PD]][FS] PWR\_GPIO0  
 (PWR\_GPIO[1](PWRSAR.VIN2)/UART2\_RX/EPHY\_LNK\_LED/PWM[9]/PWR\_IIC\_SCL/IIC2\_SCL/CR\_SDA0) [PD]] PWR\_GPIO1  
 (PWR\_GPIO[2](PWRSAR.VIN1)/EPHY\_SPD\_LED/PWM[10]/PWR\_IIC\_SDA/IIC2\_SDA/CR\_2WTCK) [PD]] PWR\_GPIO2

(IIC2\_SDA/PWM[15]/PWR\_GPIO[13]/UART2\_TX/IIS1\_MCLK/IIS2\_MCLK/KEY\_COL3) [PD]][FS] IIC2\_SDA  
 (IIC2\_SCL/PWM[14]/PWR\_GPIO[12]/UART2\_RX/KEY\_COL2) [PD]][FS] IIC2\_SCL

(UART2\_RX/PWM[10]/PWR\_UART1\_RX/PWR\_GPIO[16]/KEY\_COL3/UART4\_RX/IIS2\_DI/WG2\_D1) [PD]][FS] UART2\_RX  
 (UART2\_TX/PWM[11]/PWR\_UART1\_TX/PWR\_GPIO[14]/KEY\_ROW3/UART4\_TX/IIS2\_BCLK/WG2\_D0) [PD]][FS] UART2\_TX

(UART2\_CTS/PWM[9]/PWR\_GPIO[17]/KEY\_ROW1/UART4\_CTS/IIS2\_LRCK/WG1\_D1) [PD]][FS] UART2\_CTS  
 (UART2\_RTS/PWM[8]/PWR\_GPIO[15]/KEY\_ROW0/UART4\_RTS/IIS2\_DO/WG1\_D0) [PD]][FS] UART2\_RTS

(CLK32K/AUX0/CR\_SCL0/PWR\_GPIO[10]/PWM[2]/KEY\_COL0/CAM\_MCLK0/DBG[0]) [PD]][FS] CLK32K  
 (CLK25M/AUX1/CR\_2WTMS/PWR\_GPIO[11]/PWM[3]/KEY\_COL1/CAM\_MCLK1/DBG[1]) [PD]][FS] CLK25M

(PWR\_RSTN) [PU]][FS] PWR\_RSTN

(PWR\_ON/PWR\_GPIO[9]/UART1\_RX/IIC4\_SDA/EPHY\_SPD\_LED/WG0\_D1) [PD]][FS] PWR\_ON

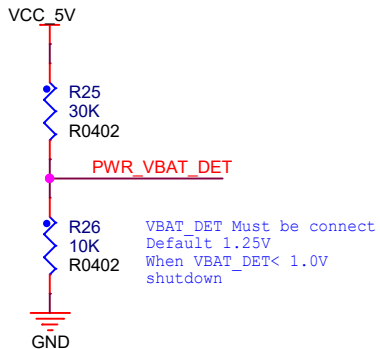
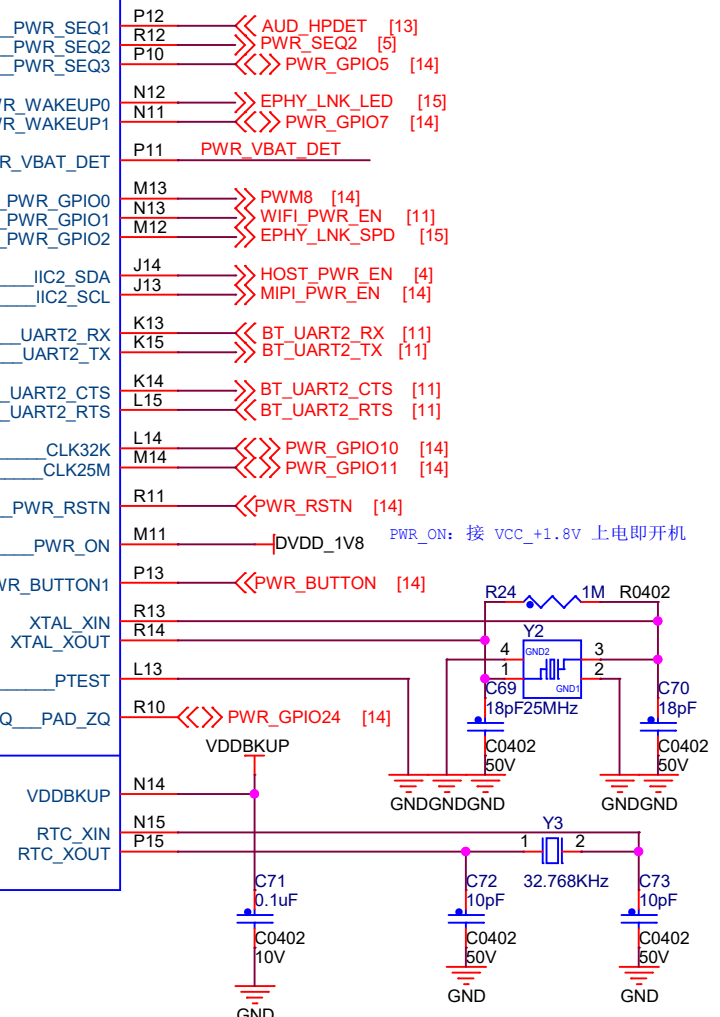
(PWR\_BUTTON1/PWR\_GPIO[8](PWR\_IIC\_SCL)/UART1\_RX/IIC4\_SDA/EPHY\_SPD\_LED/WG2\_D1) [PU]][FS] PWR\_BUTTON1

XTAL\_XIN  
XTAL\_XOUT

(PWR\_PTEST) [PD]][FS] PTEST

((GPIO\_ZQ)/PWR\_GPIO[24]/PWM[2]) [PD]][FS] GPIO\_ZQ PAD\_ZQ

VDDBKUP

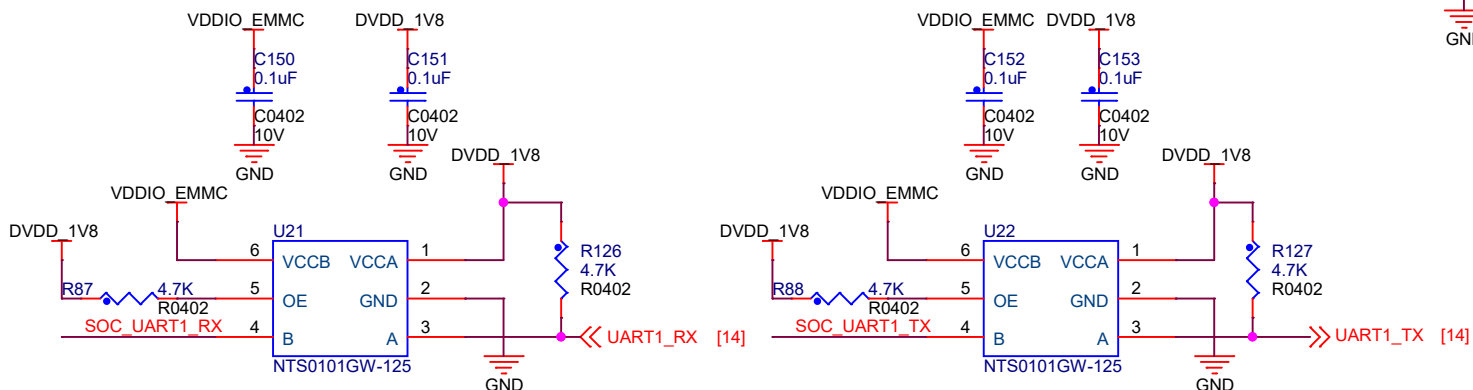
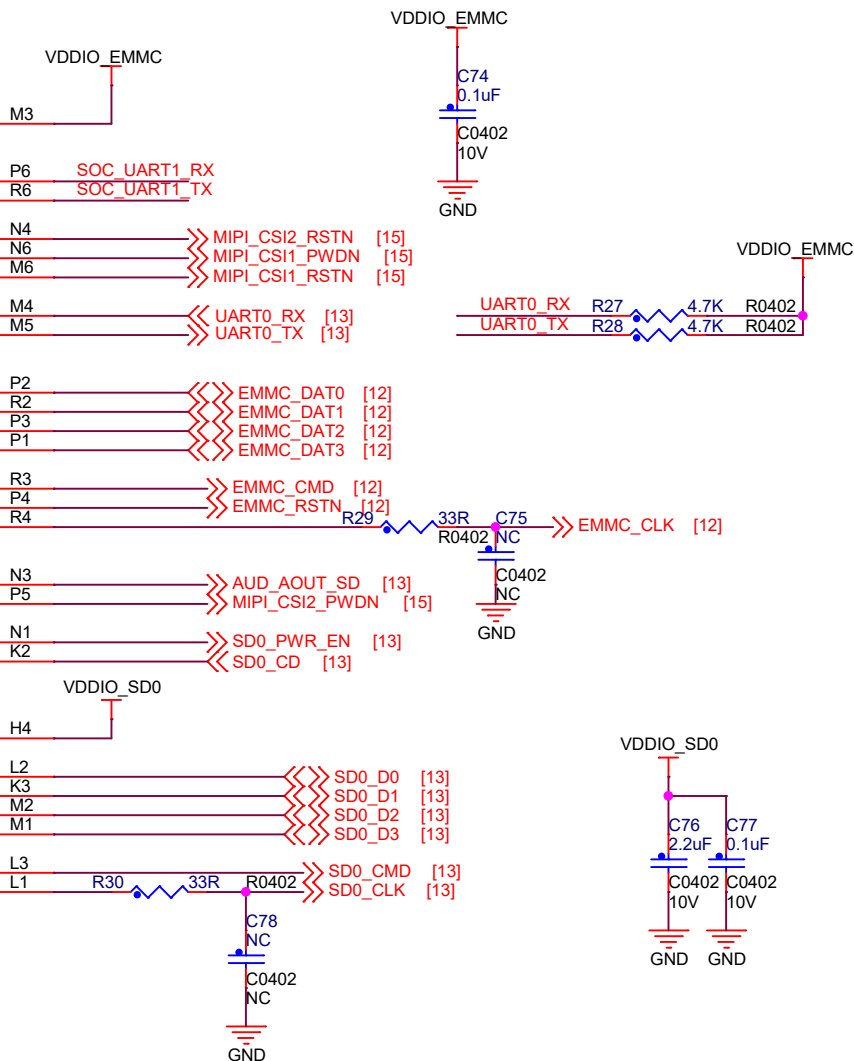
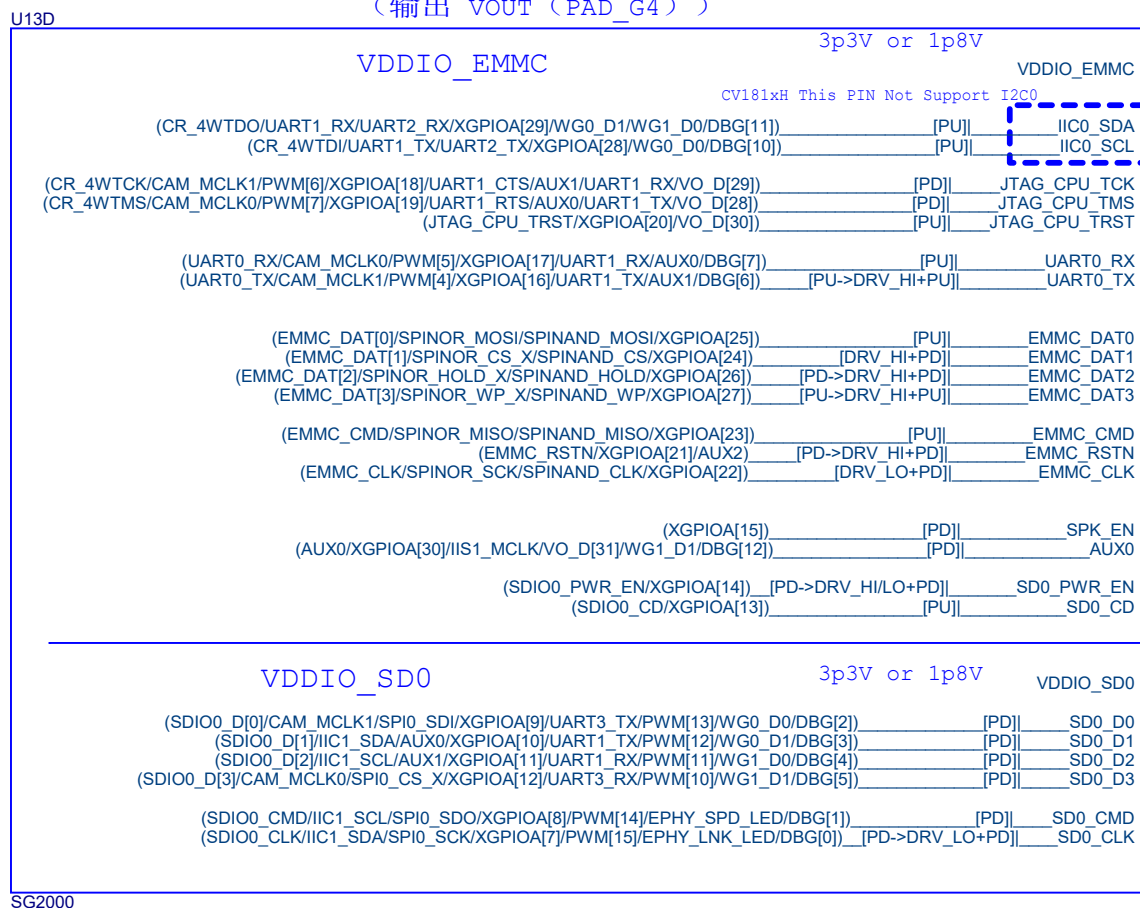


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Title		
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number SOC-RTC	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 7 of 15	

SOC-EMMC/SD0

VDDIO\_SD0: 是SDIO0的Power Domain, 主芯片SDIO0  
 内置3.3V和1.8V电源切换 (根据sd card握手协议动态  
 切换电源), 使用SD卡, 需VDDIO\_SD0接VOUT  
 (输出 VOUT (PAD\_G4))



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Title: 野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size: A4	Document Number: SOC-EMMC/SD0	Rev: V0.1
Date: Saturday, August 10, 2024	Sheet 8 of 15	



# EPHY

U13F

VDDIO18A\_AUD  
1p8V only

((PAD\_AUD\_AOUTL)/XGPIOC[25]/IIS1\_LRCK/IIS2\_LRCK) [HIZ] PAD\_AUD\_AOUTL  
((PAD\_AUD\_AOUTR)/XGPIOC[24]/IIS1\_DI/IIS2\_DO/IIS1\_DO) [HIZ] PAD\_AUD\_AOUTR

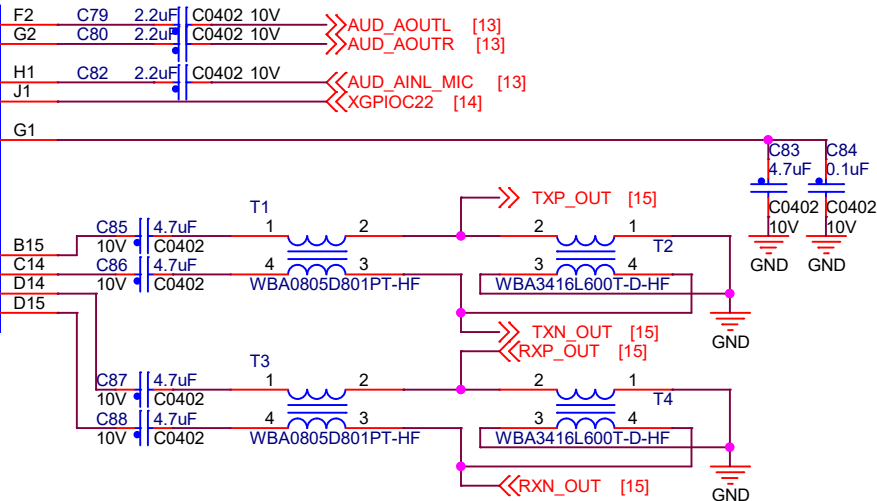
((PAD\_AUD\_AINL\_MIC)/XGPIOC[23]/IIS1\_BCLK/IIS2\_BCLK) [HIZ] PAD\_AUD\_AINL\_MIC  
((PAD\_AUD\_AINR\_MIC)/XGPIOC[22]/IIS1\_DO/IIS2\_DI/IIS1\_DI) [HIZ] PAD\_AUD\_AINR\_MIC

PAD\_AUD\_AVREF

1p8V only

((PAD\_ETH\_RXM)/UART3\_CTS/CAM\_MCLK0/XGPIOB[26]/PWM[14]/CAM\_VS0/SPI1\_CS\_X/IIS2\_DI) [HIZ] PAD\_ETH\_RXM EPHY\_TXP  
((PAD\_ETH\_RXP)/UART3\_TX/CAM\_MCLK1/XGPIOB[27]/PWM[15]/CAM\_HS0/SPI1\_SCK/IIS2\_DO) [HIZ] PAD\_ETH\_RXP EPHY\_TXN  
((PAD\_ETH\_TXM)/UART3\_RTS/IIC1\_SDA/XGPIOB[24]/PWM[12]/CAM\_MCLK1/SPI1\_SDI/IIS2\_BCLK) [HIZ] PAD\_ETH\_TXM EPHY\_RXP  
((PAD\_ETH\_TXP)/UART3\_RX/IIC1\_SCL/XGPIOB[25]/PWM[13]/CAM\_MCLK0/SPI1\_SDO/IIS2\_LRCK) [HIZ] PAD\_ETH\_TXP EPHY\_RXN

SG2000



# USB

U13E

VDDIO18\_1  
1p8V only

(USB\_ID/XGPIOB[4]) [PU] [FS] USB\_ID  
(USB\_VBUS\_DET/XGPIOB[6]/CAM\_MCLK0/CAM\_MCLK1) [HIZ] USB\_VBUS\_DET  
(USB\_VBUS\_EN/XGPIOB[5]) [DRV\_LO+PD] [FS] USB\_VBUS\_EN

((ADC1)/XGPIOB[3]/KEY\_COL2) [PD] [FS] ADC1  
((ADC2)/CAM\_MCLK1/IIC4\_SDA/XGPIOB[2]/PWM[13]/EPHY\_SPD\_LED/WG2\_D1/UART3\_RX) [PD] [FS] ADC2  
((ADC3)/CAM\_MCLK0/IIC4\_SCL/XGPIOB[1]/PWM[12]/EPHY\_LNK\_LED/WG2\_D0/UART3\_TX) [PD] [FS] ADC3

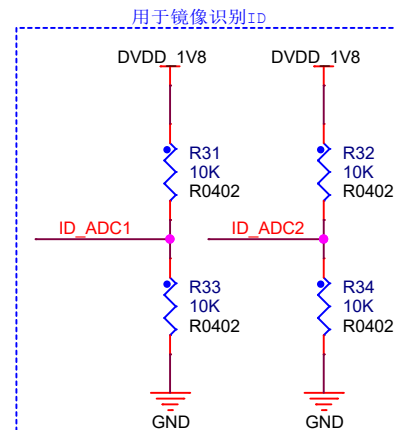
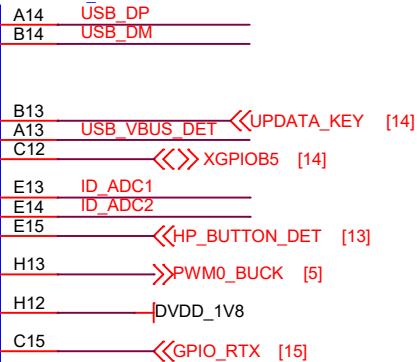
(PWM[0]/XGPIOB[0]) [HIZ] [FS] PWM0\_BUCK

(RSTN) [PU] [FS] RSTN

((GPIO\_RTX)/XGPIOB[23]/PWM[1]/CAM\_MCLK0) [PD] [FS] GPIO\_RTX EPHY\_RTX

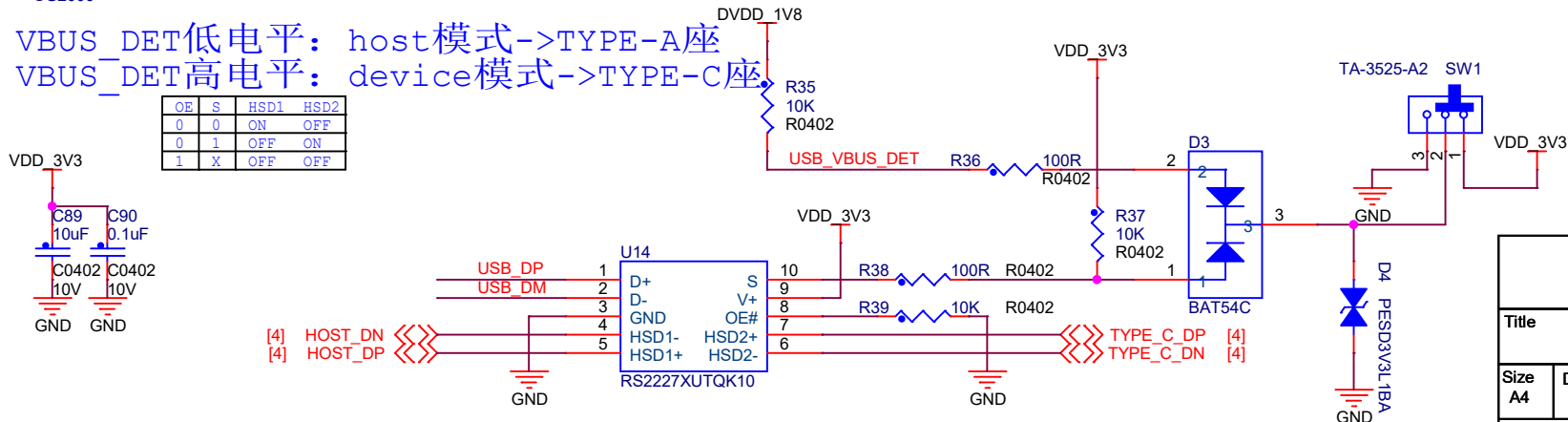
SG2000

USB VBUS\_DET用OTG, 并用于下载镜像  
USB\_ID用于OTG切换host/device, 可用于按键检测USB/SD升级



VBUS\_DET低电平: host模式->TYPE-A座  
VBUS\_DET高电平: device模式->TYPE-C座

OE	S	HSD1	HSD2
0	0	ON	OFF
0	1	OFF	ON
1	X	OFF	OFF

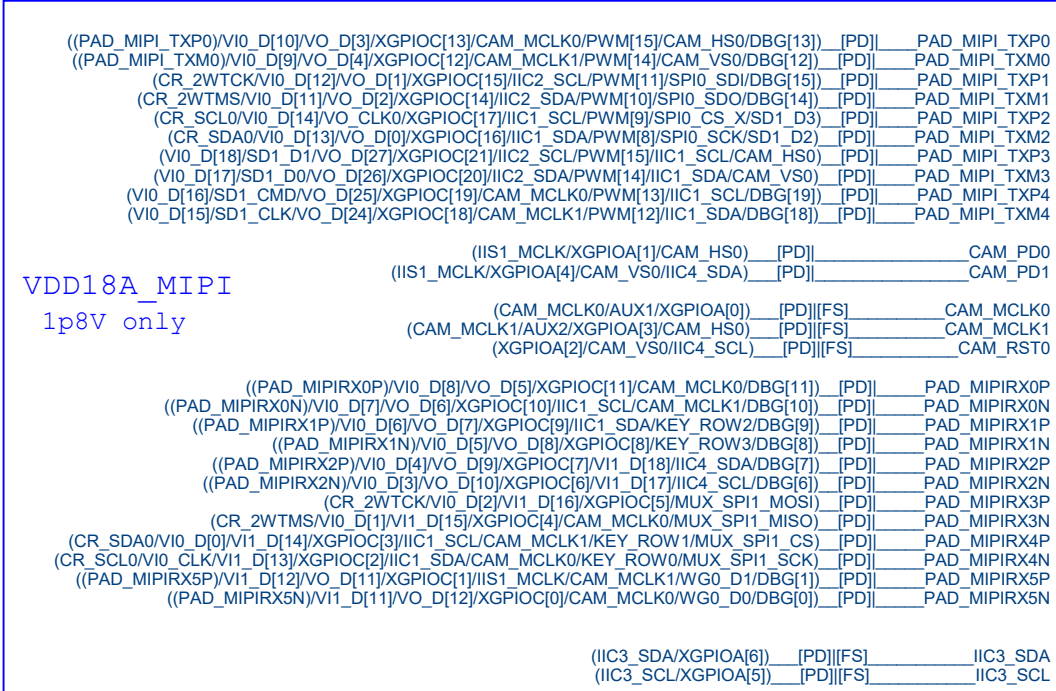


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Title		
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size	Document Number	Rev
A4	SOC-USB/EPHY	V0.1
Date:	Saturday, August 10, 2024	Sheet 9 of 15

# MIPI DSI/GPIO

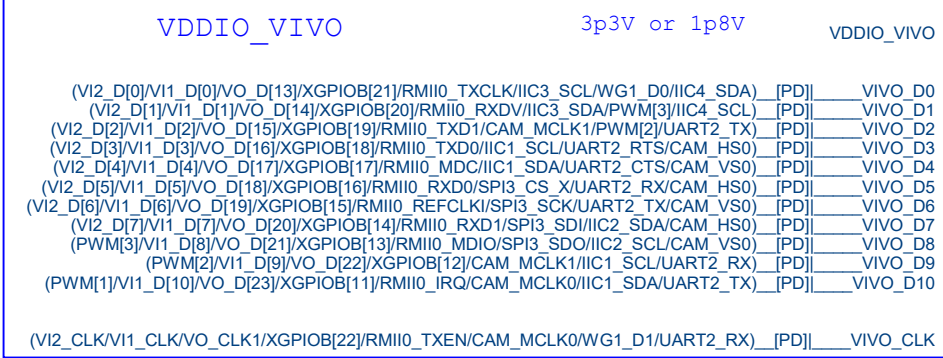
U13H



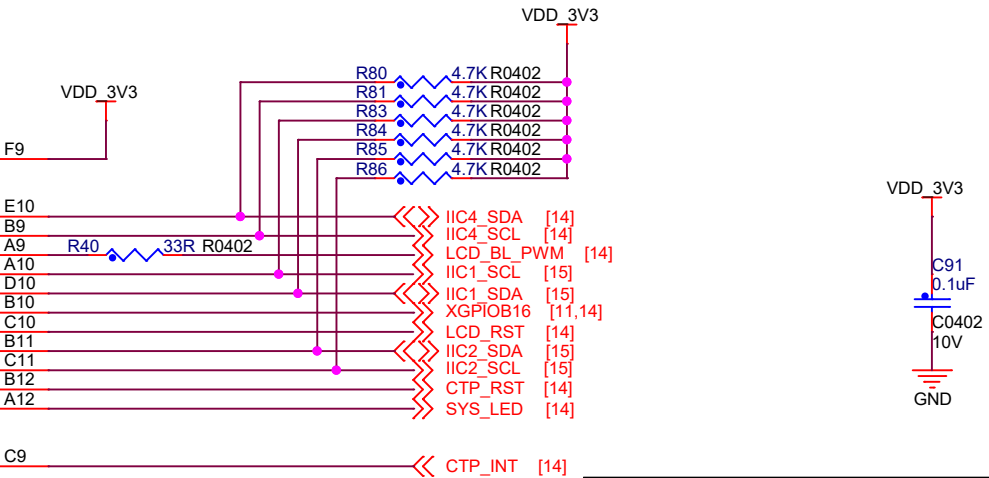
VDD18A\_MIPI  
1p8V only

SG2000

U13I

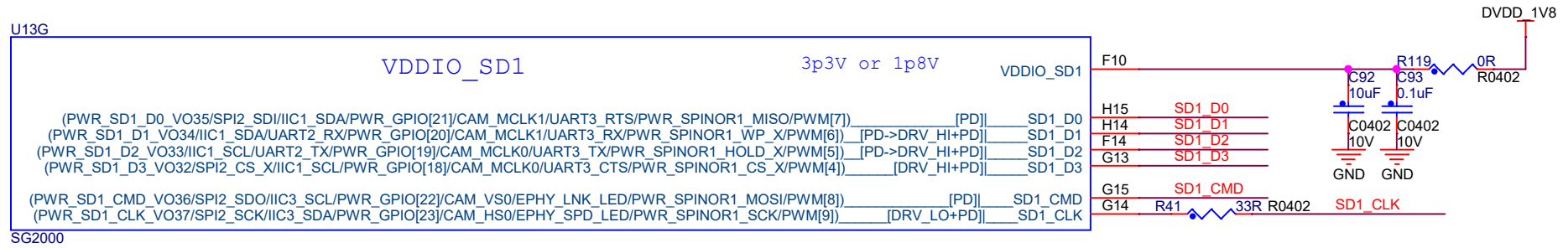


SG2000

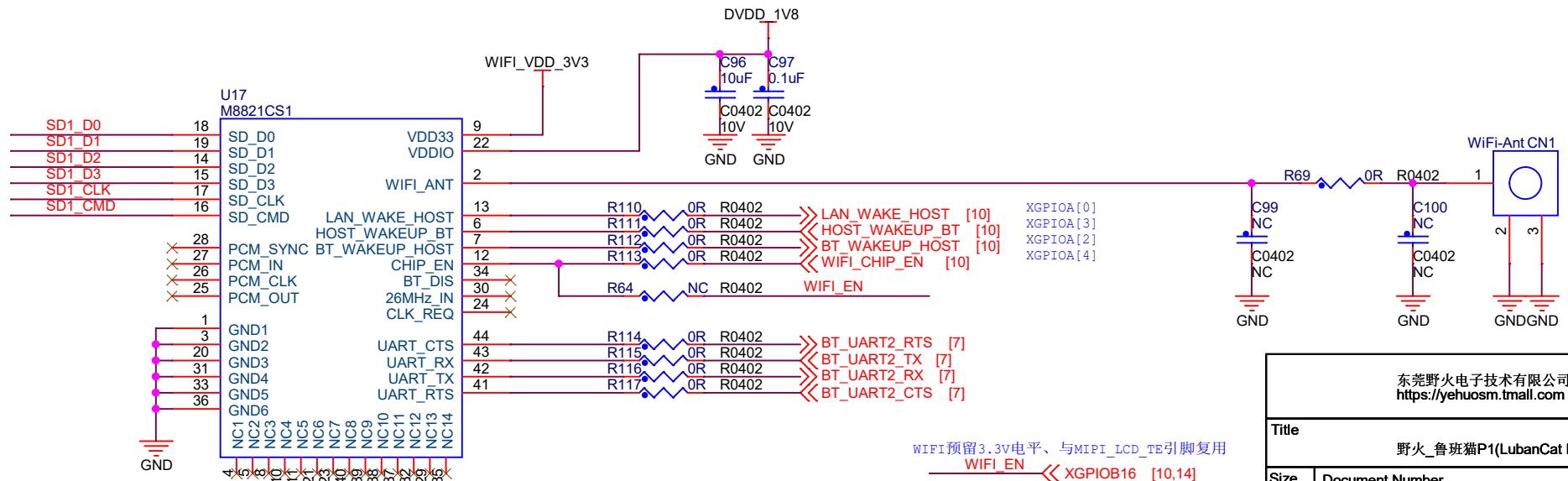
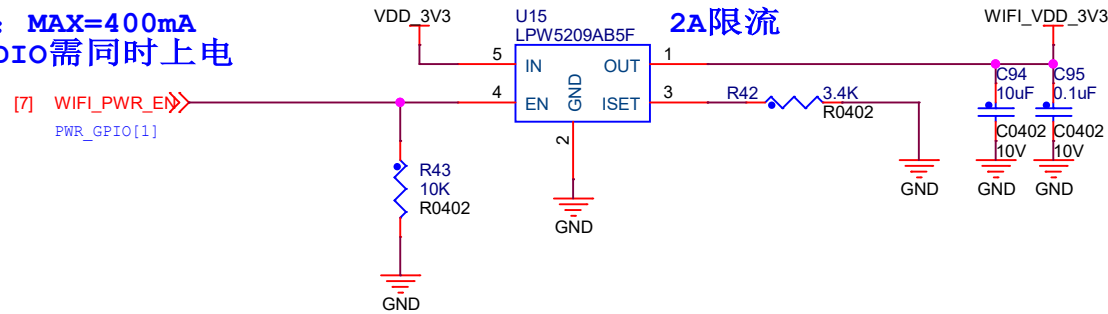


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Title 野火_鲁班猫P1(LubanCat P1)CV1812H_原理图			
Size A4	Document Number SOC-MIPI DSI/GPIO	Rev V0.1	
Date: Saturday, August 10, 2024	Sheet 10 of 15		

# WIFI



**WIFI-3.3V: MAX=400mA**  
**VDD33与VDDIO需同时上电**



WIFI预留3.3V电平、与MIPI\_LCD\_TE引脚复用  
 WIFI\_EN << XGPIOB16 [10,14]

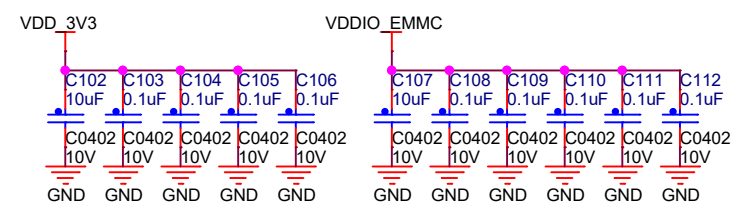
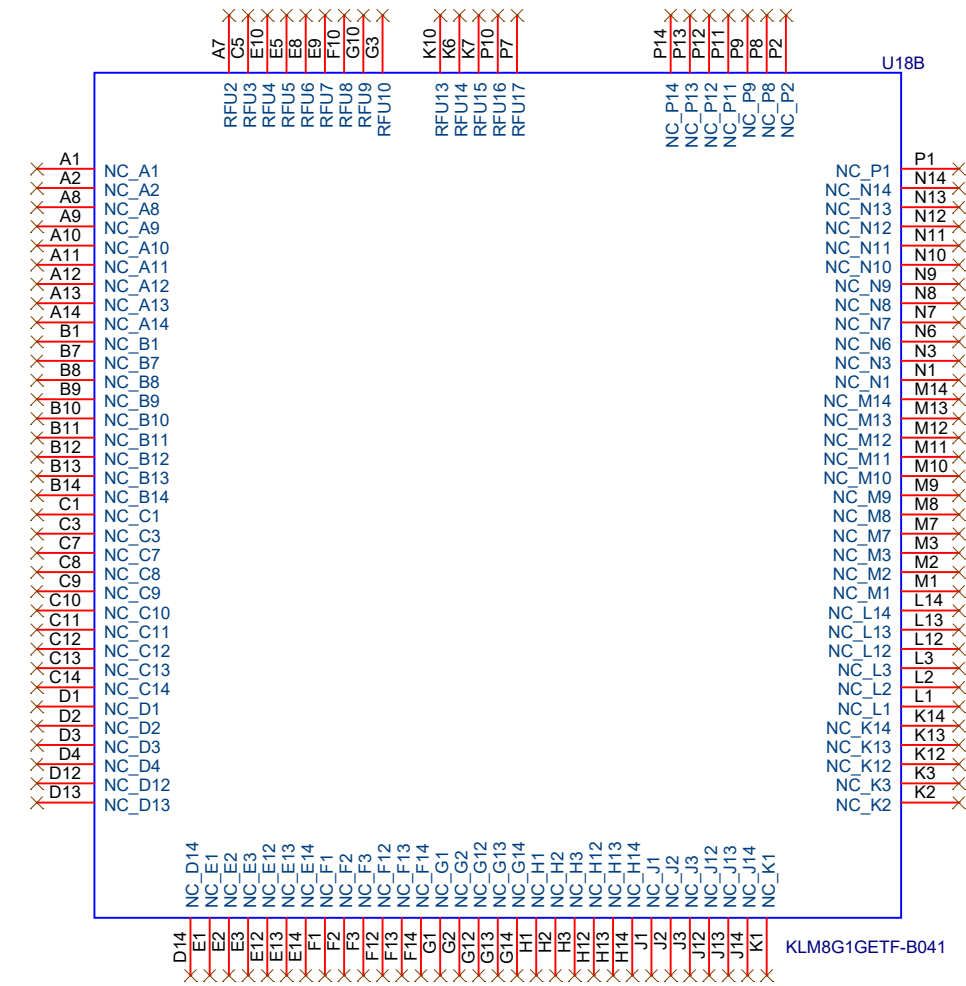
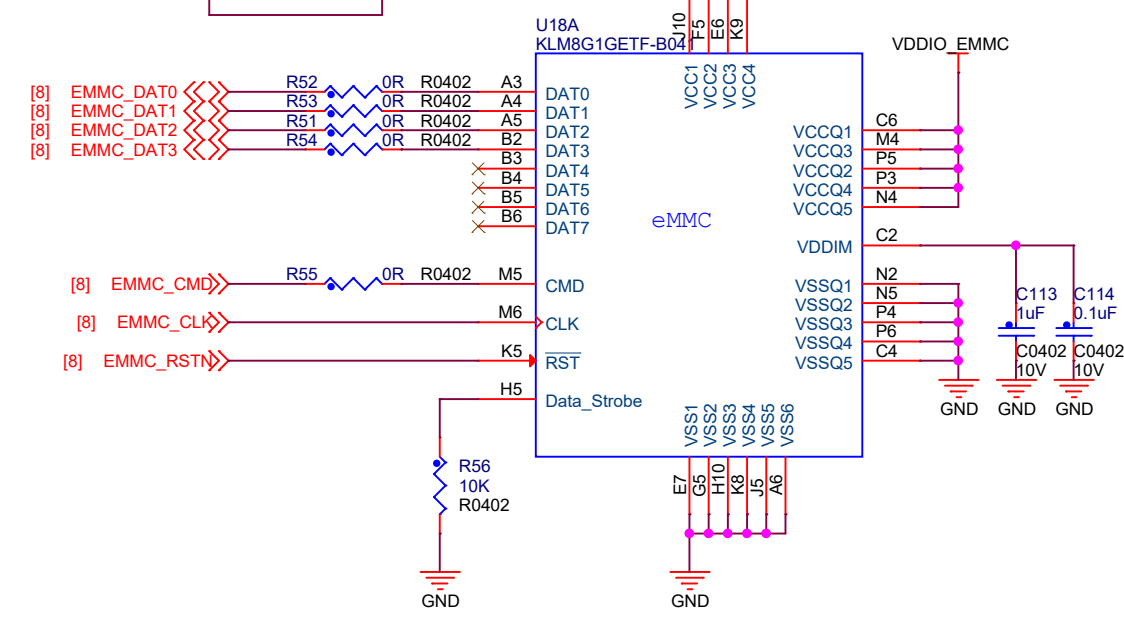
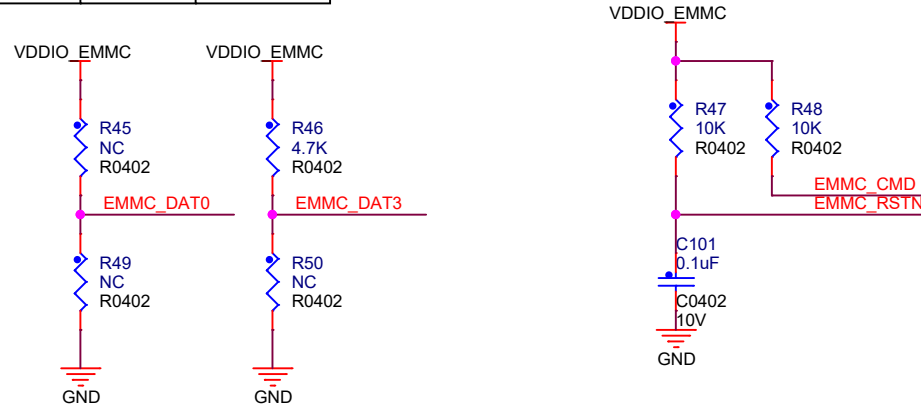
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Title		
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size	Document Number	Rev
A4	WIFI	V0.1
Date:	Saturday, August 10, 2024	Sheet 11 of 15

# EMMC

BOOT设置：默认配置emmc，此开发板仅支持emmc

EMMC_DAT0	EMMC_DAT3	boot device selection
X	1	EMMC
1	0	Serial NOR
0	0	Serial NAND

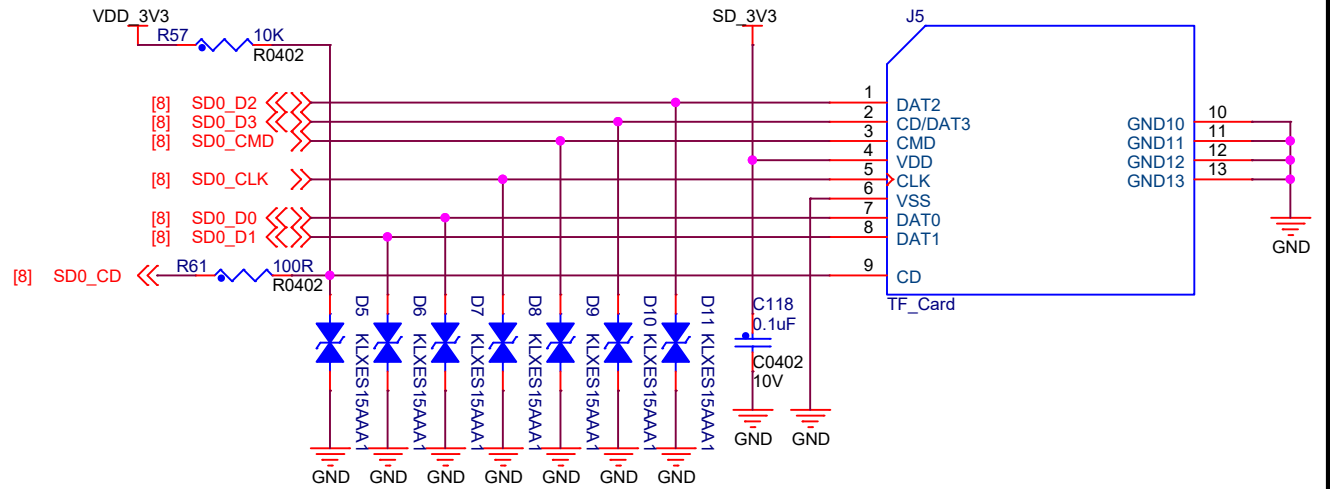
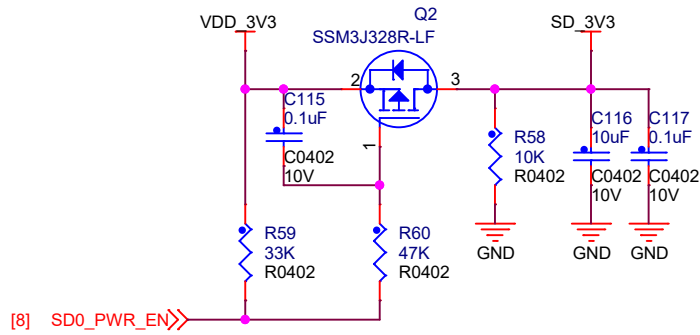


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Title: 野火\_鲁班猫P1(LubanCat P1)CV1812H\_原理图

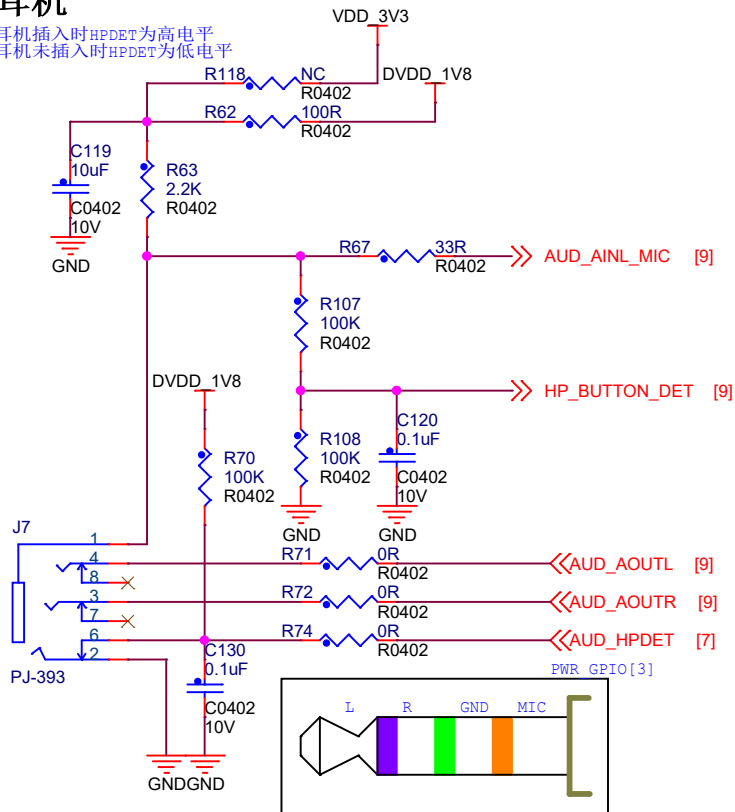
Size A4	Document Number	Device-EMMC	Rev V0.1
Date: Saturday, August 10, 2024	Sheet 12 of 15		

### SD卡

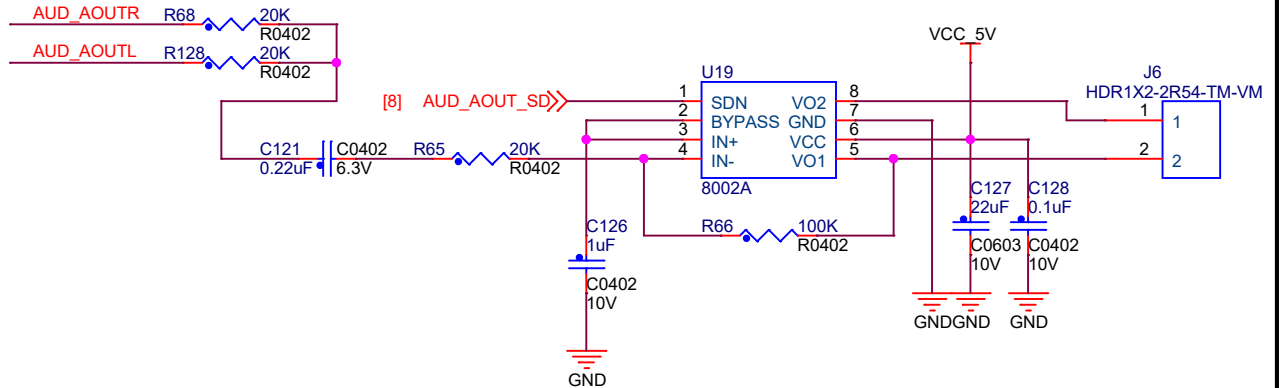


### 耳机

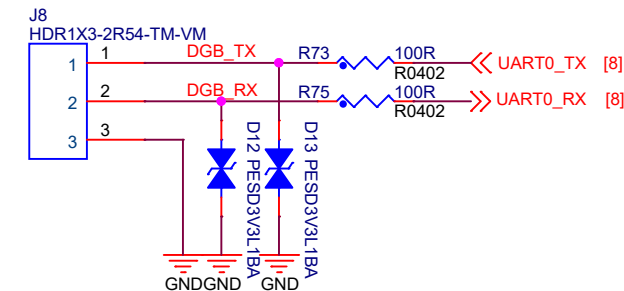
耳机插入时HPDET为高电平  
耳机未插入时HPDET为低电平



### 功放



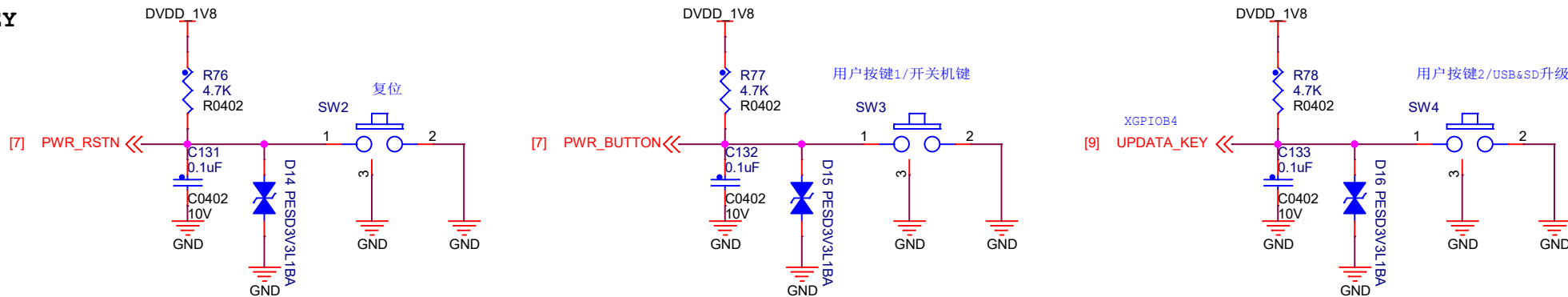
### DEBUG



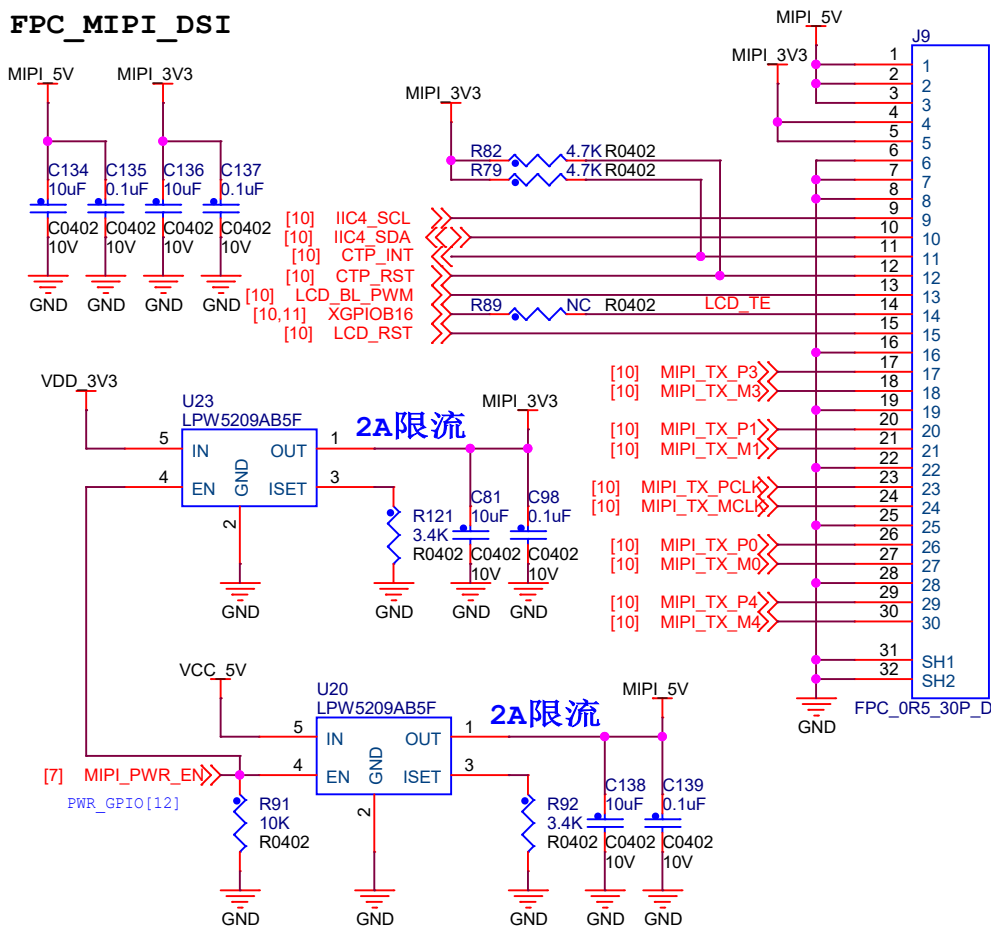
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Title			
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图			
Size	Document Number	Device-SD卡/音频/功放	Rev
A4			V0.1
Date:	Saturday, August 10, 2024	Sheet	13 of 15

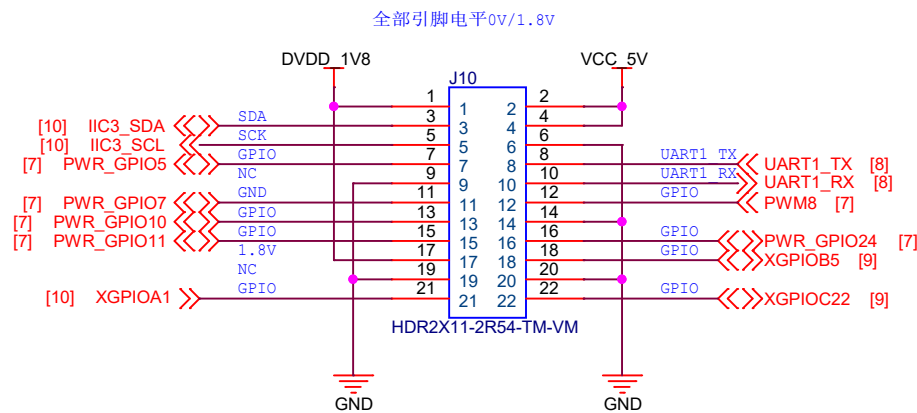
### KEY



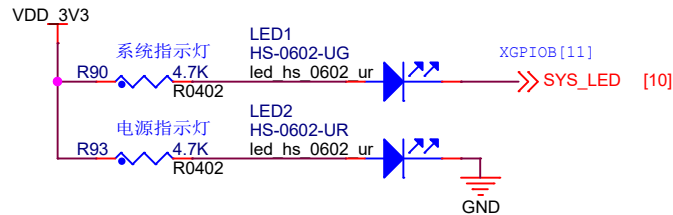
### FPC\_MIPI\_DSI



### 排针



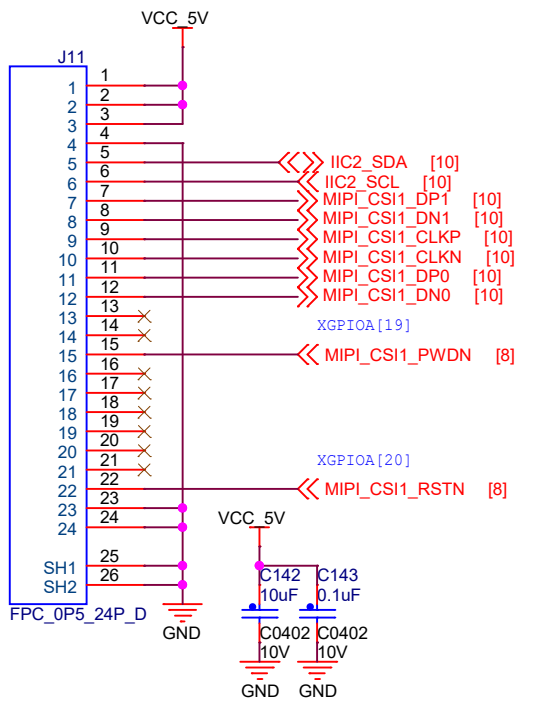
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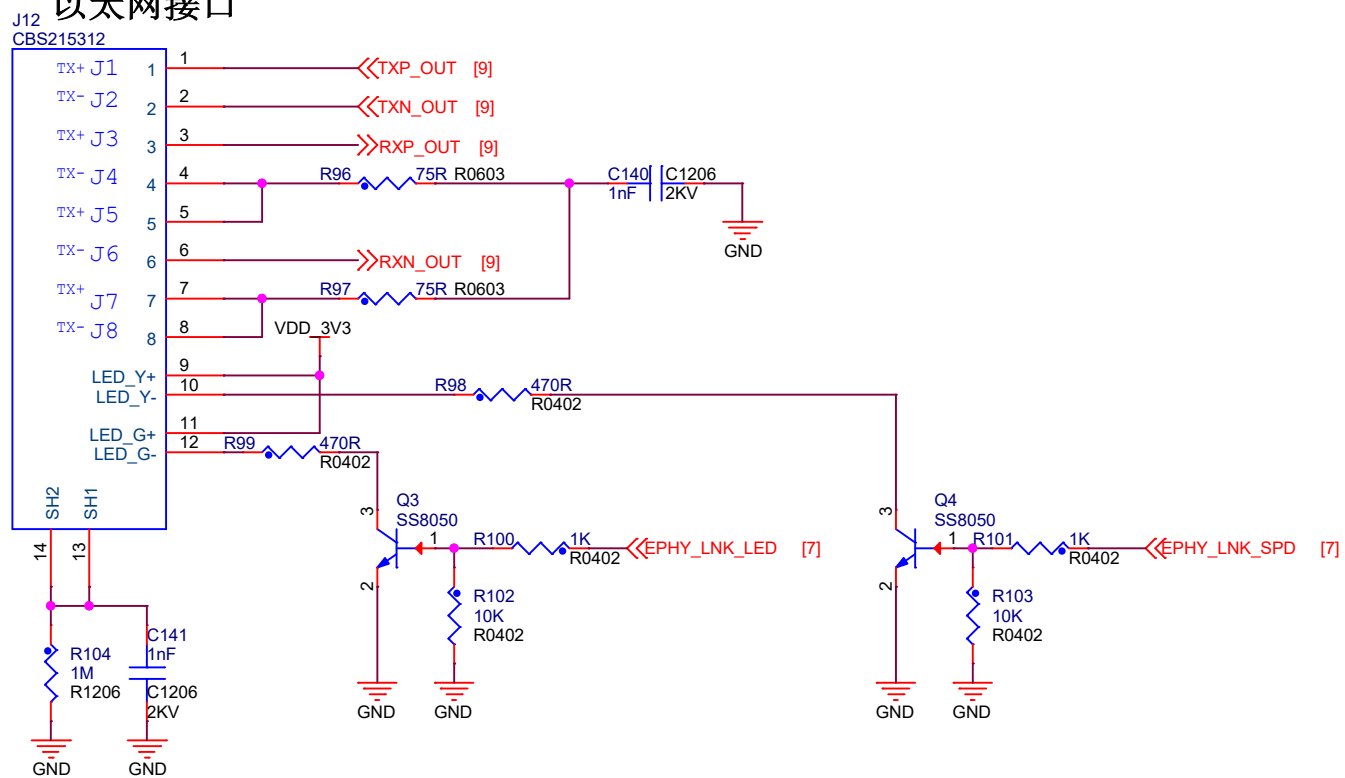
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Title			野火_鲁班猫P1(LubanCat P1)CV1812H_原理图
Size	Document Number	KEY/LED/排针/MIPI	Rev
A4			V0.1
Date:	Saturday, August 10, 2024	Sheet 14 of 15	

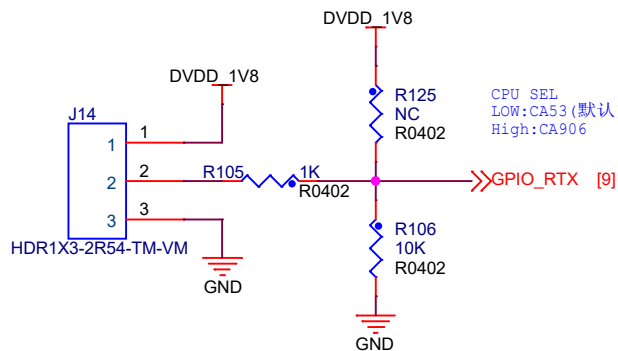
### SENSOR



### 以太网接口



### CPU SEL



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Title		
野火_鲁班猫P1(LubanCat P1)CV1812H_原理图		
Size A4	Document Number	Rev V0.1
Date: Saturday, August 10, 2024	SENSOR/以太网	
Sheet 15 of 15		