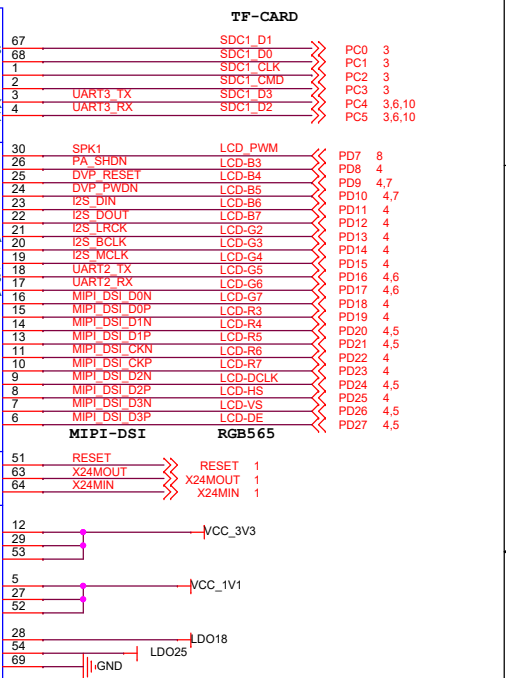
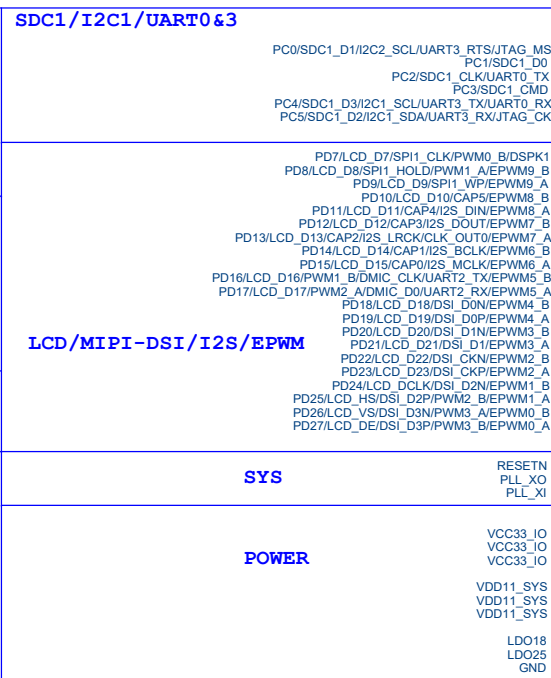
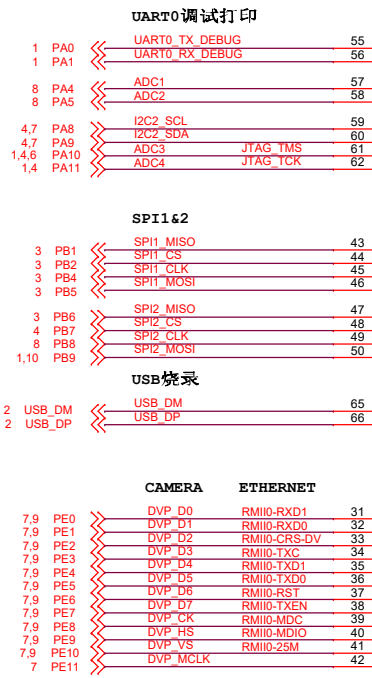


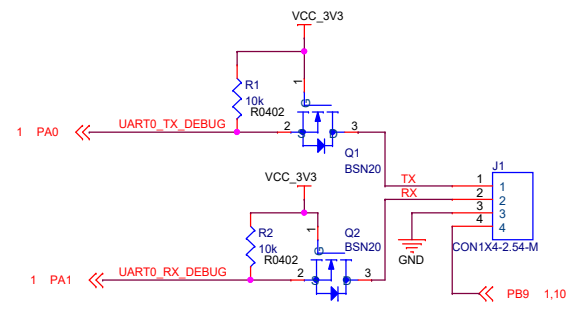
IO口预留



G730BDU  
 芯片内部含2MB Nor Flash，使用内部SPI0功能 四数据线模式

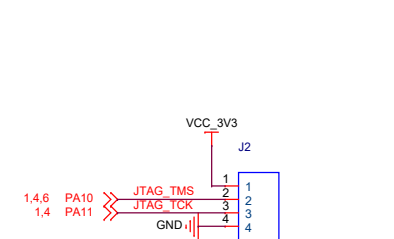
CPU底部GND焊盘加强散热

**DEBUG/UART0**



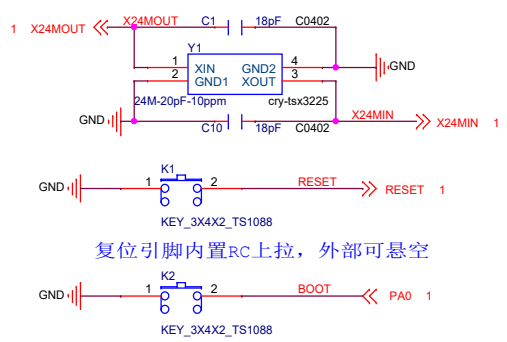
DEBUG串口最好保留，用于调试信息打印，MOS管用于隔离电平，若直连建议串小电阻防护

**JTAG (Option)**



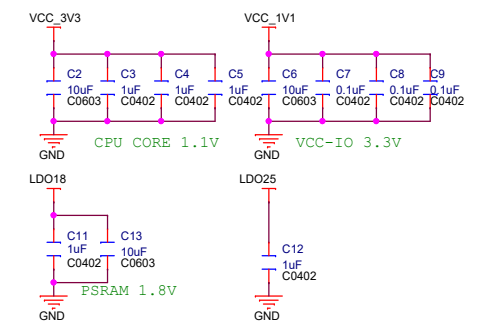
JTAG非必须，可预留测试点用于单步调试  
 2.54 4p

**PLL**



复位引脚内置RC上拉，外部可悬空  
 BOOT引脚复用默认PA0，可换任意IO，上电或复位瞬间检测低电平进入烧录模式

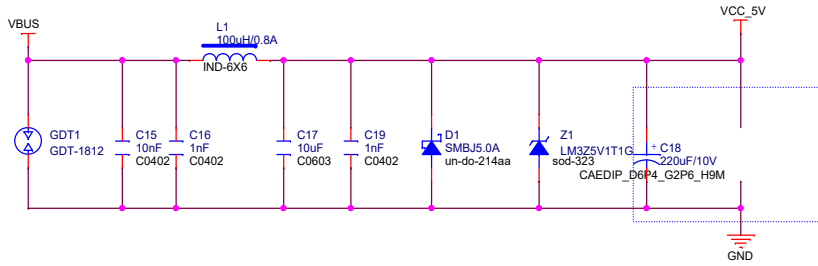
**CPU decouple cap**



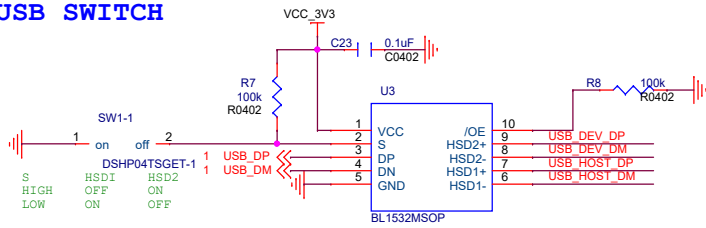
**ArtInChip Technology Co., Ltd**

Design Name: G730BDU-REF  
 Size: A3 Page Name: CPU Rev: V1.0  
 Date: 2024-08-11 Sheet: 1 of 10

## DC5V POWER



## USB SWITCH

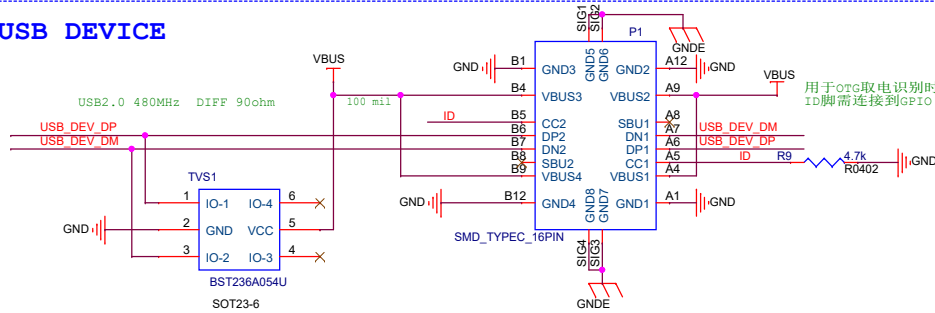


USB模拟开关切换电路:

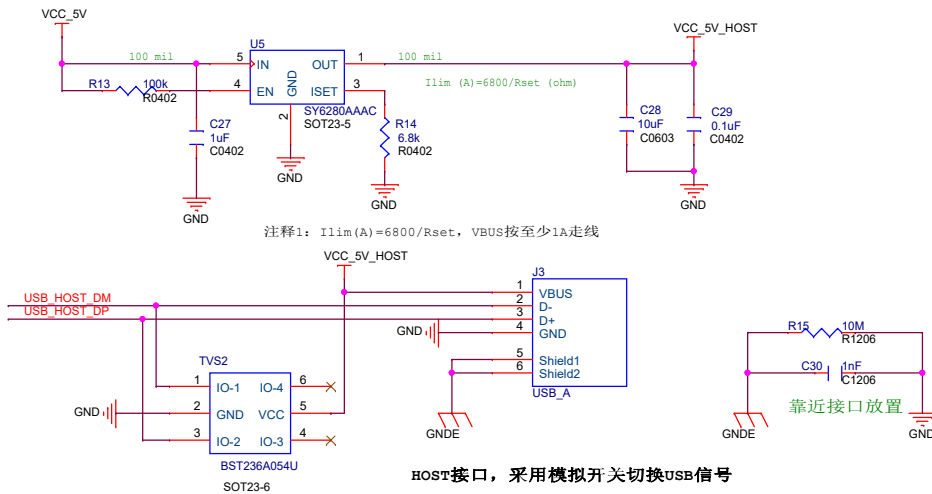
USB\_ID为高时, USB通过模拟开关通道2, 连接到Type\_C接口  
USB\_ID为低时, USB通过模拟开关通道1, 连接到Type\_A接口

此电路为硬件USB一分二电路, 与软件配置USB为DEVICE或HOST模式相互独立, USB0 DEVICE 模式用于烧录升级

## USB DEVICE



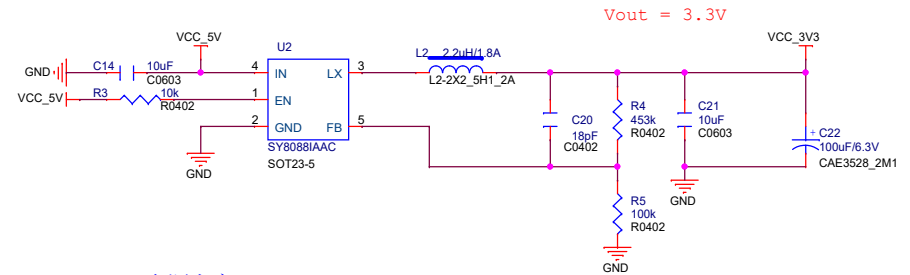
## USB HOST



注释1:  $I_{lim}(A) = 6800/R_{set}$ , VBUS按至少1A走线

HOST接口, 采用模拟开关切换USB信号

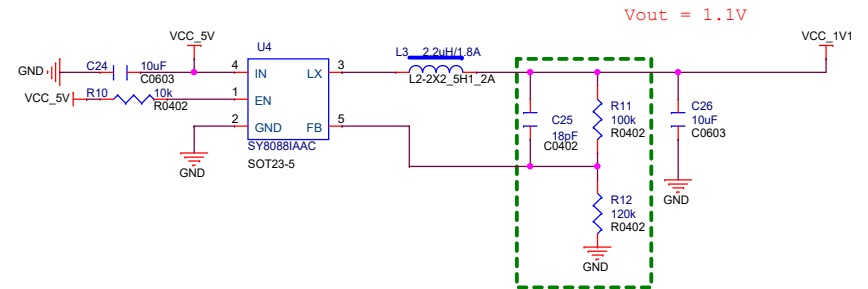
## 3.3V for VCC-I/O



G730BDU电源方案:

- 1、单3.3V供电, 使用内置LDO18和LDO1x, 优点是电路简洁、成本低; 缺点是电源效率低、温升会比方案2高8°C左右
- 2、3.3V和1.1V供电, 优点是兼顾成本、发热、效率平衡;

## 1.1V for VCC-SYS

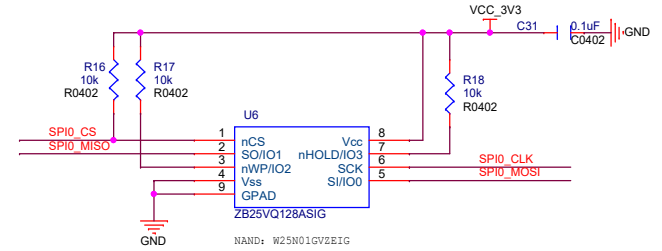


当转1.1V电源芯片距离主控芯片较远时, 反馈电路靠近主控芯片端放置, 防止由于印制线较长导致1.1V有较大压降

<Variant Name>

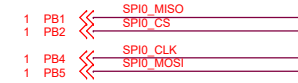
			<b>ArtInChip Technology Co., Ltd</b>	
			Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>USB/POWER</b>		Rev V1.0	
Date: 2024-06-11		Sheet 2 of 10		

NAND (SPI 外扩存储)  
NOR (SPI 外扩存储) 兼容

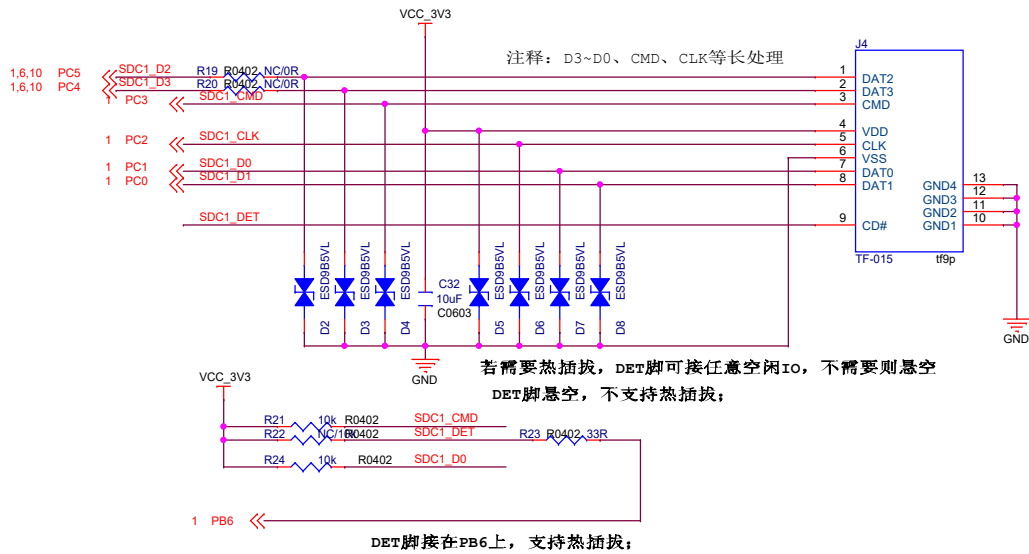


CS、WP、HOLD必须加上拉电阻


使用wSON-8带地焊盘封装，可兼容NAND/NOR



TF-CARD (SDC1)

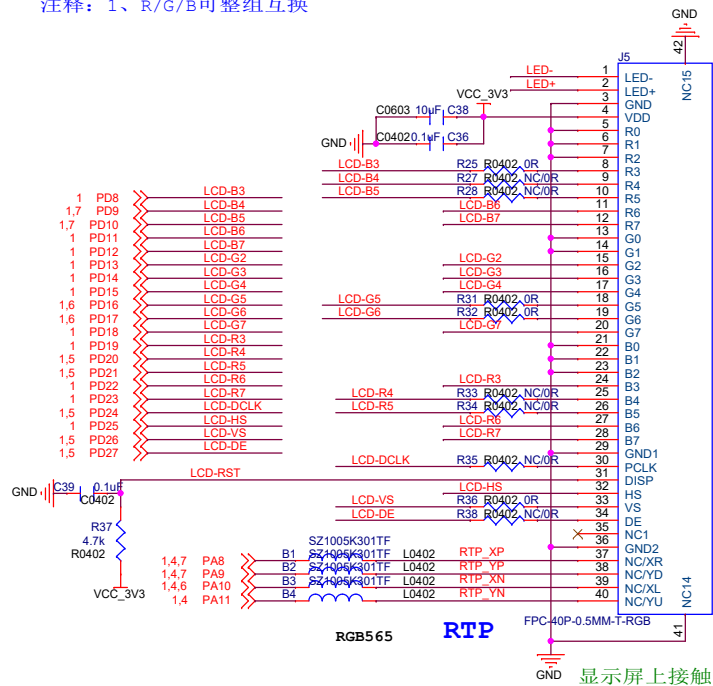


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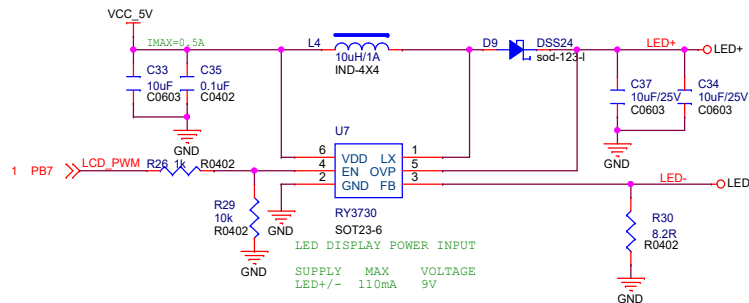
		<b>ArtInChip Technology Co., Ltd</b>	
		Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>NAND/NOR/CARD</b>	Rev V1.0	
Date: 2024-08-11	Sheet 3	of 10	

# RGB565

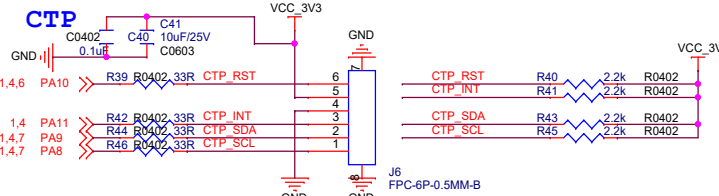
注释：1、R/G/B可整组互换




# LCD BACKLIGHT



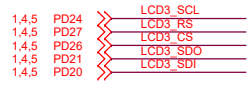
- 1、根据实际使用屏需求更换电阻调整背光电流
- 2、背光若需要调亮度，LCD\_PWM需接PWM通道
- 3、背光若只需控制亮灭，LCD\_PWM可接任意GPIO



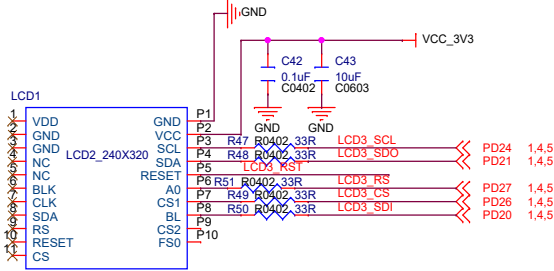
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		<b>ArtInChip Technology Co., Ltd</b>	
		Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>RGB SCREEM</b>	Rev V1.0	
Date: 2024-08-11	Sheet 4 of		10

## SPI



注释：当SDI和SDO分开时，注意交叉，  
PD21/SDO为SoC输出需接屏端SDI；  
PD20/SDI为SoC输入需接屏端SDO输出



10脚 这边接口 仅支持 3.3V /2.8 IO口电平

11脚这边接口仅支持stc51和80k等5VIO电平；

## port 10 Pin Description:

此接口仅支持3.3/2.8V IO口电平

NO.	SYMBOL	Description
01	GND	电源地
02	VCC	电源正极，支持3.3V和2.8V输入 电压3.3V时，IO口，且接接，电源0V时，接口，且接并
03	SCL	SPI串行时钟信号
04	SDA	SPI串行数据输入输出信号
05	RESET	复位信号
06	A0	数据指令选择脚，0为指令 1为数据
07	CS1	LCD片选脚 低电平选中
08	BL	背光使能脚，高电平背光开启，低电平背光关闭
09	CS2	字库芯片片选脚（与屏下片选复用，低电平选字库芯片，高电平选择屏下片）
10	FS0	字库芯片和字库SPI数据输出脚 0FS0


## Arduino port 11 Pin Description:

此接口支持STC51 和80k等5V IO口电平

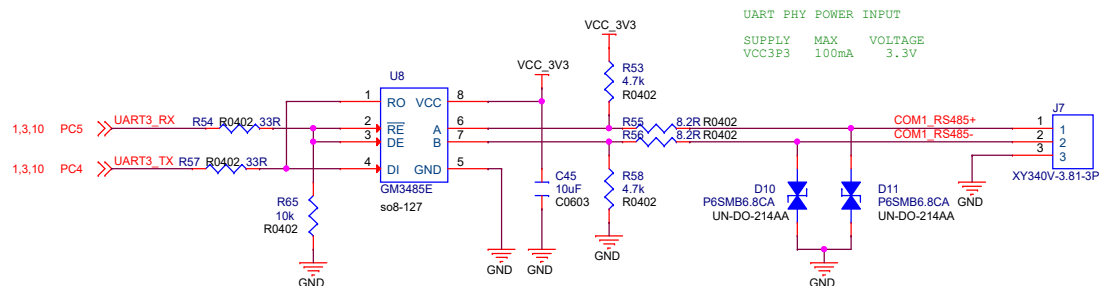
NO.	SYMBOL	Description
01	VCC	电源正极，支持3.3V和5V输入 电压3.3V时，IO口，且接接，电源0V时，接口，且接并
02	GND	电源地
03	GND	电源地
04	NC	空脚
05	NC	空脚
06	BLC	背光使能脚，高电平背光开启，低电平背光关闭
07	CLK	SPI串行时钟信号
08	SDA	SPI串行数据输入输出信号
09	RS	数据指令选择脚，0为指令 1为数据
10	RESET	复位信号
11	CS	片选脚 低电平有效

PIN NAME	MAPPING	SPI	SPI	QSPI
GPD_P20	LCD_D20	SDI	/	SDA0
GPD_P21	LCD_D21	SDO	SDA	SDA1
GPD_P22	LCD_D22	/	/	SDA2
GPD_P23	LCD_D23	/	/	SDA3
GPD_P24	LCD_DCLK	SCL	SCL	SCL
GPD_P25	LCD_HS	/	/	/
GPD_P26	LCD_VS	CS	CS	CS
GPD_P27	LCD_DE	RS	RS	RS

<Variant Name>

		<b>ArtInChip Technology Co., Ltd</b>	
		Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>QSPI SCREEM</b>	Rev V1.0	
Date: 2024-08-12	Sheet 5	of 10	

## RS485

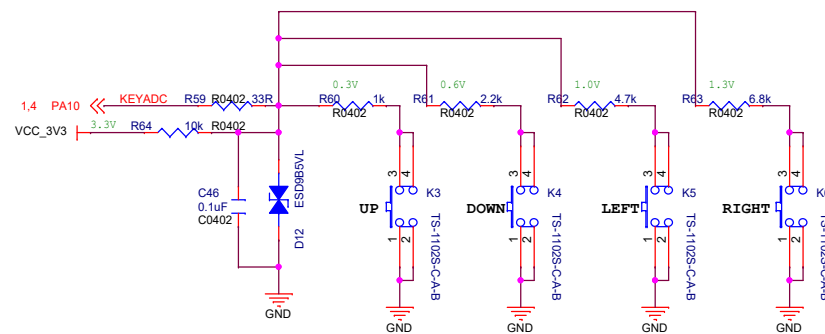


- 1、RS485 AIC特有两线接法，TX引脚既当发送又当接收，RX引脚硬件流控，可节省1个PIN
- 2、RS485三线模式接法，若使用软件控制方向可接任意IO，若使用硬件流控必须接RTS

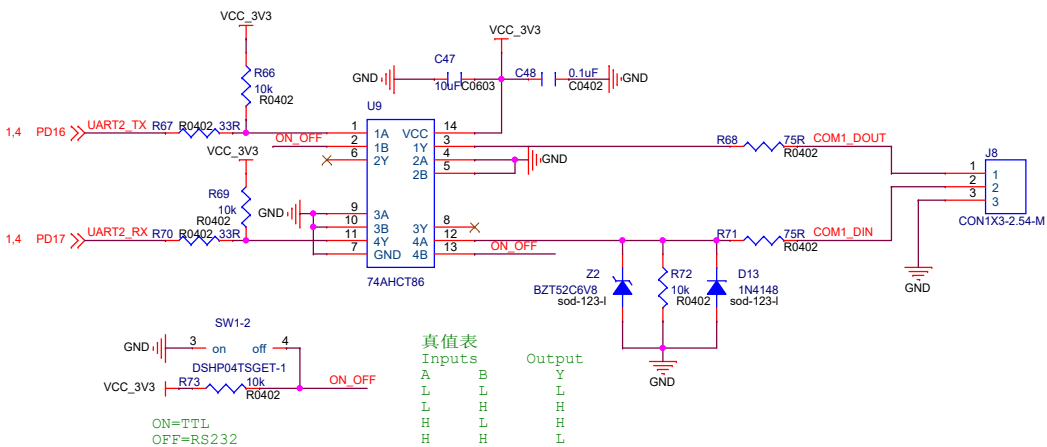
## BAT ADC

- 1、BAT为12V~24V应用，可以选择10M/1M分压，输入电容0.22uF或0.47uF
- 2、BAT为5V以下应用，可以选择1M/1M分压，输入电容0.22uF或0.47uF


## KEYADC



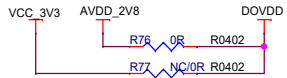
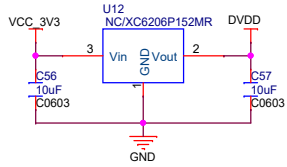
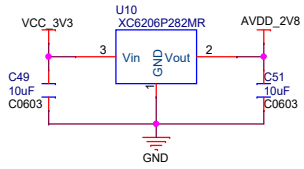
## RS232/TTL



<Variant Name>

			<b>ArtInChip Technology Co., Ltd</b>	
			Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>RS485/RS232/ADC</b>			Rev V1.0
Date: 2024-08-11	Sheet 6 of		10	

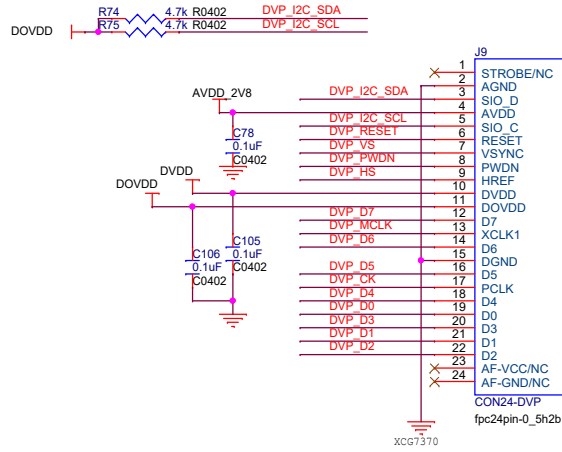
# DVP CAMERA




- 1.9 PE0 << DVP D0
- 1.9 PE1 << DVP D1
- 1.9 PE2 << DVP D2
- 1.9 PE3 << DVP D3
- 1.9 PE4 << DVP D4
- 1.9 PE5 << DVP D5
- 1.9 PE6 << DVP D6
- 1.9 PE7 << DVP D7
- 1.9 PE8 << DVP CK
- 1.9 PE9 << DVP HS
- 1.9 PE10 << DVP VS
- 1 PE11 << DVP MCLK
  
- 1.4 PA8 << DVP I2C SCL
- 1.4 PA9 << DVP I2C SDA
  
- 1.4 PD9 << DVP RESET
- 1.4 PD10 << DVP PWDN

OV2640 下接触  
 AVDD 2.5~3.0V  
 DVDD 1.3V  
 DOVDD 1.7~3.3V

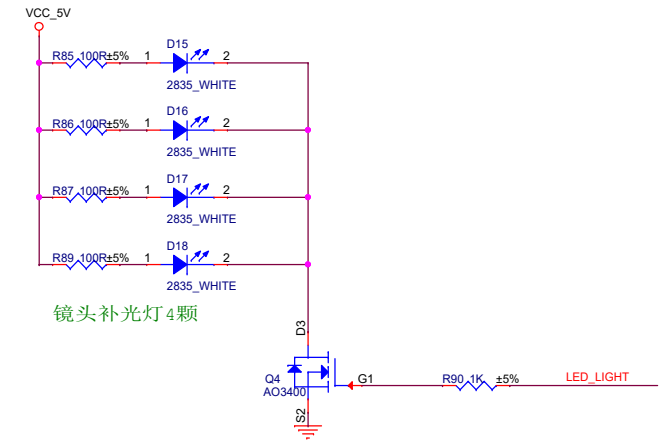
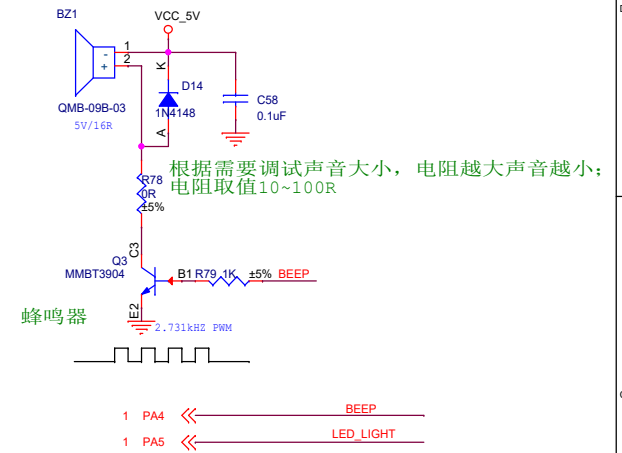
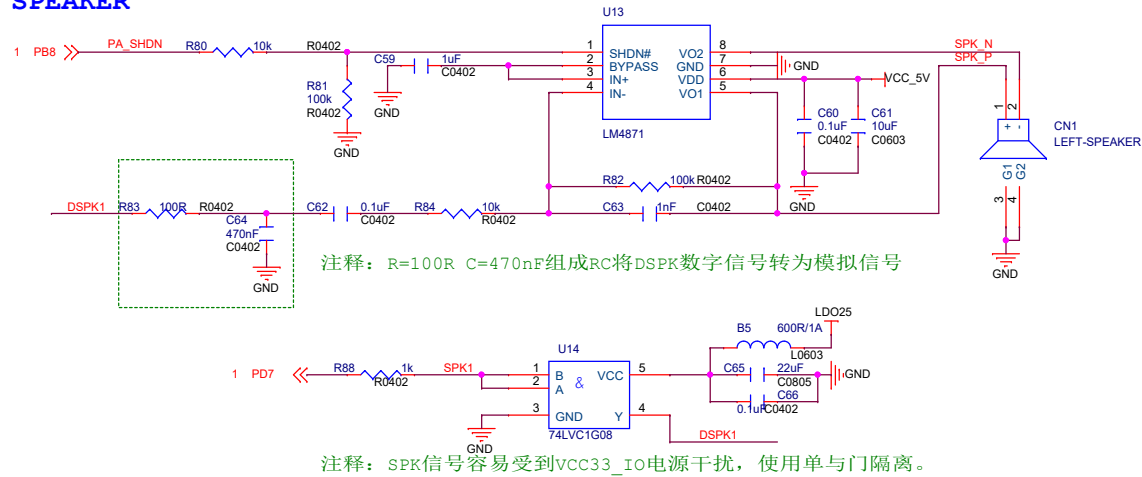
OV5640 下接触  
 AVDD 2.8~3.3V  
 DVDD 1.2~1.5V  
 DOVDD 1.7~2.8V



<Variant Name>

			<b>ArtInChip Technology Co., Ltd</b>	
			Design Name <b>G730BDU-REF</b>	
Size A3	Page Name <b>DVP CAMERA</b>		Rev V1.0	
Date: 2024-08-11	Sheet 7 of		10	

# SPEAKER



<Variant Name>

		<b>ArtInChip Technology Co., Ltd</b>	
		Design Name	G730BDU-REF
Size	A3	Page Name	SPEAKER/DMIC
Date:	2024-08-11	Sheet	8 of 10

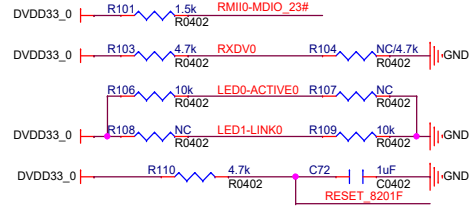


# RMII0-100M

1.7 PE0 << RMII0-RXD1  
 1.7 PE1 << RMII0-RXD0  
 1.7 PE2 << RMII0-CRS-DV  
 1.7 PE3 << RMII0-TXC

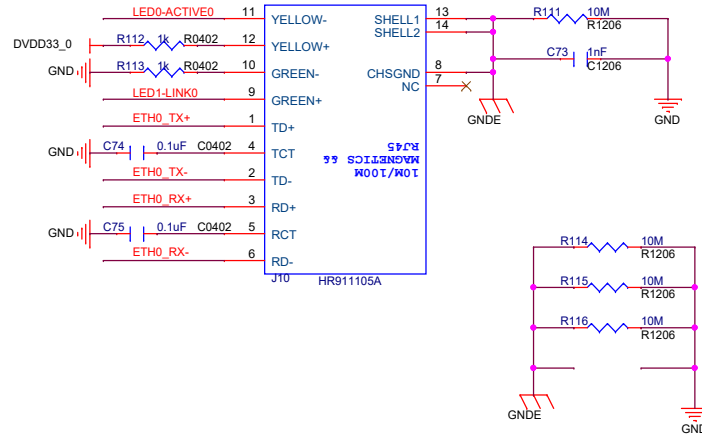
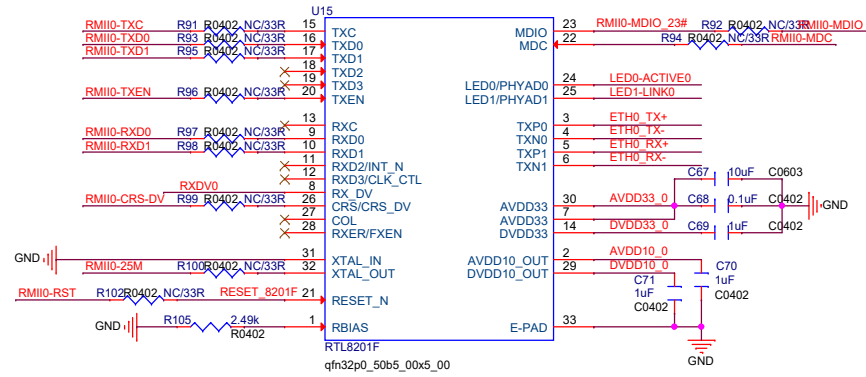
1.7 PE4 << RMII0-TXD1  
 1.7 PE5 << RMII0-TXD0  
 1.7 PE6 << RMII0-RST  
 1.7 PE7 << RMII0-TXEN

1.7 PE8 << RMII0-MDC  
 1.7 PE9 << RMII0-MDIO  
 1.7 PE10 << RMII0-25M



	Pull high	Pull down
RXDV	RMII mode	MII mode
RXD3(内部PD)	TXC input	TXC output
RXD1(内部PD)	WOL mode	LED mode

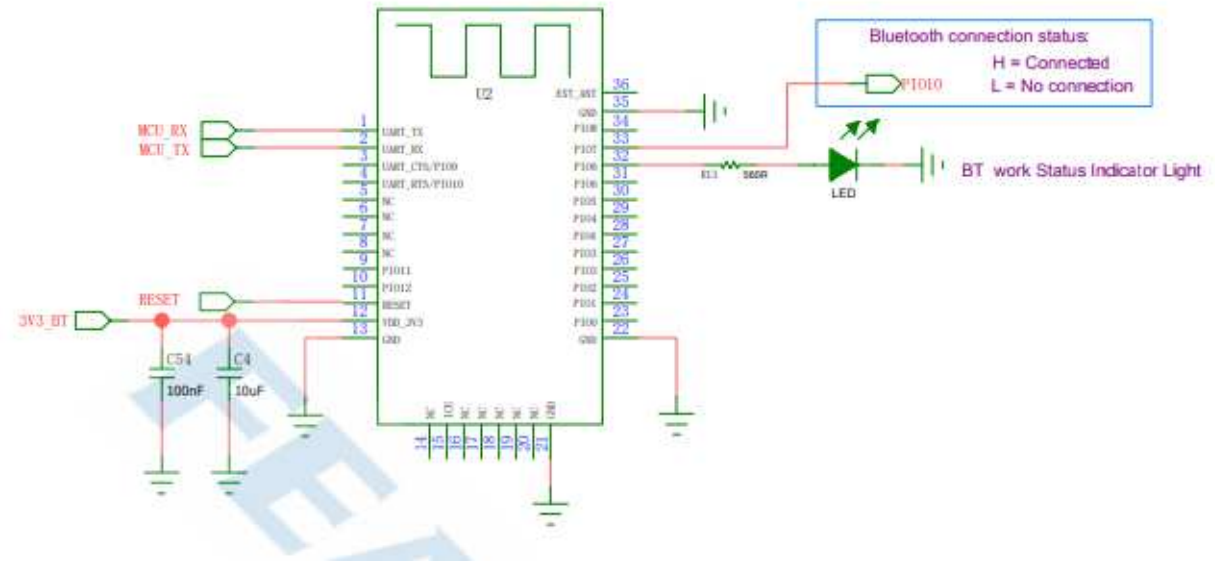
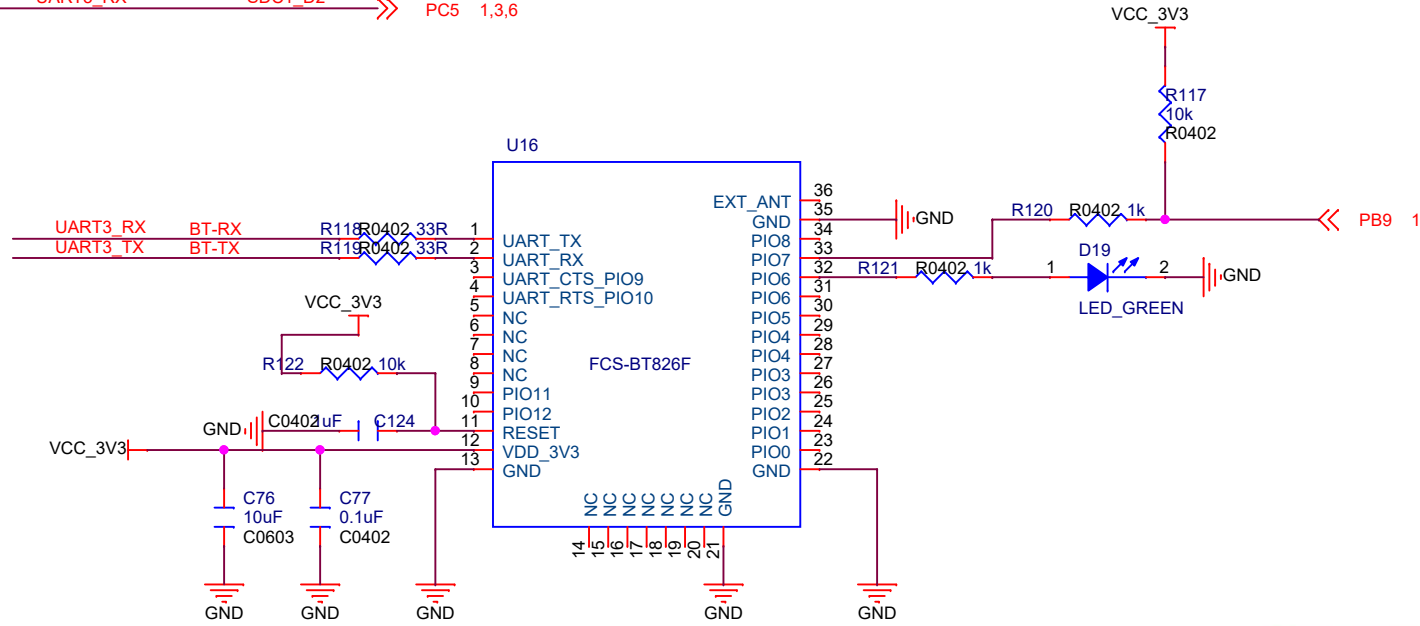
PHY-ADDR	LED1-LINK	LED0-ACTIVE
addr = 5' d0	Pull down	Pull down
addr = 5' d1	Pull down	Pull high
addr = 5' d2	Pull high	Pull down
addr = 5' d3	Pull high	Pull high



<Variant Name>

UART3\_TX SDC1\_D3  
 UART3\_RX SDC1\_D2

PC4 1,3,6  
 PC5 1,3,6



<Variant Name>



**ArtInChip Technology Co., Ltd**

Design Name **G730BDU-REF**

Size A4 Page Name **EMAC 100M** Rev V1.0

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