Notes: Unless Otherwise Stated

Scheme Spec:

FLASH: SPI, 3V3
DRAM: DDR3, 1.5V
Key: Vol+,Vol-,MENU,SEARCH,HOME,ESC,ENTER
Power: DCIN, 5-24V, 2A; USB, 5V, 2A
USB0: Device
USB2: WIFI
AVIN: Sensor_Back
Card: TFcard
Other: Headphone, MIC, G-Sensor,Camera,GPS

Power Supply:

Name	Vout	Imax	Use
AXP209 DCDC2	1.25V	1600mA	CPU
AXP209 DCDC3	1.2V	1200mA	CORE
AXP209 LDO1	1.3V	30mA	RTC
AXP209 LDO2	3V	200mA	AVCC
AXP209 LDO3	2.8V	400mA	CSI-IOVDD
AXP209 LDO4	2.8V	200mA	CSI-AVDD
RT9193 LDO	1.8V	300mA	CSI-DVDD
AP3410 DCDC	1.5V	1200mA	DRAM
AP3410 DCDC	3V3	1200mA	VCC/LCD/NOR
AP3410 DCDC	3V3	1200mA	WIFI/HDMI/CARD/LED
SY7152 DCDC	5V	1000mA	HDMI/Sensor_Back/
RT9193 LDO	2.5V	300mA	TVIN
SY7201 DCDC		1400mA	LCD
RT9193 LDO	3.3V	300mA	GPS

Schematics Index:

Rev	Description	Date	Drawn	Checked	Approved
A20_CDR__STD_V0.2		2014-12-26			

AllWinner Technology Co.,Ltd

Design Name: A20_CDR_STD

Size: A3 | Page Name: COVER | Rev: V1.0

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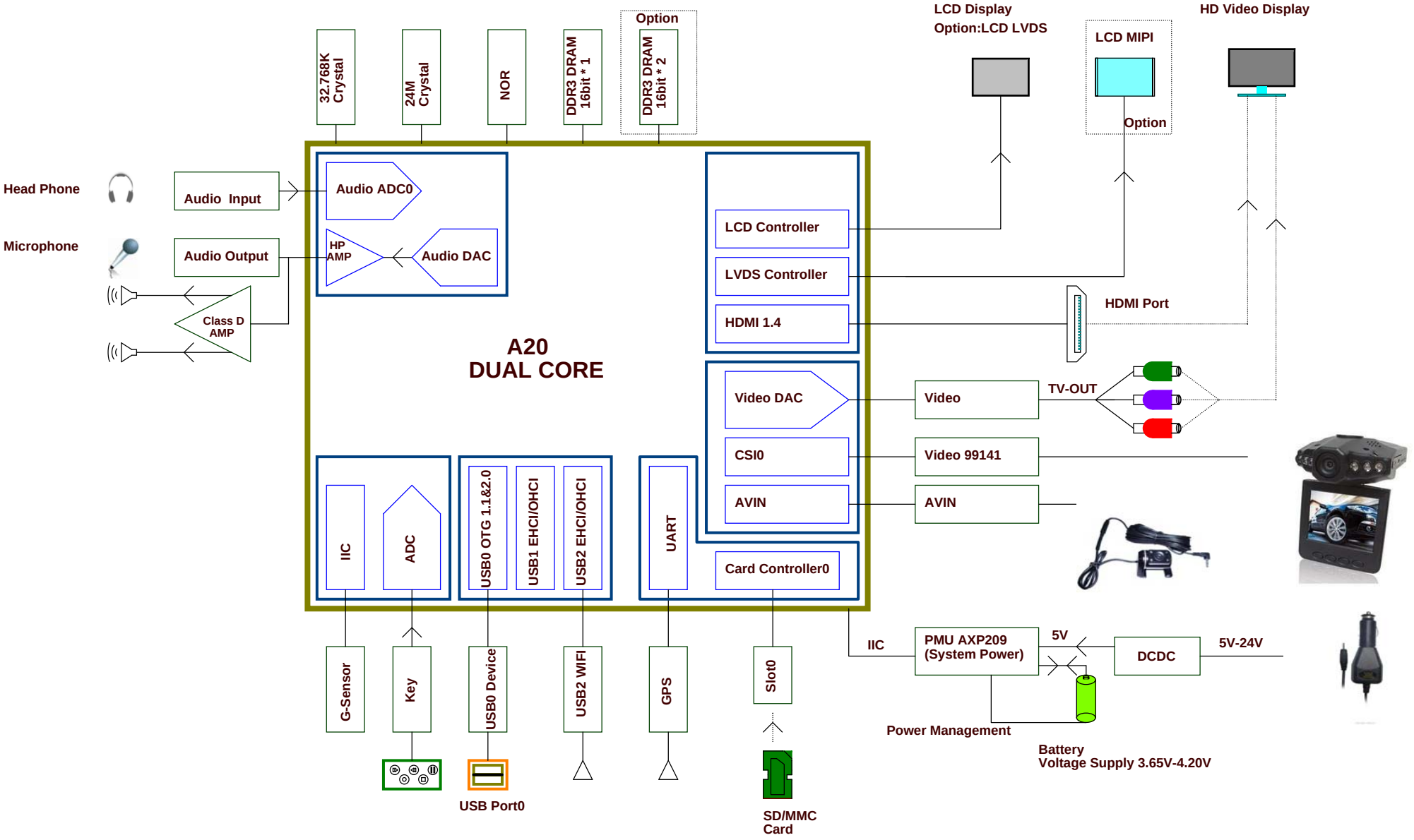
BLOCK



AllWinner Technology Co.,Ltd			
Design Name: A20_CDR_STD			
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PIO ASSIGNMENT

Pin Group	Pin Name	Define	Function
PA(18)	PA0	GPIO	
	PA1	GPIO	
	PA2	GPIO	
	PA3	GPIO	
	PA4	GPIO	
	PA5	SPI3-CS0	
	PA6	SPI3-CLK	
	PA7	SPI3-MOSI	
	PA8	SPI3-MISO	
	PA9	GPIO	
	PA10	GPIO	
	PA11	GPIO	
	PA12	GPIO	
	PA13	GPIO	
	PA14	GPIO	
	PA15	GPIO	
	PA16	GPIO	
	PA17	GPIO	
PB(24)	PB0	TWI0_SCK	PMU
	PB1	TWI0_SDA	
	PB2	PWM0	PWM
	PB3	GPIO_OUT	
	PB4	IR0_RX	
	PB5	GPIO_OUT	
	PB6	I2S_BCLK	
	PB7	I2S_LRCK	
	PB8	I2S_DO0	
	PB9	GPIO_OUT	USB0-DRV
	PB10	GPIO	
	PB11	GPIO	
	PB12	I2S_DI	
	PB13	GPIO_OUT	TP-WAKEUP
	PB14	JTAG_MS0	JTAG
	PB15	JTAG_CK0	
	PB16	JTAG_DO0	
	PB17	JTAG_DI0	
	PB18	TWI1_SCK	TWI1
	PB19	TWI1_SDA	
	PB20	TWI2_SCK	TWI2
	PB21	TWI2_SDA	
	PB22	UART0_TX	UART (DBUG)
	PB23	UART0_RX	

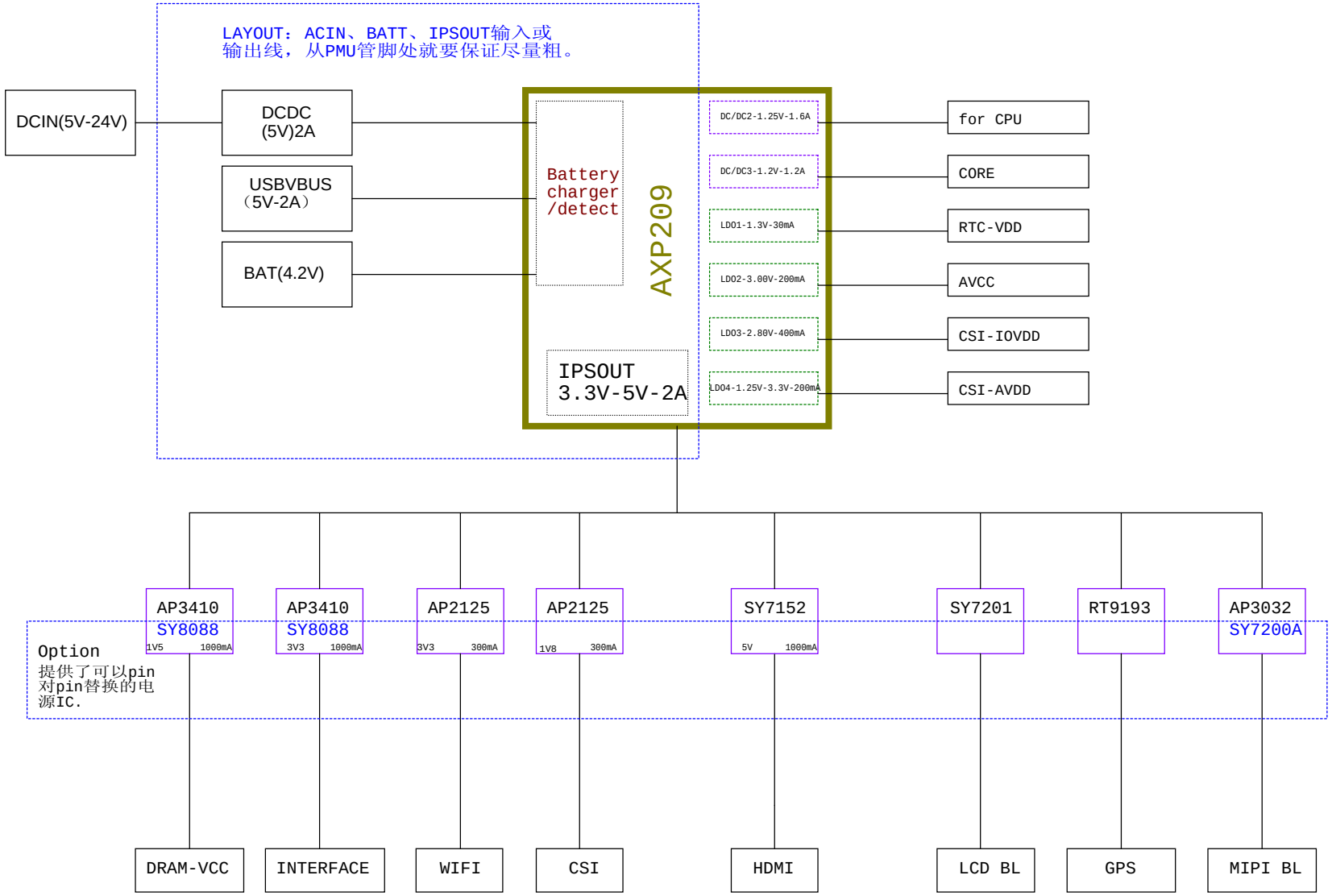
Pin Group	Pin Name	Define	Function
PC(25)	PC0	MOSI	NOR
	PC1	MISO	
	PC2	SCLK	
	PC3	GPIO	
	PC4	GPIO	
	PC5	GPIO	
	PC6	GPIO	
	PC7	GPIO	
	PC8	GPIO	
	PC9	GPIO	
	PC10	GPIO	
	PC11	GPIO	
	PC12	GPIO	
	PC13	GPIO	
	PC14	GPIO	
	PC15	GPIO	
	PC16	GPIO	
	PC17	GPIO	
	PC18	GPIO	
	PC19	GPIO	
	PC20	GPIO	
	PC21	GPIO	
	PC22	GPIO	
	PC23	GPIO	
	PC24	GPIO	
PD(28)	PD0	LCD0_D0	LCD
	PD1	LCD0_D1	
	PD2	LCD0_D2	
	PD3	LCD0_D3	
	PD4	LCD0_D4	
	PD5	LCD0_D5	
	PD6	LCD0_D6	
	PD7	LCD0_D7	
	PD8	LCD0_D8	
	PD9	LCD0_D9	
	PD10	LCD0_D10	
	PD11	LCD0_D11	
	PD12	LCD0_D12	
	PD13	LCD0_D13	
	PD14	LCD0_D14	
	PD15	LCD0_D15	
	PD16	LCD0_D16	
	PD17	LCD0_D17	

Pin Group	Pin Name	Define	Function
PD(28)	PD18	LCD0_D18	LCD
	PD19	LCD0_D19	
	PD20	LCD0_D20	
	PD21	LCD0_D21	
	PD22	LCD0_D22	
	PD23	LCD0_D23	
	PD24	LCD0_CLK	
	PD25	LCD0_DE	
	PD26	LCD0_HSYNC	
	PD27	LCD0_VSYNC	
PE(12)	PE0	CSI0_PCLK	CSI
	PE1	CSI0_MCLK	
	PE2	CSI0_HSYNC	
	PE3	CSI0_VSYNC	
	PE4	CSI0_D0	
	PE5	CSI0_D1	
	PE6	CSI0_D2	
	PE7	CSI0_D3	
	PE8	CSI0_D4	
	PE9	CSI0_D5	
	PE10	CSI0_D6	
	PE11	CSI0_D7	
PF(6)	PF0	SDC0_D1	CARD
	PF1	SDC0_D0	
	PF2	SDC0_CLK	
	PF3	SDC0_CMD	
	PF4	SDC0_D3	
	PF5	SDC0_D2	
PG(12)	PG0	CSI1_PCLK	
	PG1	CSI1_MLCK	
	PG2	CSI1_HSYNC	
	PG3	CSI1_VSYNC	
	PG4	CSI1_D0	
	PG5	CSI1_D1	
	PG6	CSI1_D2	
	PG7	CSI1_D3	
	PG8	CSI1_D4	
	PG9	CSI1_D5	
	PG10	CSI1_D6	
	PG11	CSI1_D7	

Pin Group	Pin Name	Define	Function
PH(28)	PH0	EINT0	
	PH1	GPIO_IN	SD0-DET
	PH2	GPIO_IN	LCD-RST
	PH3	GPIO_OUT	WIFI-EN
	PH4	GPIO_IN	
	PH5	GPIO_IN	
	PH6	GPIO_OUT	CAM-EN
	PH7	GPIO_OUT	LCD-BL-EN
	PH8	GPIO_OUT	LCD-PWR
	PH9	GPIO_OUT	
	PH10	GPIO_IN	SD0-DET
	PH11	GPIO	CSI0-PWDN
	PH12	GPIO	BC-DET
	PH13	GPIO_OUT	CSI0-RST#
	PH14	GPIO_OUT	N-LED-EN
	PH15	GPIO_OUT	PA-SHDN#
	PH16	GPIO_OUT	CSI0-PER
	PH17	GPIO	AVIN_DET
	PH18	EINT18	GS-INT1
	PH19	EINT19	LCD-SHUT
	PH20	EINT20	LCD-RST-P
	PH21	EINT21	
	PH22	GPIO	
	PH23	GPIO	
	PH24	GPIO	
	PH25	GPIO	
	PH26	GPIO	
	PH27	GPIO	
PI(22)	PI0	GPIO	
	PI1	GPIO	
	PI2	GPIO	
	PI3	GPIO	
	PI4	SDC3_CMD	
	PI5	SDC3_CLK	
	PI6	SDC3_D0	
	PI7	SDC3_D1	
	PI8	SDC3_D2	
	PI9	SDC3_D3	
	PI10	GPIO	
	PI11	GPIO	
	PI12	SPI0_MOSI	CLK-32K
	PI13	GPIO	
	PI14	GPIO	

Pin Group	Pin Name	Define	Function
PI(22)	PI15	GPIO	
	PI16	GPIO	
	PI17	GPIO	
	PI18	GPIO	
	PI19	GPIO	
	PI20	GPIO_OUT	
	PI21	GPIO_OUT	
PMU GPIO	19	GPIO0	
	18	GPIO1	
	5	GPIO2	NMI#
	3	GPIO3	

POWER TREE



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Design Name	A20_CDR_STD
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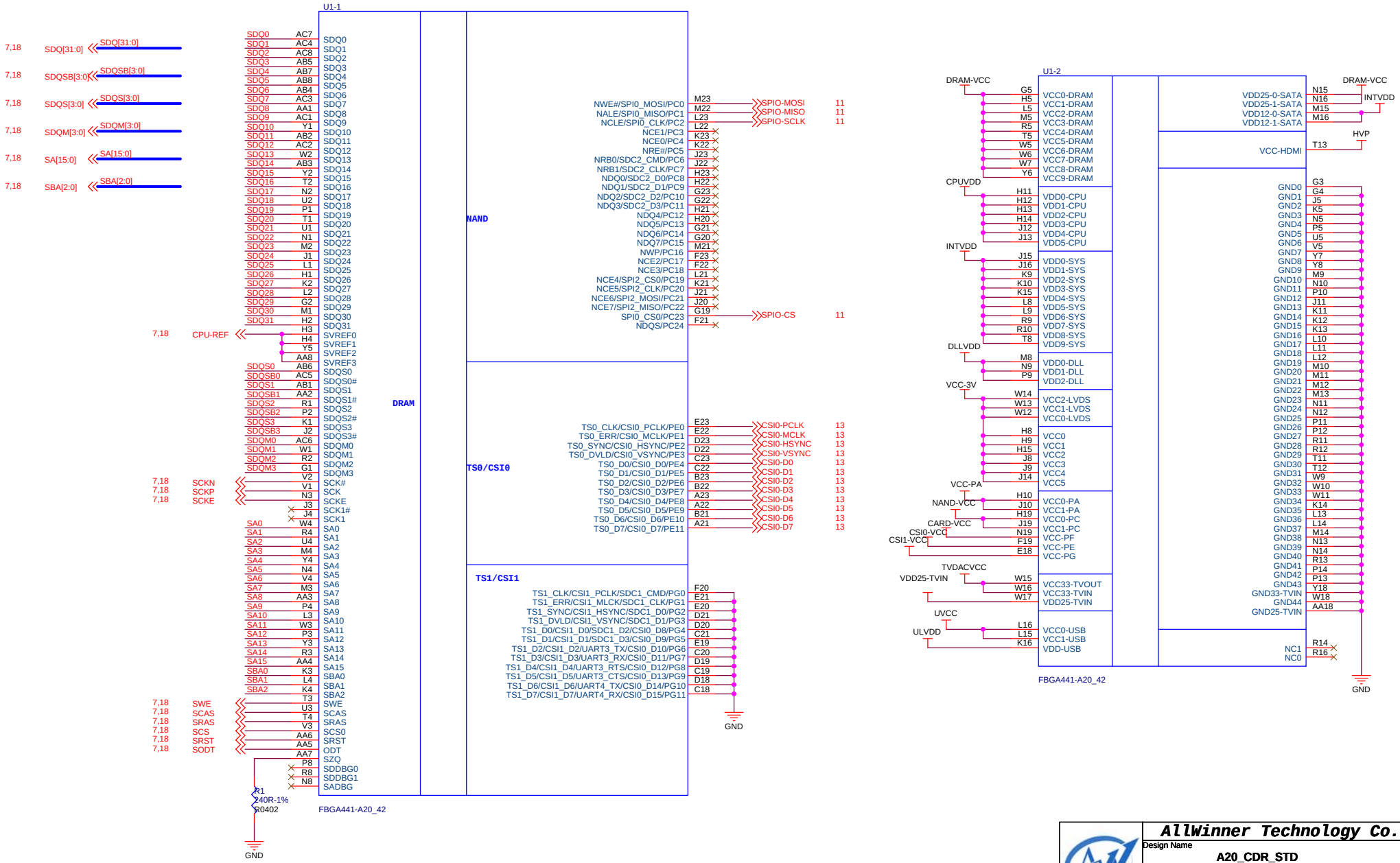
CPU1



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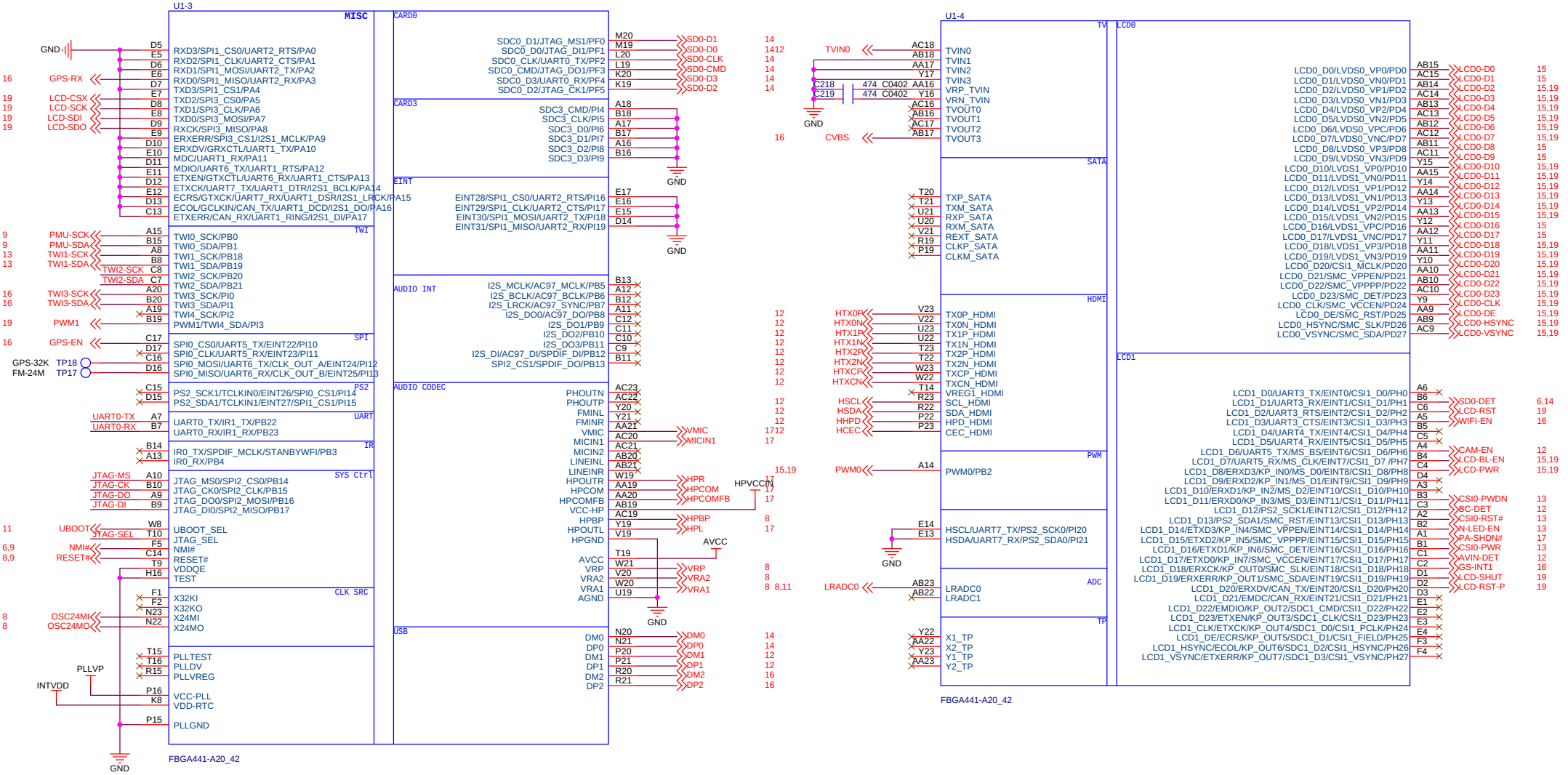
CPU2



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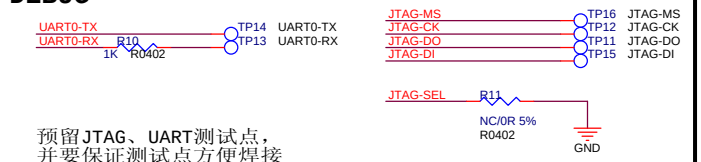
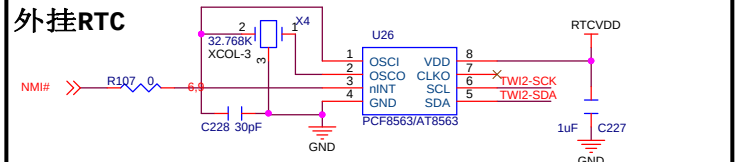


预留JTAG、UART测试点，
并要保证测试点方便焊接
排列整齐，以备调试使用。

外挂RTC



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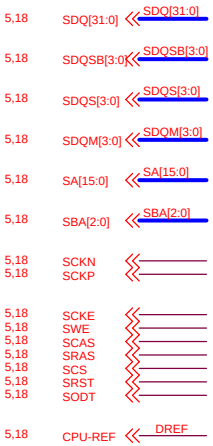
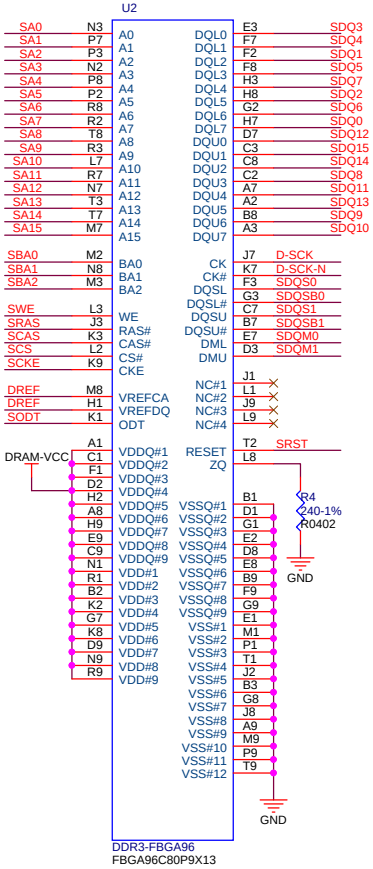
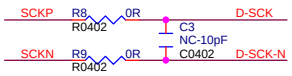
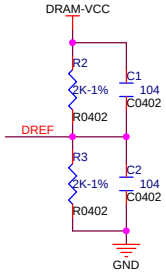
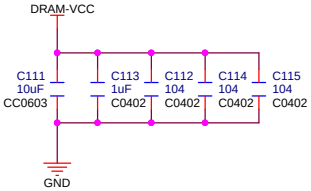
DDR3-16BITX1

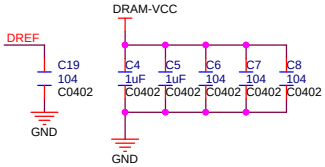












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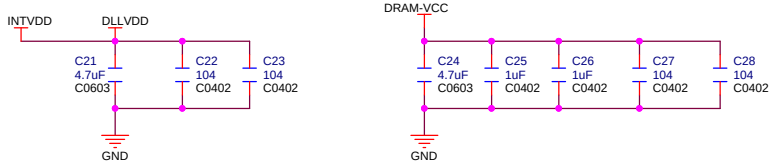
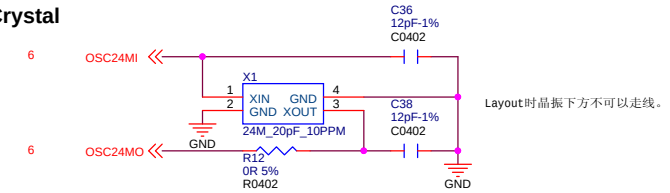
BESIDE CPU

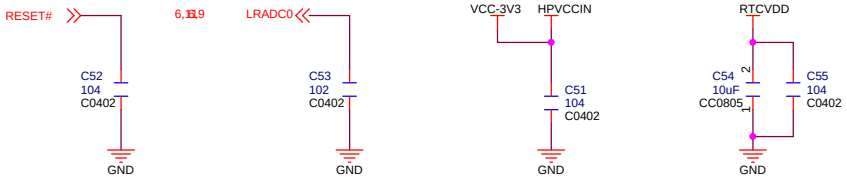
DRAM



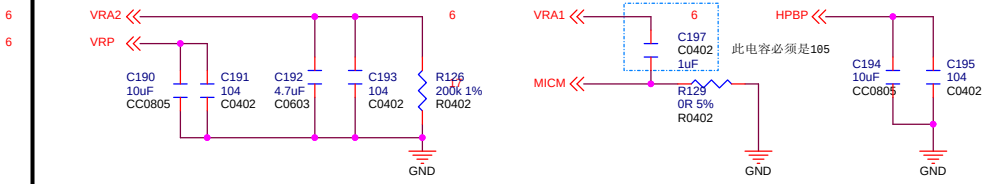
Crystal



SYS



AUDIO



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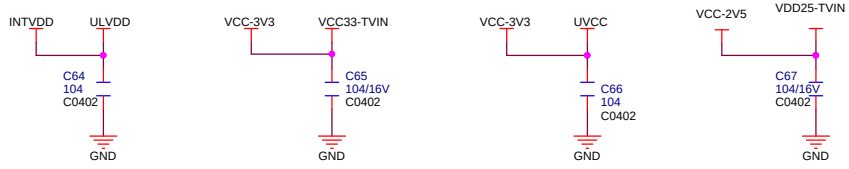
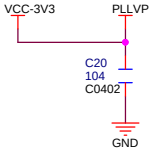
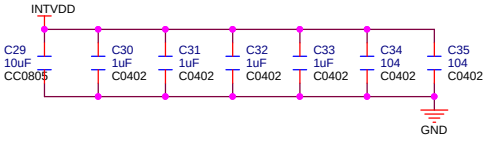


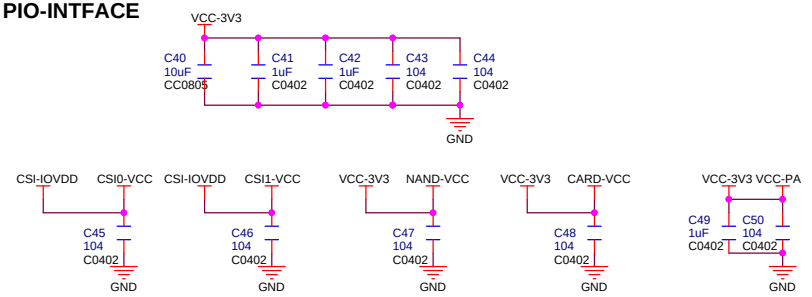
PLL



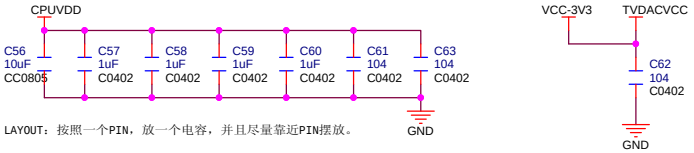
CORE



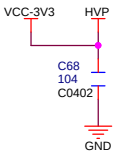
PIO-INTFACE



CPU&TV



HDMI



电容要靠近主控管脚

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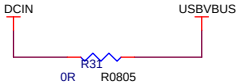
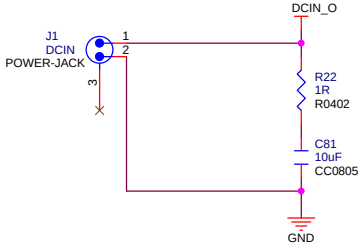
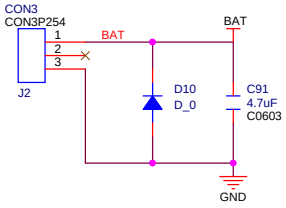
POWER-PMU



POWER INPUT

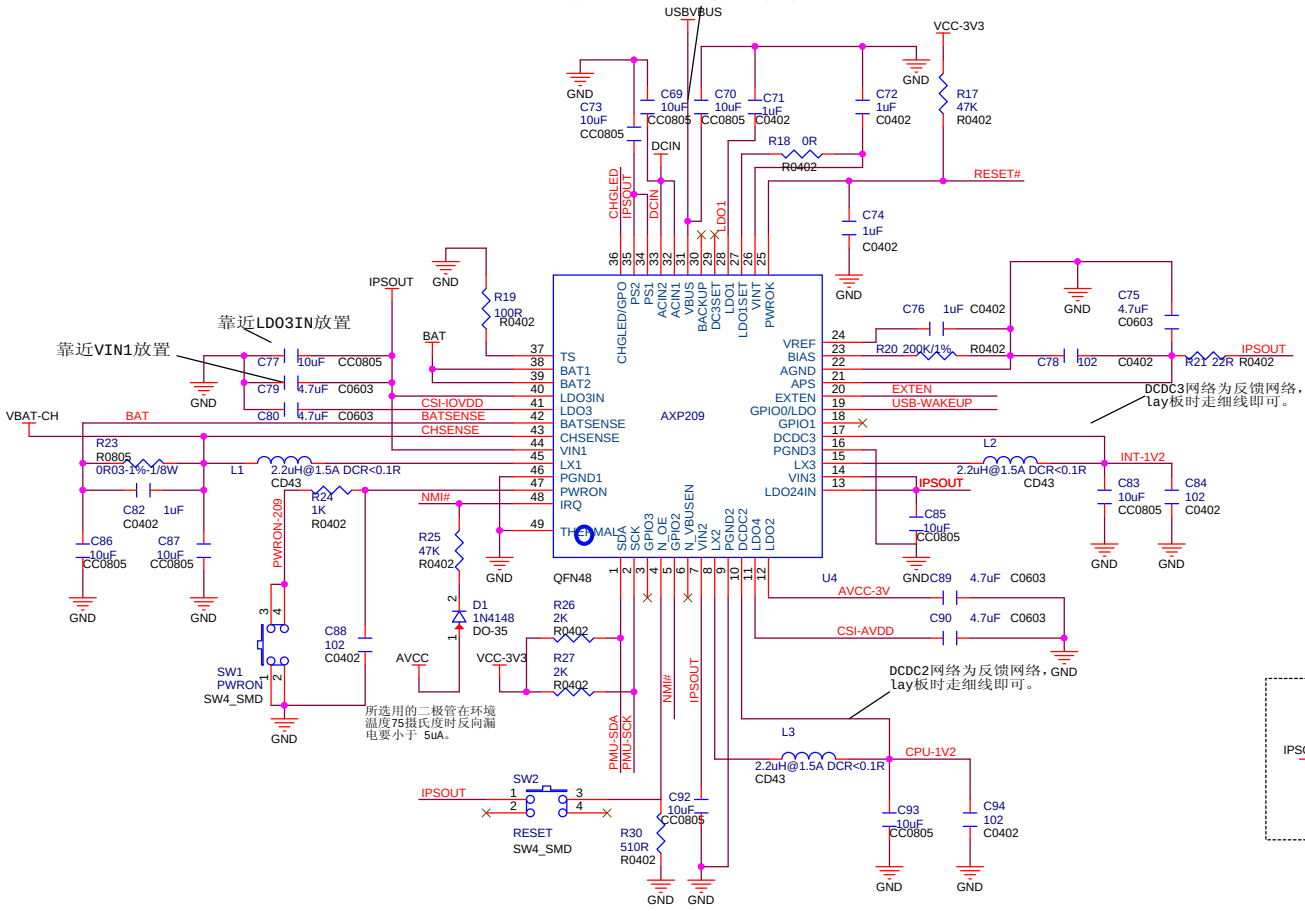


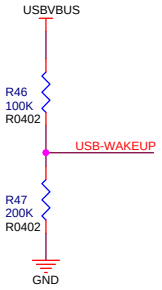


此时不支持电池温度检测

1、ACIN电源网络保留给LCD供电；

2、在ACIN、VBUS上靠近PMU接10uF电容滤波。

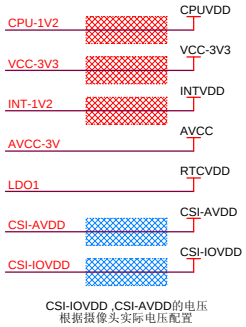




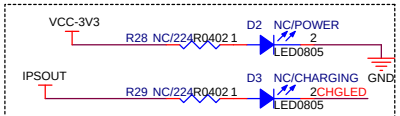
备注：
对于电感尺寸有轻薄要求的，推荐使用乾坤的PSE250201B-2R2MS,其体积为2.6x2.1平方毫米，饱和电流为1.8A,直流阻抗为85毫欧。

POWER LINE:Width>=80mil

POWER LINE:Width>=40mil



CSI-IOVDD ,CSI-AVDD的电压
根据摄像头实际电压配置



需指示充电状态以及电源状态时，增加上

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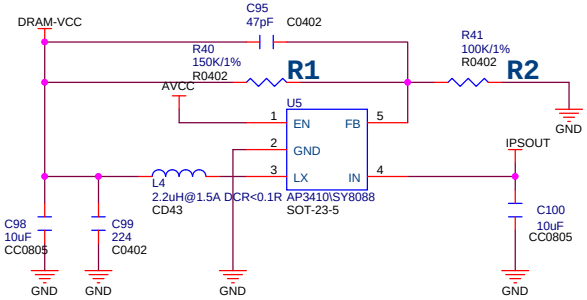
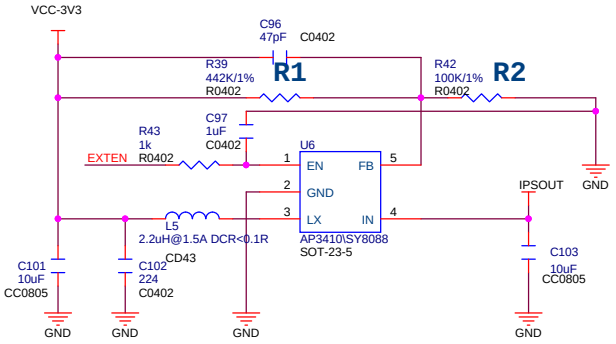
POWER-DC/DC

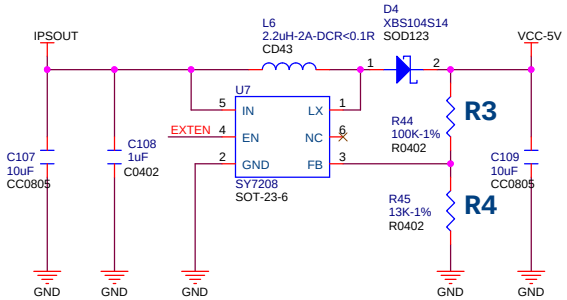
9,16 EXTEN EXTEN



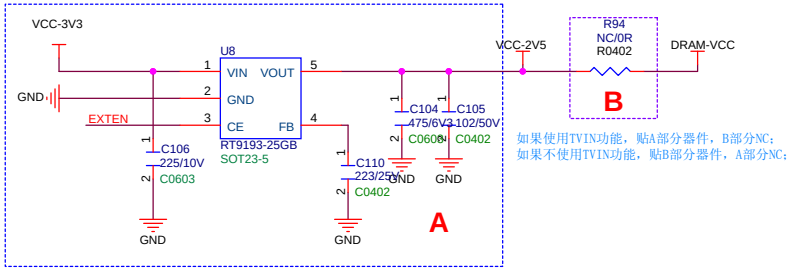
Vout = 0.6*(1+R1/R2)



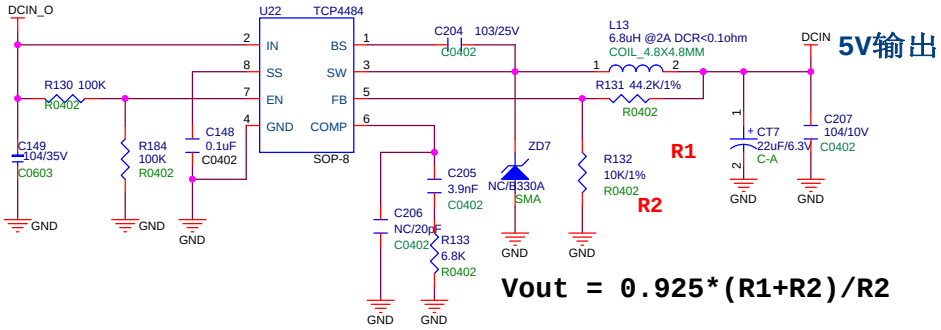
Vout = 0.6*(1+R1/R2)



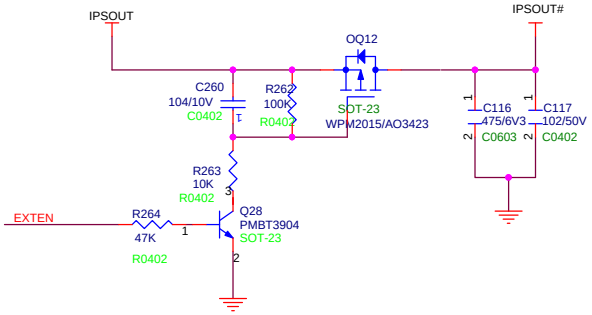
Vout = 0.6*(1+R3/R4)



12V输入



Vout = 0.925*(R1+R2)/R2



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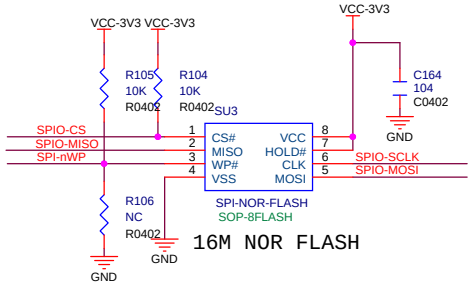
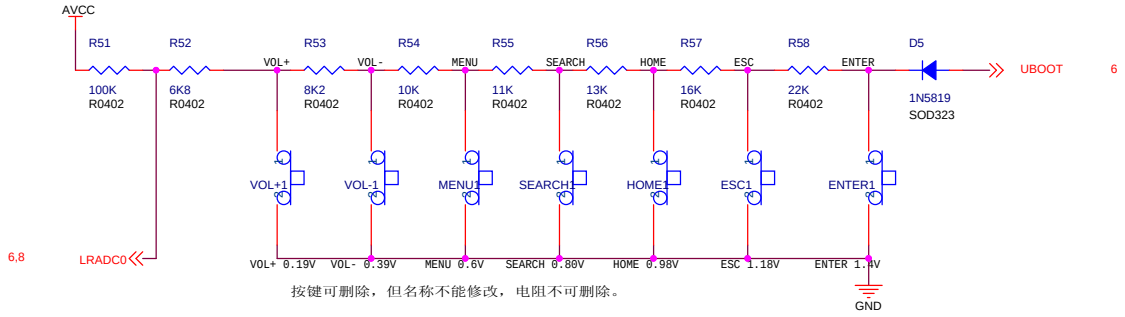
NOR Flash

5 SPIO-MISO
5 SPIO-CS
5 SPIO-MOSI
5 SPIO-SCLK



KEY



按键可删除，但名称不能修改，电阻不可删除。

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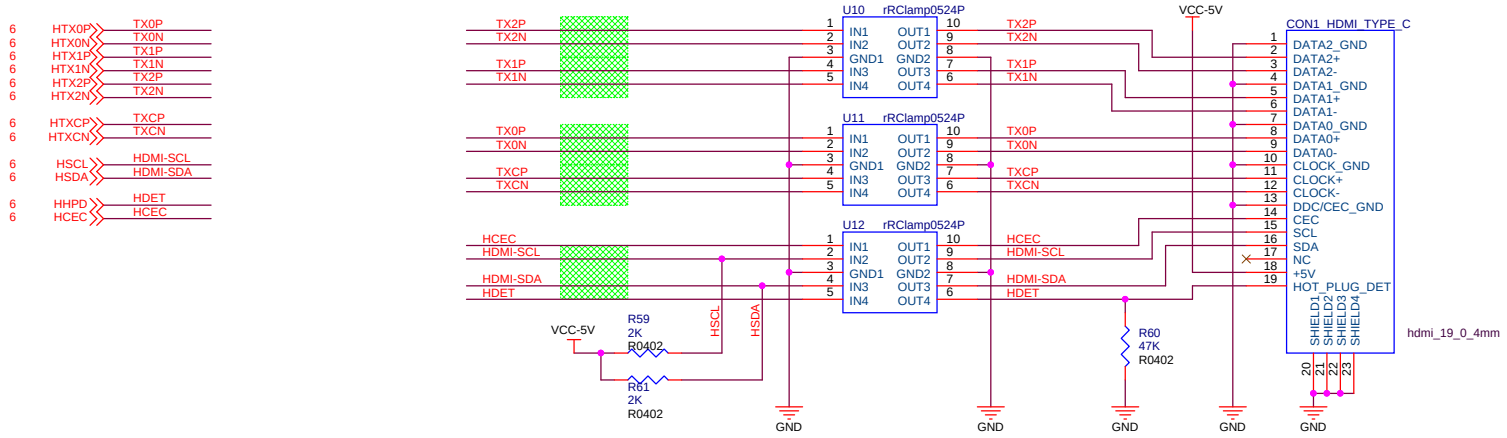
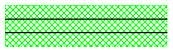
HDMI

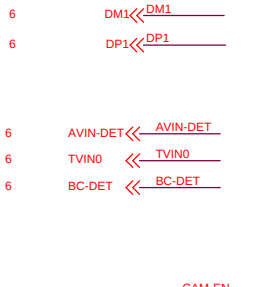


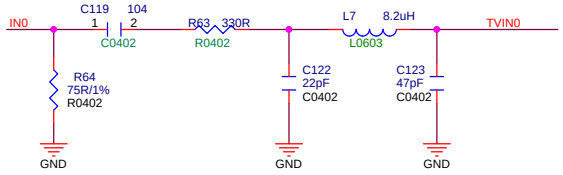
Differential pairs
Z0= 100 ohm

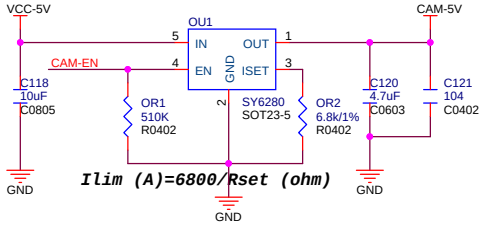


LAYOUT差分走线过孔不
能超过2个，有完整铺地。

Sensor_Back

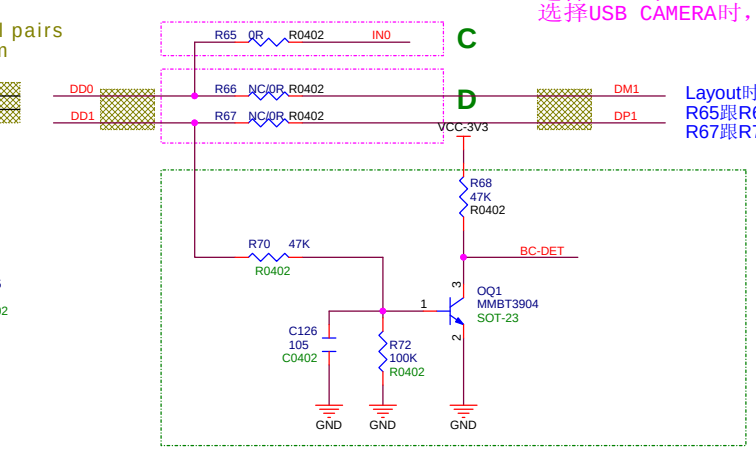




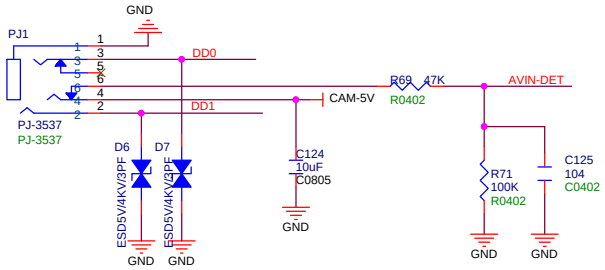


选择AVIN时，　　贴C部分，D部分NC
选择USB CAMERA时，贴D部分，C部分NC

Differential pairs
Z0= 90 ohm



Layout时，注意走线不要分叉。
R65跟R66两个电阻 共用一个一点；
R67跟R70两个电阻 共用一个一点；



选择AVIN带倒车检测功能，
贴此部分物料

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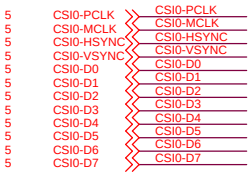
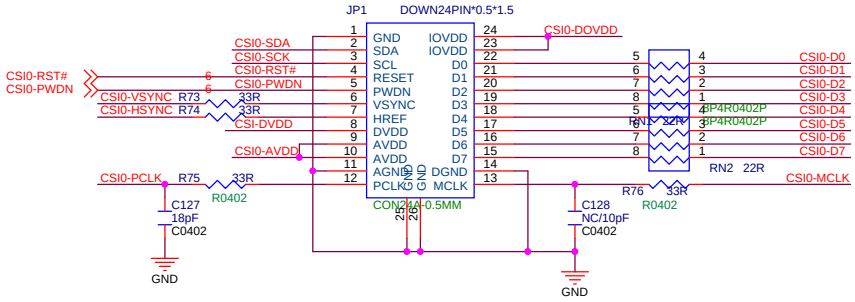
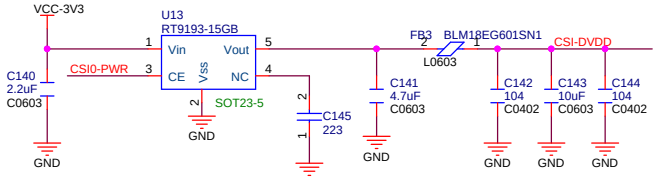
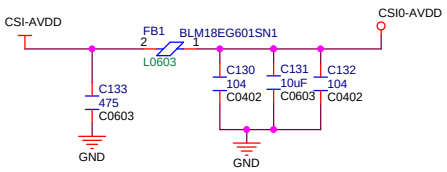
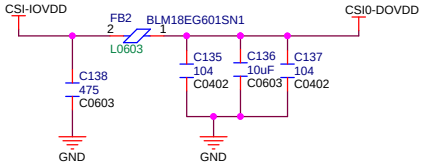
SENSOR

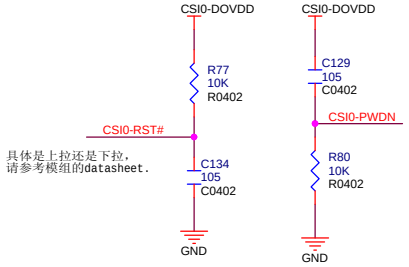


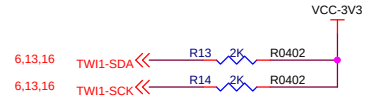




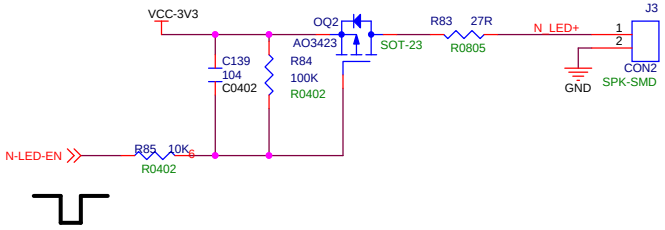








LED



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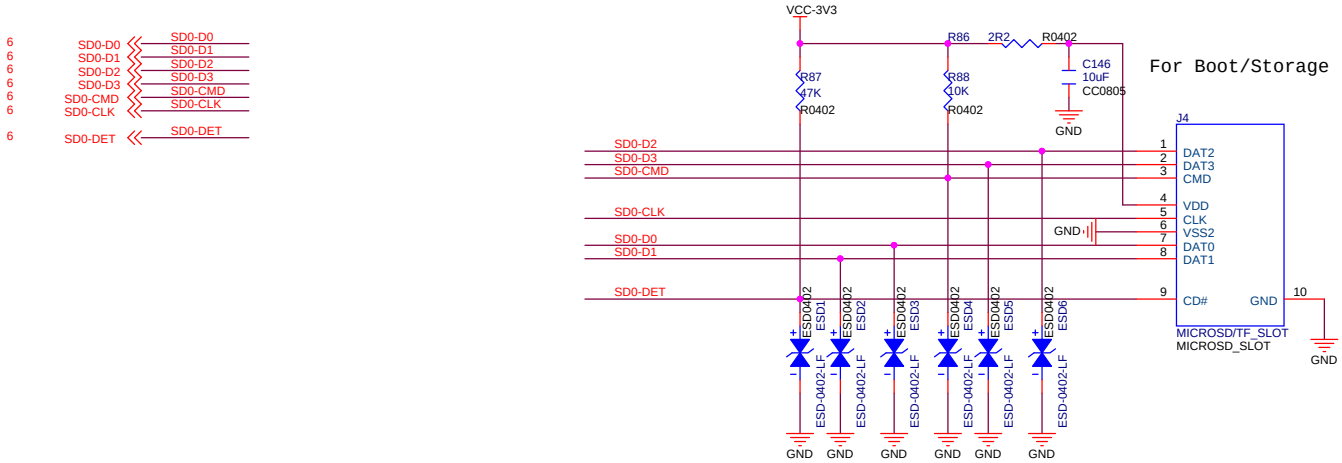
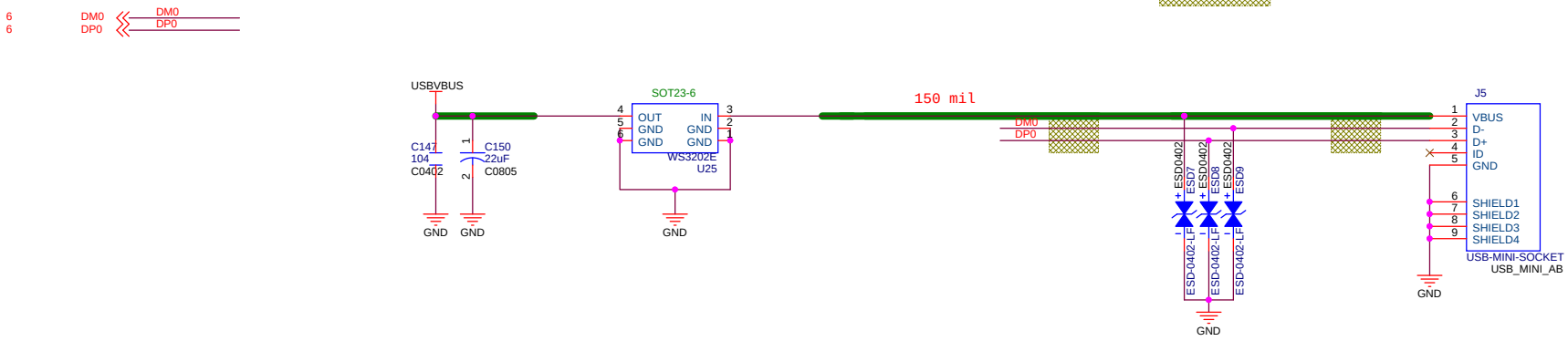
CARD



USB



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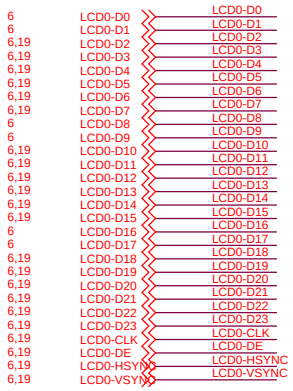
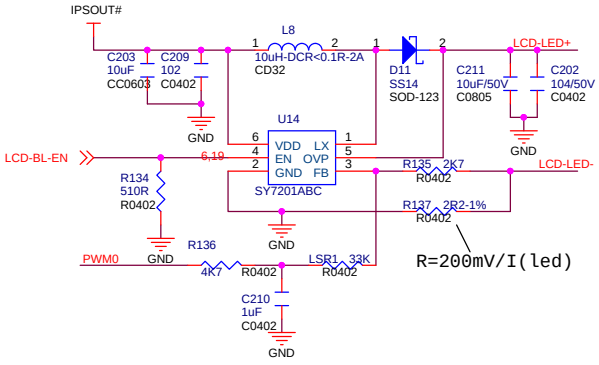
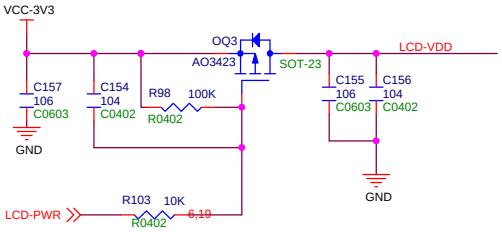
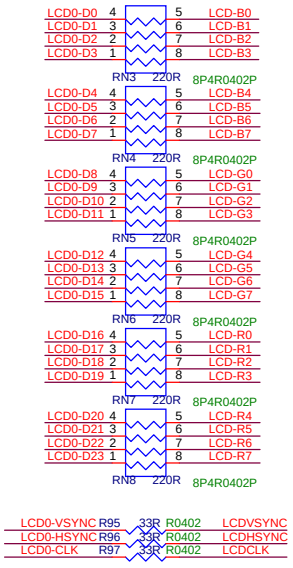
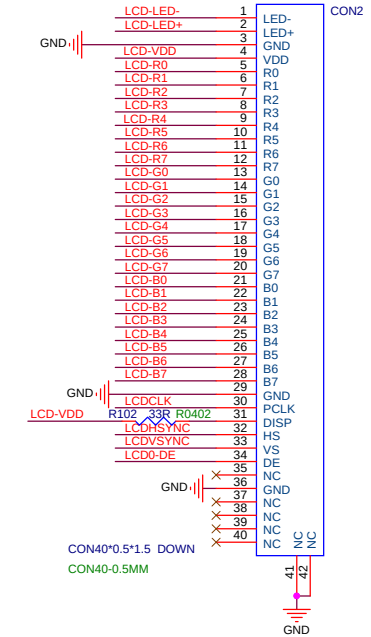
LCD



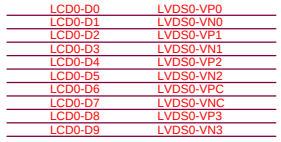


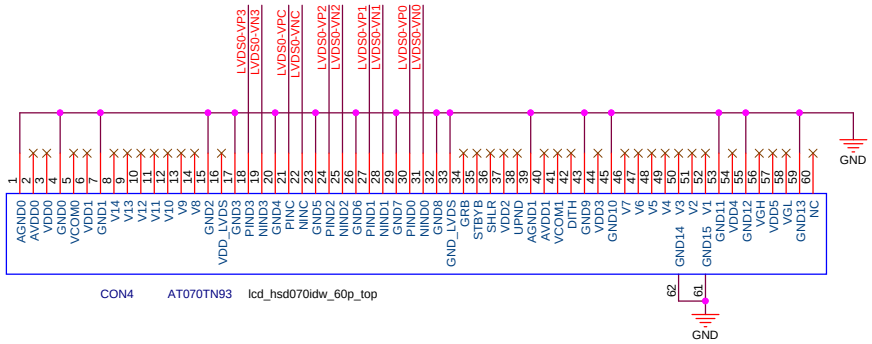






Option
LVDS连接示意图





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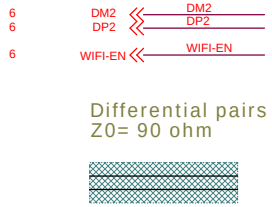
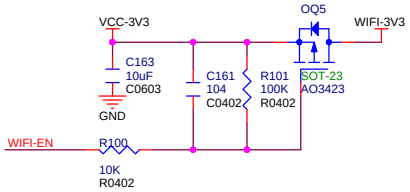
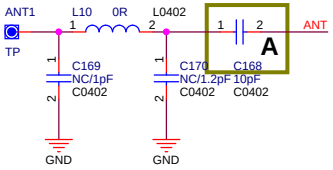
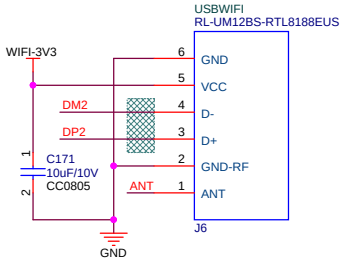
USB-WIFI



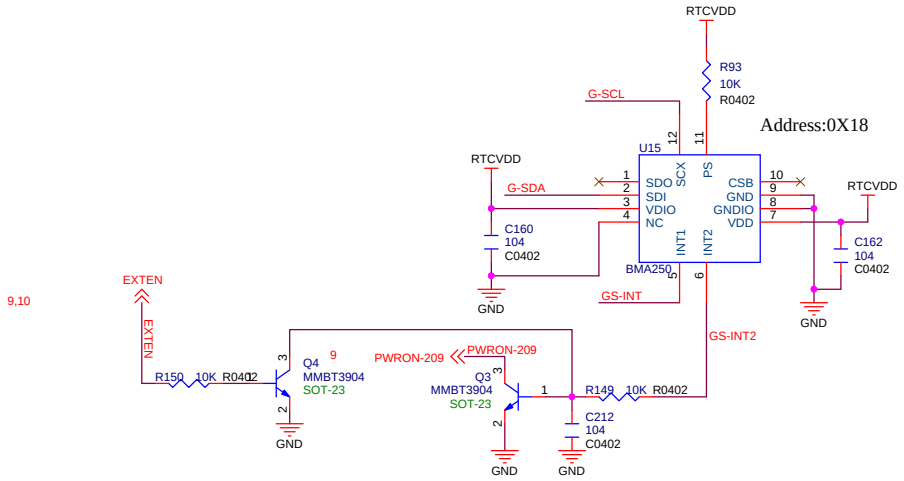




电容A请放在模组距离5mm之内

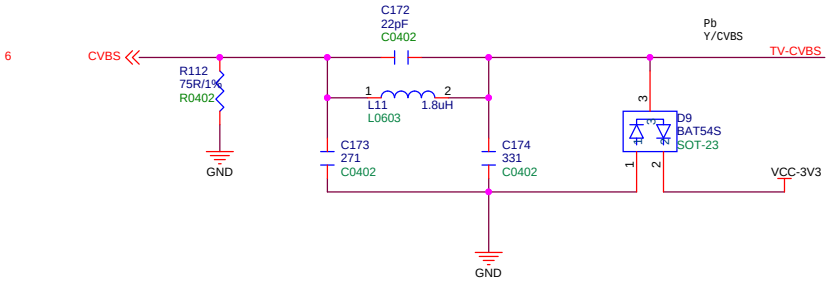


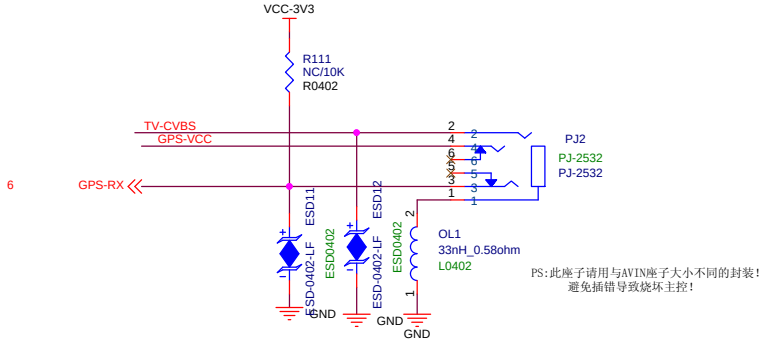
G-Sensor



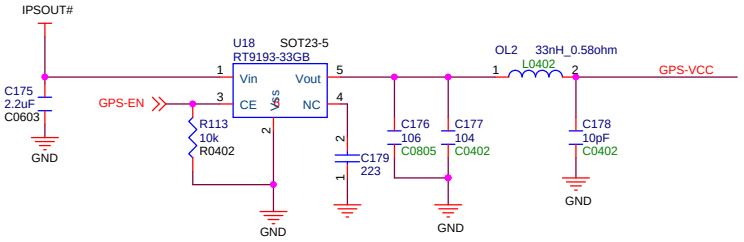
G-SENSOR IC与屏平行放置，放在屏的左上方，右上方放置PIN1脚。

CVBS&GPS





PS:此座子请用与AVIN座子大小不同的封装！
避免插错导致烧坏主控！



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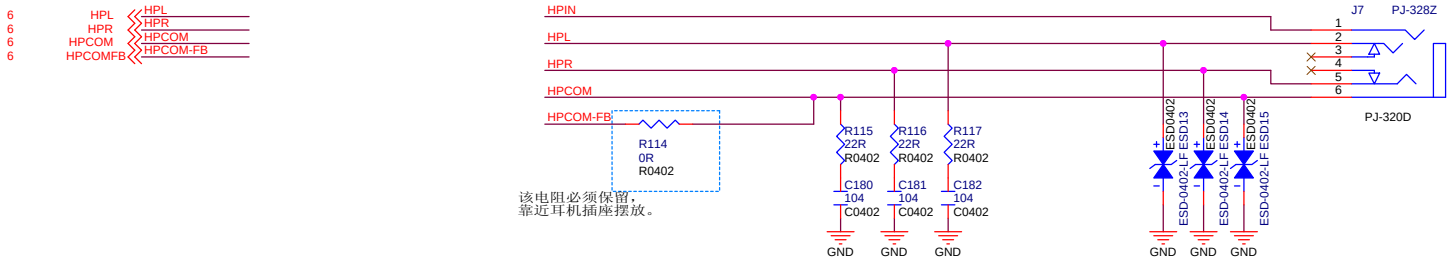
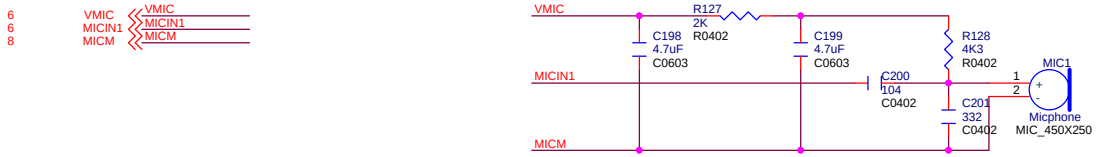
HP-MIC-SPK

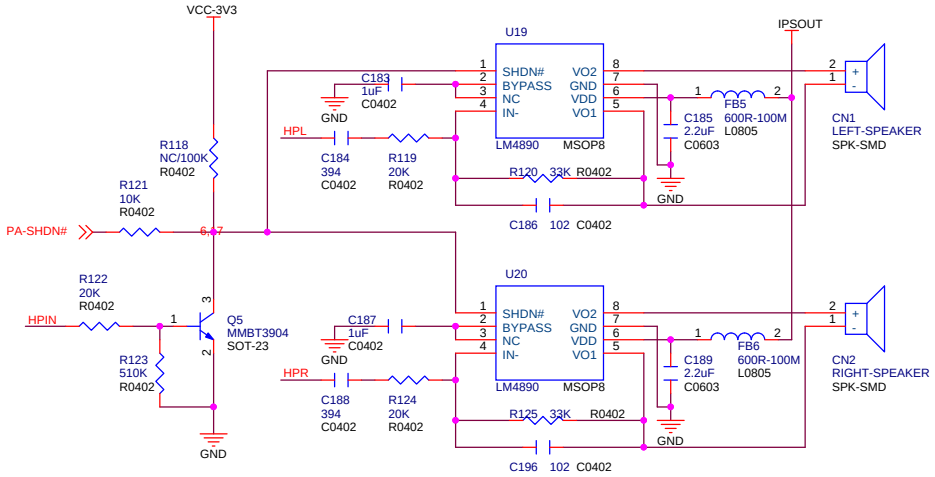
Head Phone



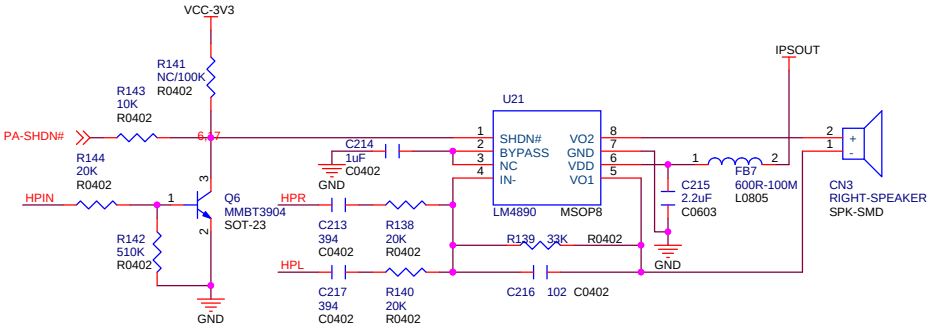
Microphone



Speaker



Option:Only One Speaker



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