Notes: Unless Otherwise Stated

Scheme Spec:

FLASH: MLC, 3V
DRAM: DDR3, 1.5V
Key: Vol+, Vol-, MENU, SEARCH, HOME, ESC, ENTER
Power: DCIN, 5V, 2A; BAT, 4.2V
USB0: OTG
USB2: WIFI
WIFI: USB WIFI&SDIO WIFI+BT
Card: TFcard
Other: Headphone, MIC, G-Sensor, Camera

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	CSI0-IO
AXP209 LDO4	2.8V	200mA	CSI1-IO
AP2125 LDO	1.8V	300mA	CSI-DVDD
AP3410 DCDC	1.5V	1200mA	DRAM
AP3410 DCDC	3V	1200mA	VCC/LCD/NAND//WIFI
SY7208	5V	1000mA	HDMI/USB
AP2125 LDO	3.3V	300mA	WIFI
AP3032 DCDC		1400mA	LCD
AP3032 DCDC		1400mA	LCD
AP3032 DCDC		1400mA	LCD MIPI

Schematics Index:

Rev	Description	Date	Drawn	Checked	Approved
A20_PAD_STD_V1.0		2013-01-30			
A20_PAD_STD_V1.1		2013-04-01	Dennislo		

AllWinner Technology Co.,Ltd

Title: A20_PAD_STD

Size: A3 | Document Number: COVER | Rev:

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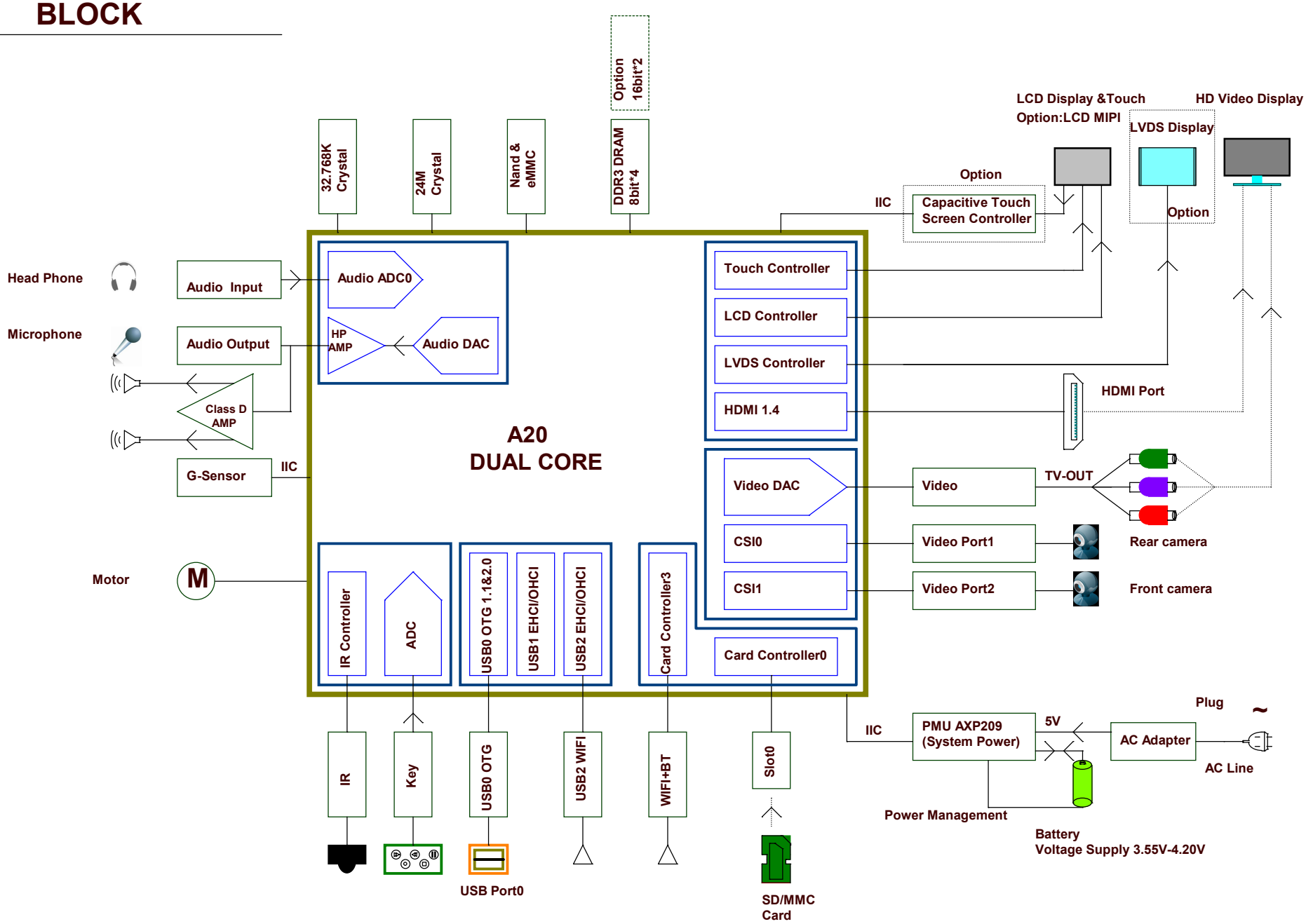
BLOCK



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Size: A3	Document Number: BLOCK	Rev
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PIO ASSIGNMENT

Pin Group	Pin Name	Define	Function
PA(18)	PA0	GPIO	
	PA1	GPIO	
	PA2	GPIO	
	PA3	GPIO	
	PA4	ETXD3	
	PA5	SPI3-CS0	LCD-CSX
	PA6	SPI3-CLK	LCD-SCK
	PA7	SPI3-MOSI	LCD-SDI
	PA8	SPI3-MISO	LCD-SDO
	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	MT-C
	PB4	IR0_RX	IR
	PB5	GPIO_OUT	BT-RST
	PB6	I2S_BCLK	BT-PCM-CLK
	PB7	I2S_LRCK	BT-PCM-SYNC
	PB8	I2S_DO0	BT-PCM-OUT
	PB9	GPIO_OUT	USB0-DRV
	PB10	GPIO	
	PB11	GPIO	
	PB12	I2S_DI	BT-PCM-IN
	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	NWE#	NAND
	PC1	NALE	
	PC2	NCLE	
	PC3	NCE1	
	PC4	NCE0	
	PC5	NRE#	
	PC6	NRB0	
	PC7	NRB1	
	PC8	NDQ0	
	PC9	NDQ1	
	PC10	NDQ2	
	PC11	NDQ3	
	PC12	NDQ4	
	PC13	NDQ5	
	PC14	NDQ6	
	PC15	NDQ7	
	PC16	NWP	
	PC17	NCE2	
	PC18	NCE3	
	PC19	GPIO	
	PC20	GPIO	
	PC21	GPIO	
	PC22	GPIO	
	PC23	GPIO	
	PC24	NDQS	
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	CSI0
	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	SDC0
	PF1	SDC0_D0	
	PF2	SDC0_CLK	
	PF3	SDC0_CMD	
	PF4	SDC0_D3	
	PF5	SDC0_D2	
PG(12)	PG0	CSI1_PCLK	CSI1
	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	USB-ICTRL
	PH1	GPIO_IN	SD0-DET
	PH2	GPIO_IN	
	PH3	GPIO_OUT	USB2-DRV
	PH4	GPIO_IN	USB0-IDDET
	PH5	GPIO_IN	ACIN-EN
	PH6	GPIO_OUT	LCD-RST
	PH7	GPIO_OUT	LCD-BL-EN
	PH8	GPIO_OUT	LCD-PWR
	PH9	GPIO_OUT	WIFI-SHDN
	PH10	GPIO_IN	WIFI-HOST-WAKE
	PH11	GPIO	
	PH12	GPIO	
	PH13	GPIO_OUT	CAM-R-RESET#
	PH14	GPIO_OUT	CAM-F-RESET#
	PH15	GPIO_OUT	PA-SHDN#
	PH16	GPIO_OUT	CAM-PWR-EN
	PH17	GPIO	
	PH18	EINT18	CAM-R-STBY-EN
	PH19	EINT19	CAM-F-STBY-EN
	PH20	EINT20	
	PH21	EINT21	TP-INT
	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	WIFI
	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	BT-WAKE
	PI21	GPIO_OUT	BT-HOST-WAKE

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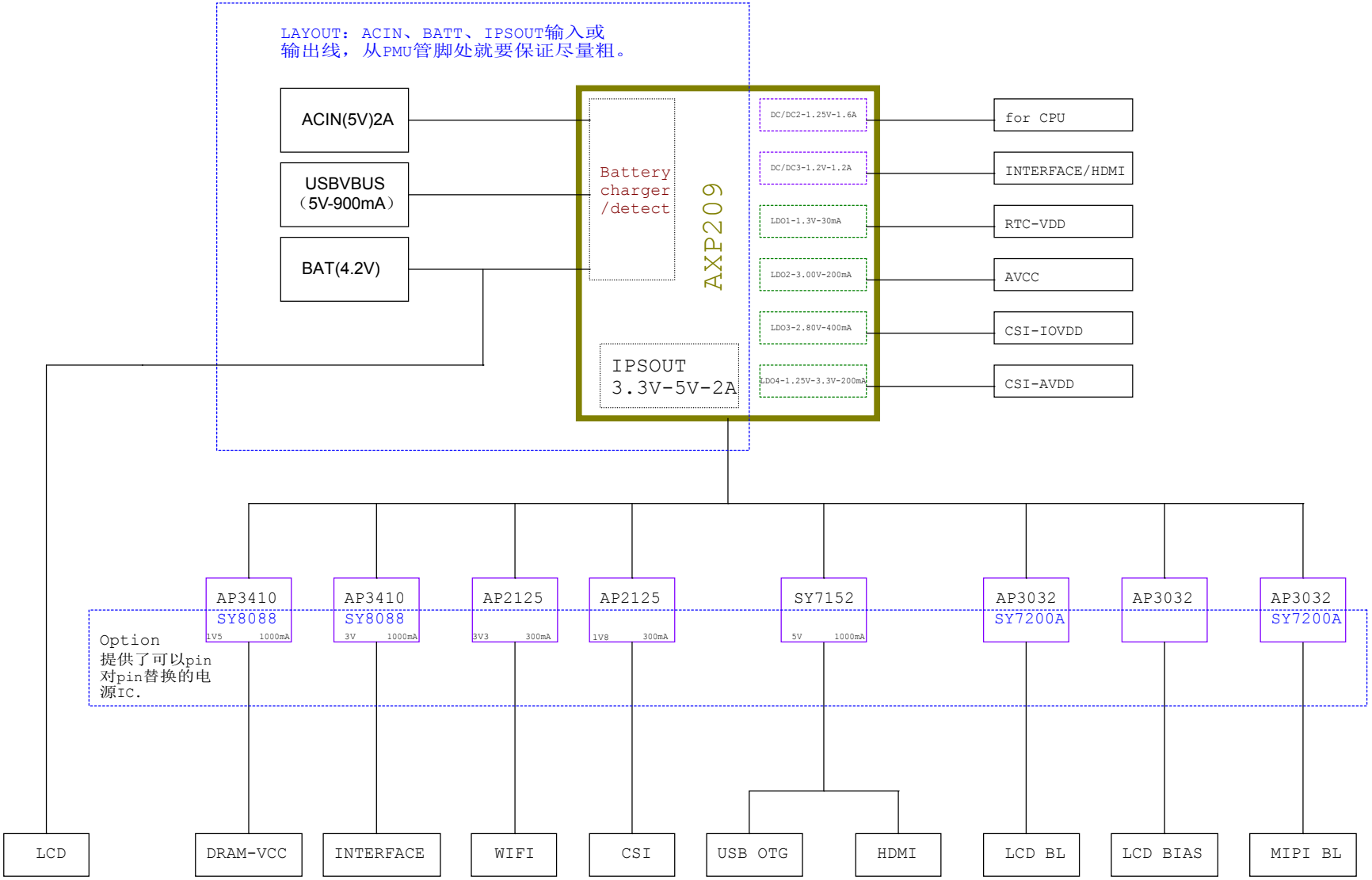
POWER TREE



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Title: A20_PAD_STD		
Size: A3	Document Number: POWER TREE	Rev:
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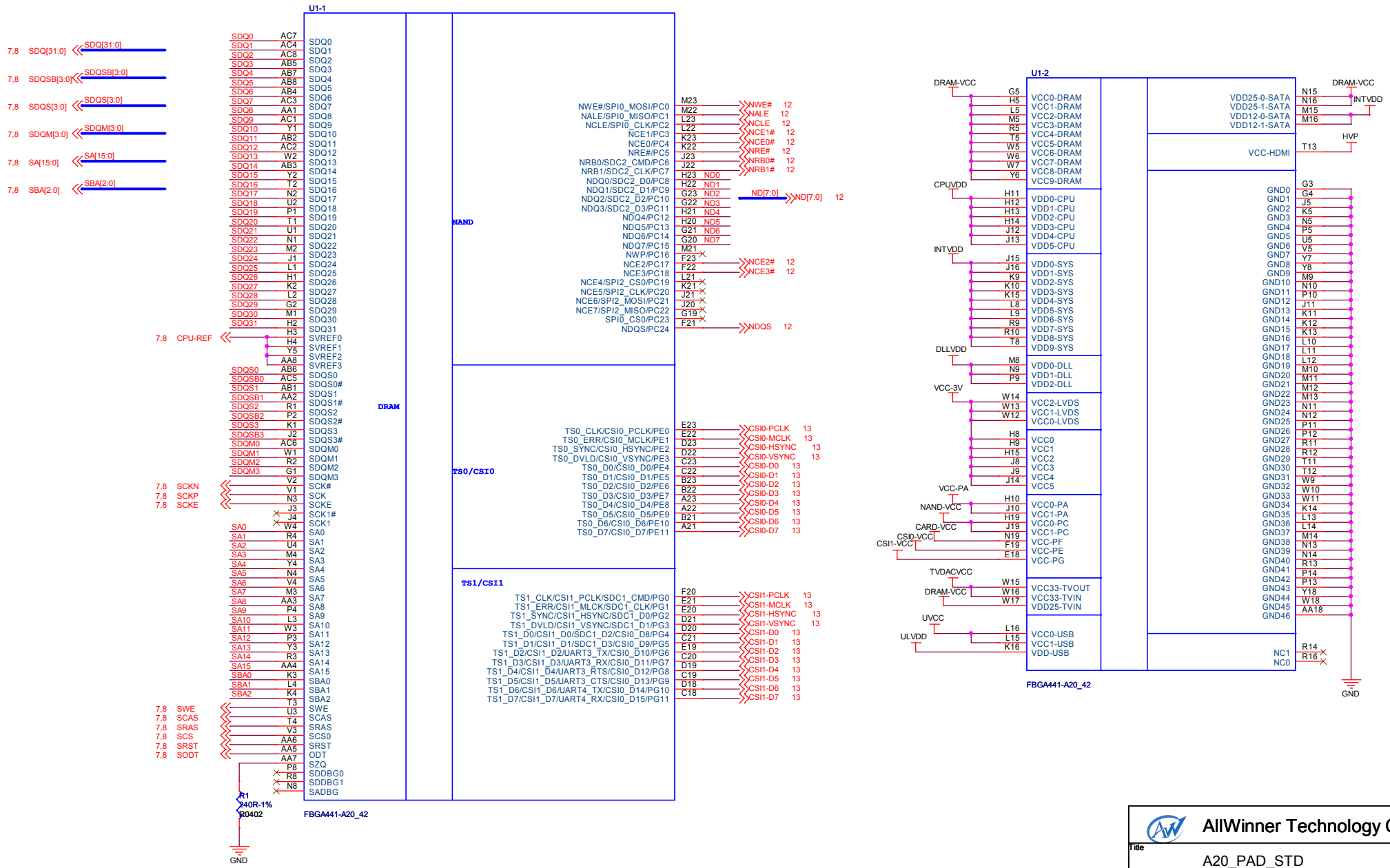
CPU1



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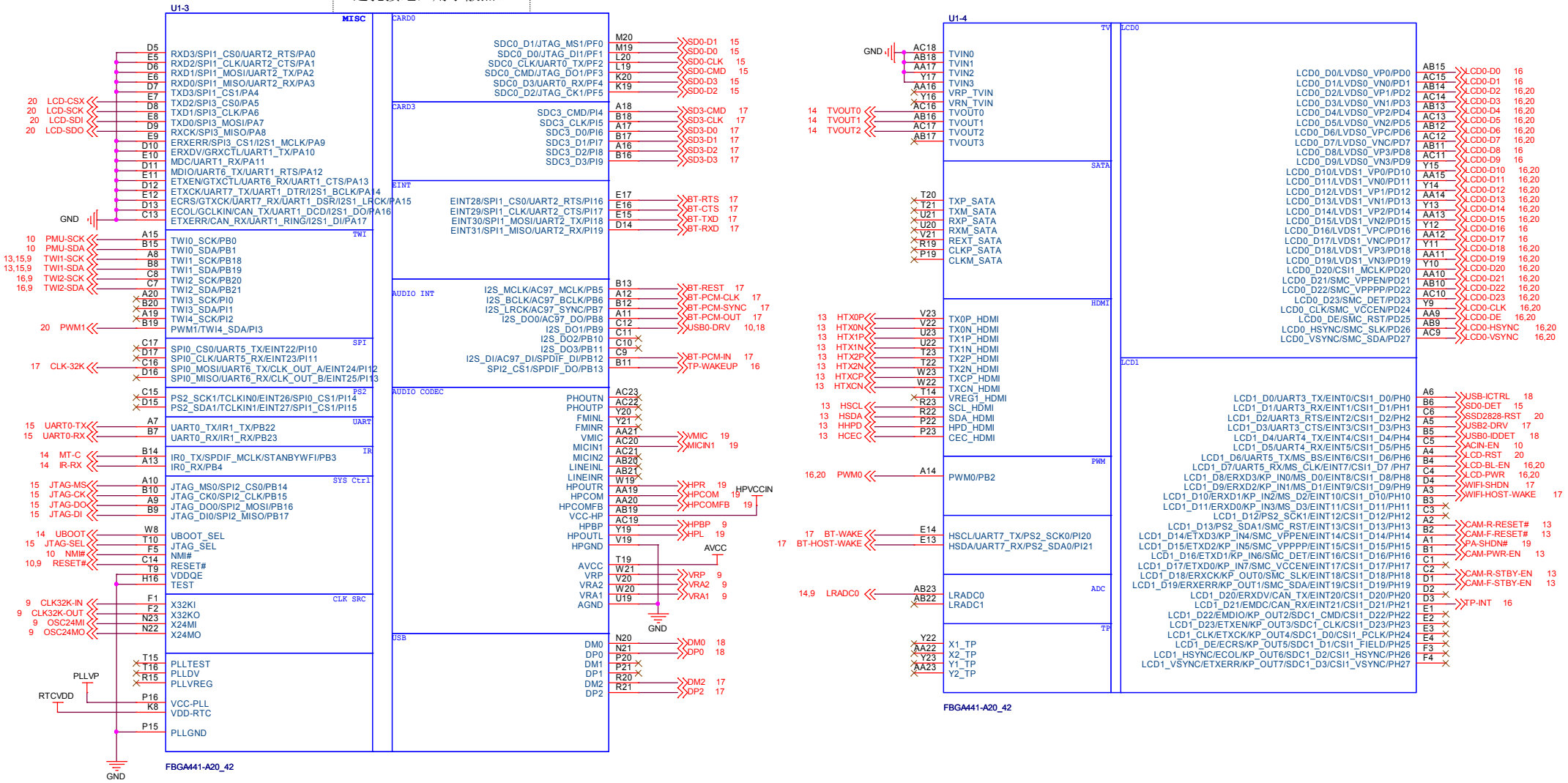
CPU2

注意：PA剩余口全部
过孔接地，用于散热。



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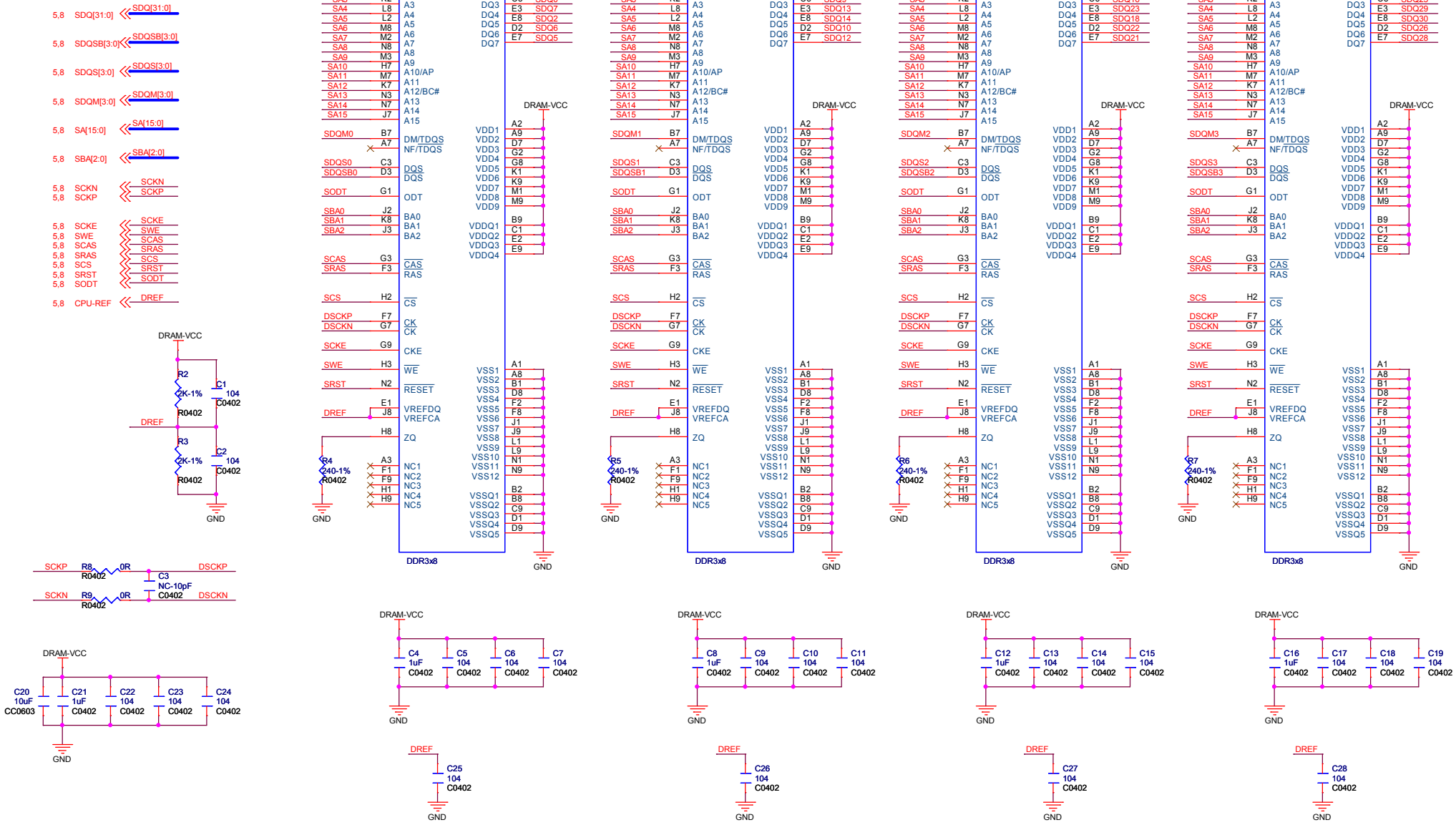
DDR3-8BITX4

Please directly copy the refered DRAM layout and follow the PCB layout guide. This circuit is only for single-side PCB layout.



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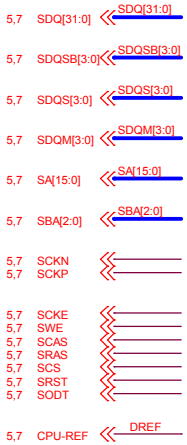
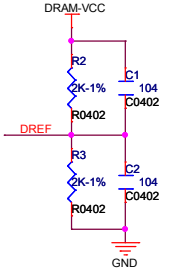
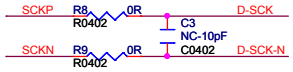
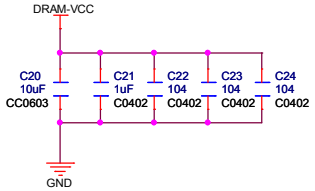
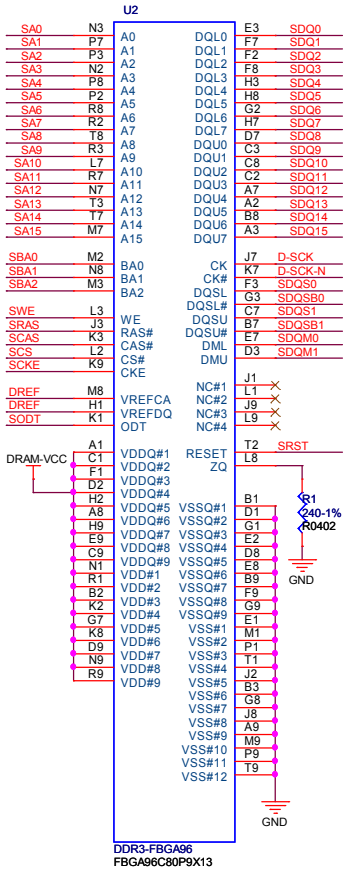
DDR3-16BITX2

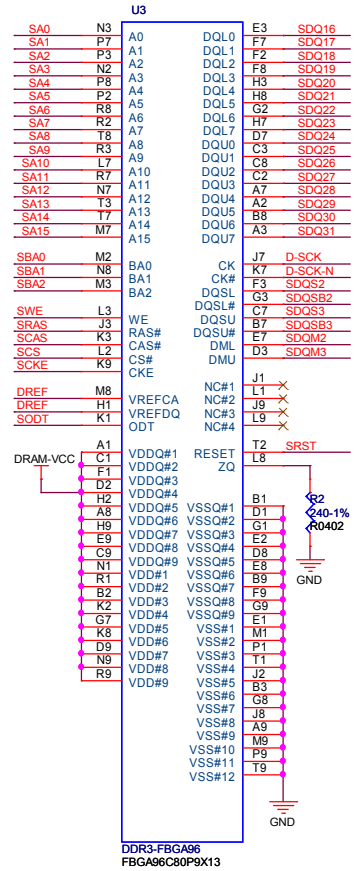


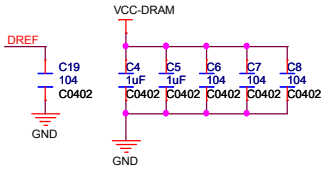


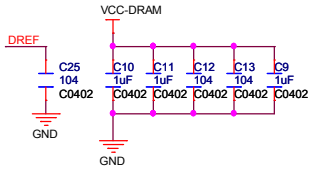












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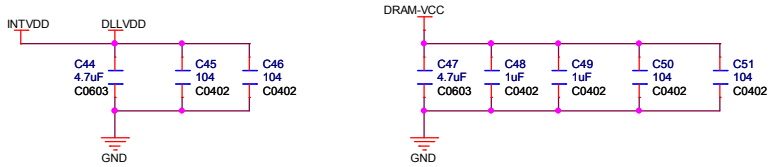
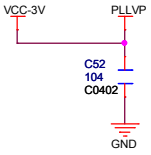
BESIDE CPU

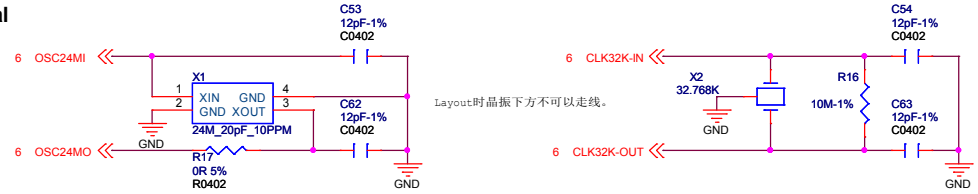
DRAM



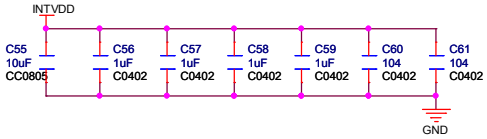
PLL



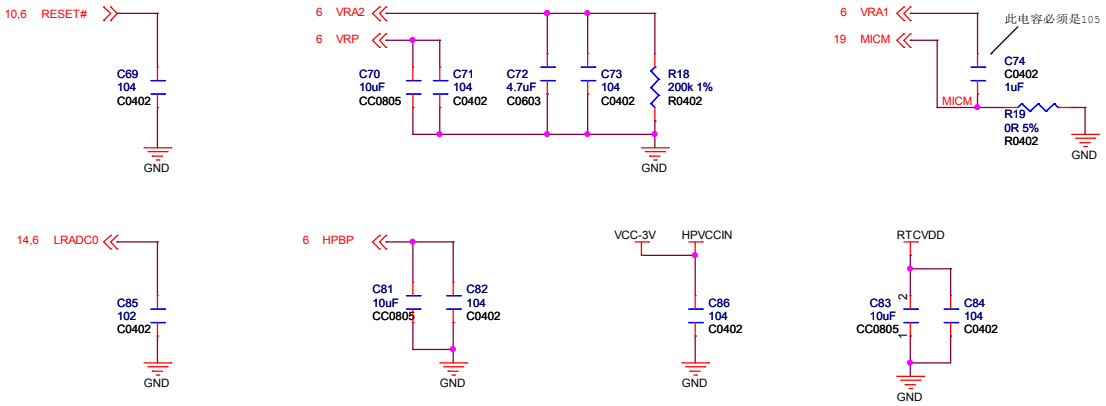
Crystal



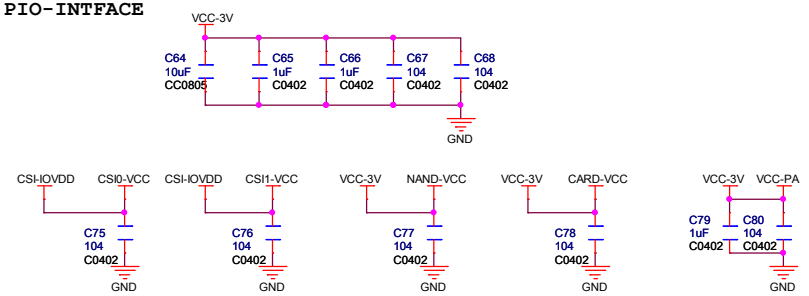
CORE



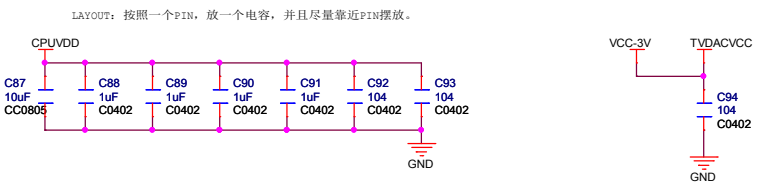
AUDIO&SYS&TP



PIO-INTFACE

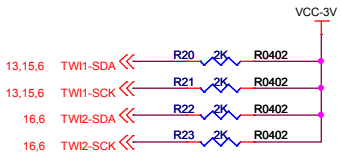


CPU&TV

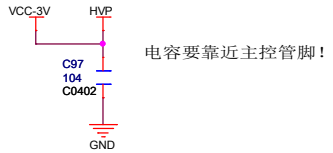


USB

TWI-PULLUP



HDMI



电容要靠近主控管脚！

AllWinner Technology Co.,Ltd

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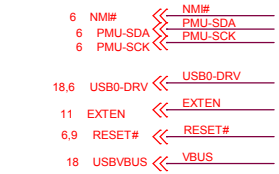
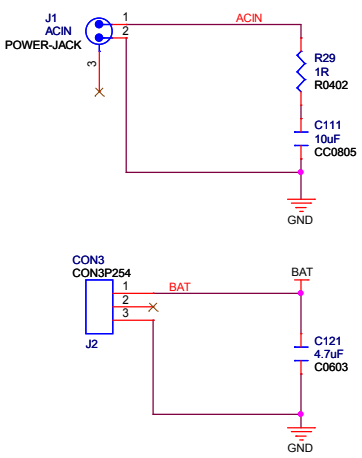
POWER-PMU

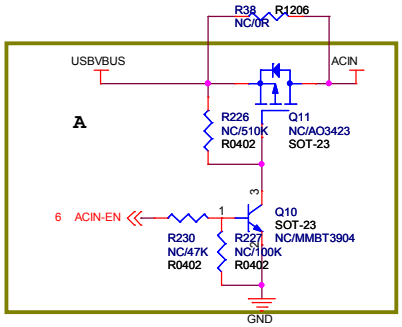


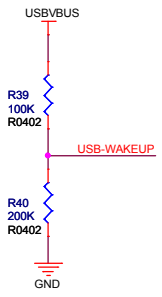
POWER INPUT

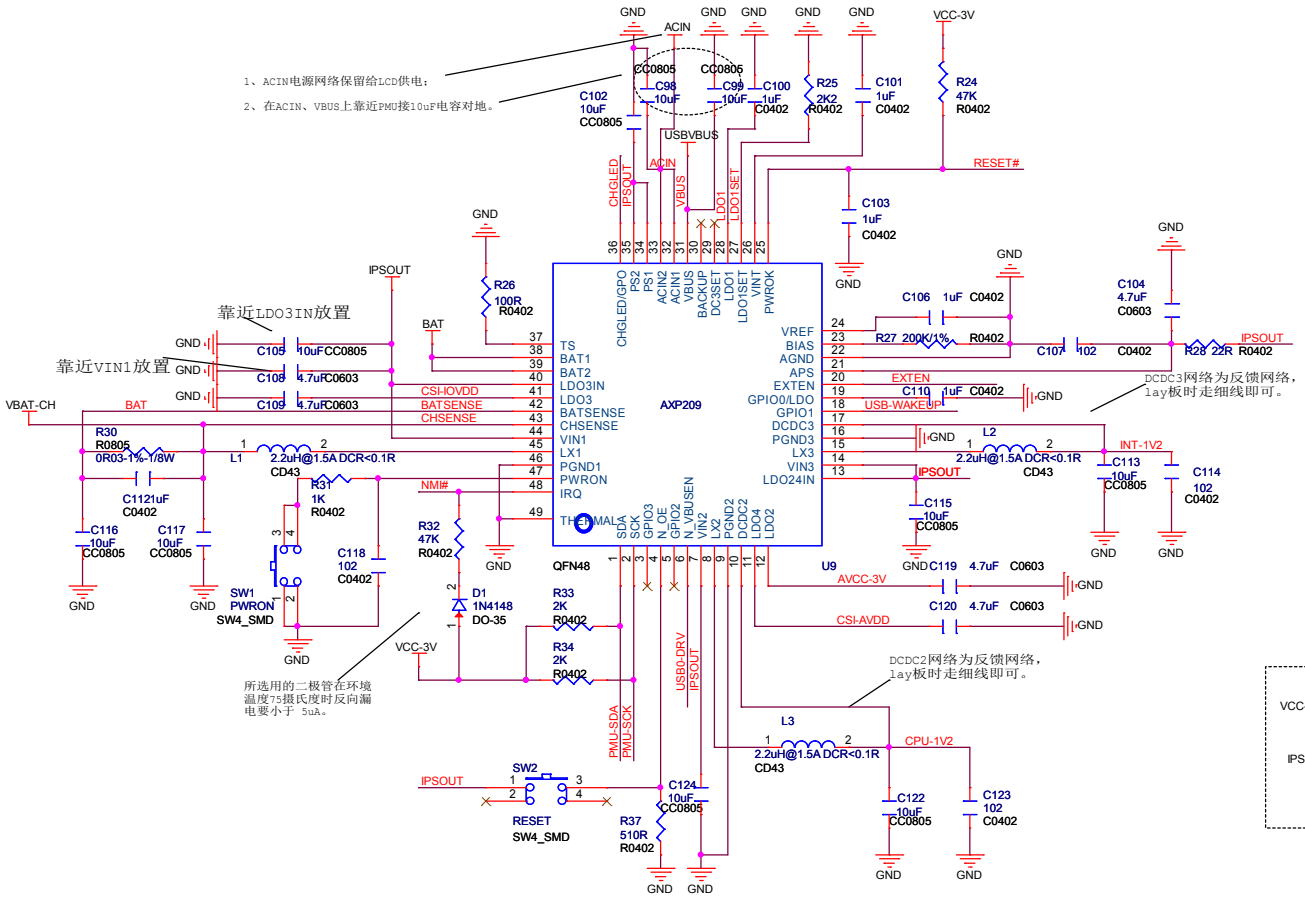


此时不支持电池温度检测

注意：
1、在没有ACIN插座，只使用USB供电时，
把A部分器件贴上；
2、有ACIN时A部分器件不贴。

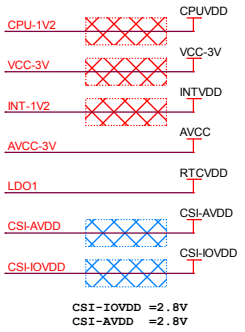


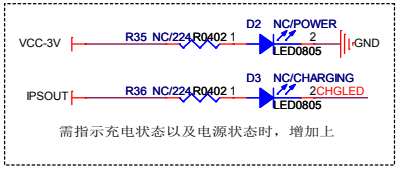




POWER LINE:Width>=80mil

POWER LINE:Width>=40mil





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。

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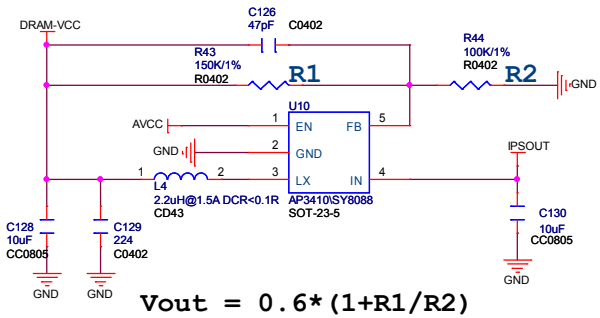
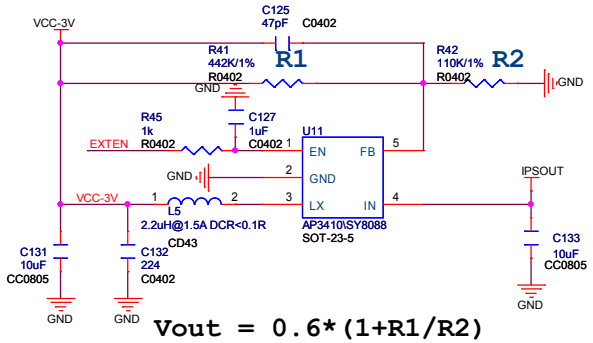
POWER-DC/DC

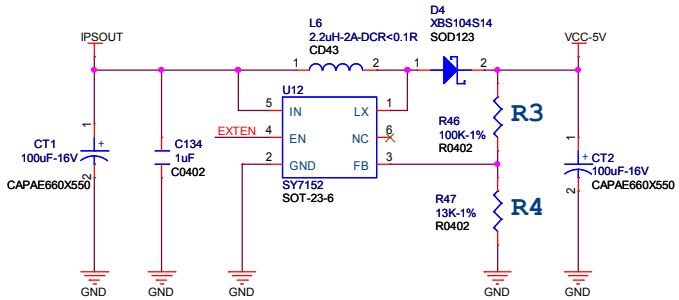
10 EXTEN >> EXTEN



Vout = 0.6*(1+R1/R2)



Vout = 0.6*(1+R1/R2)



Vout = 0.6*(1+R3/R4)

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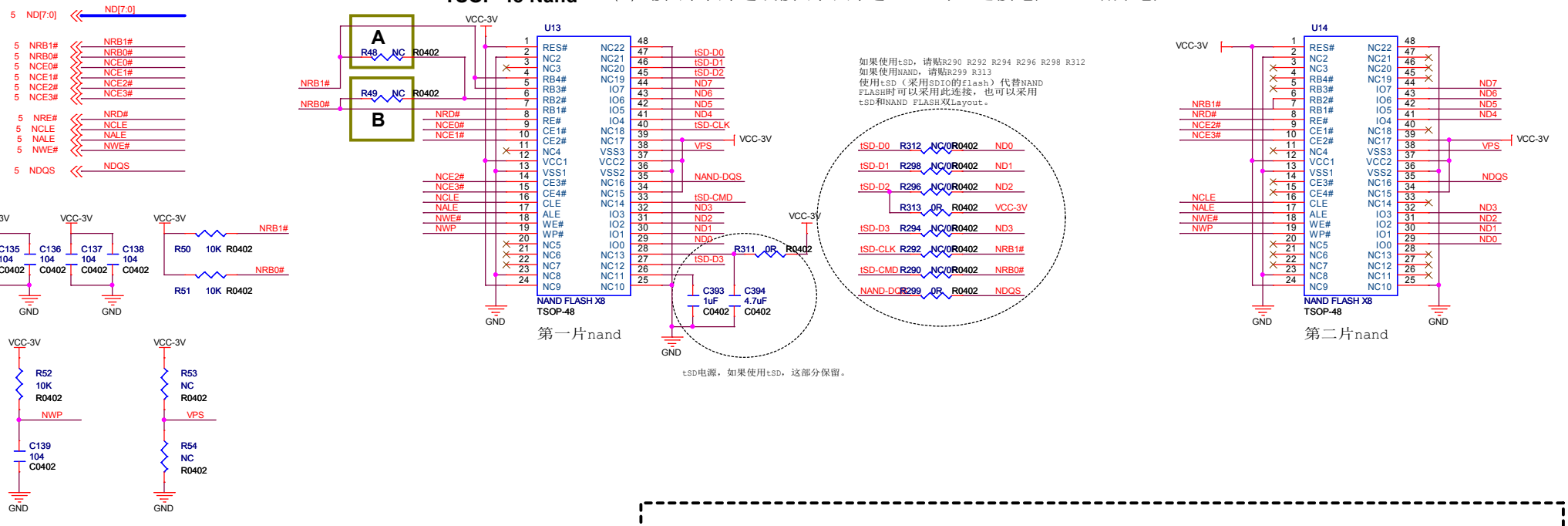
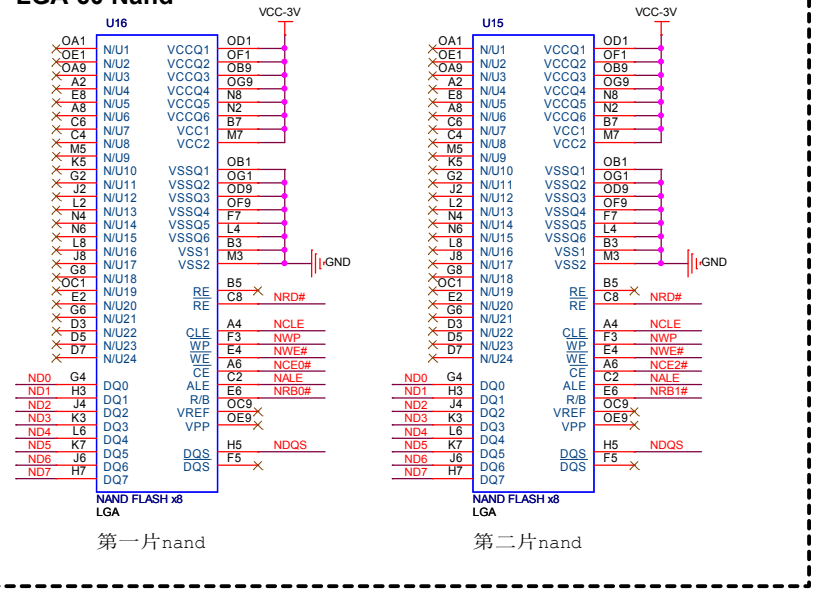
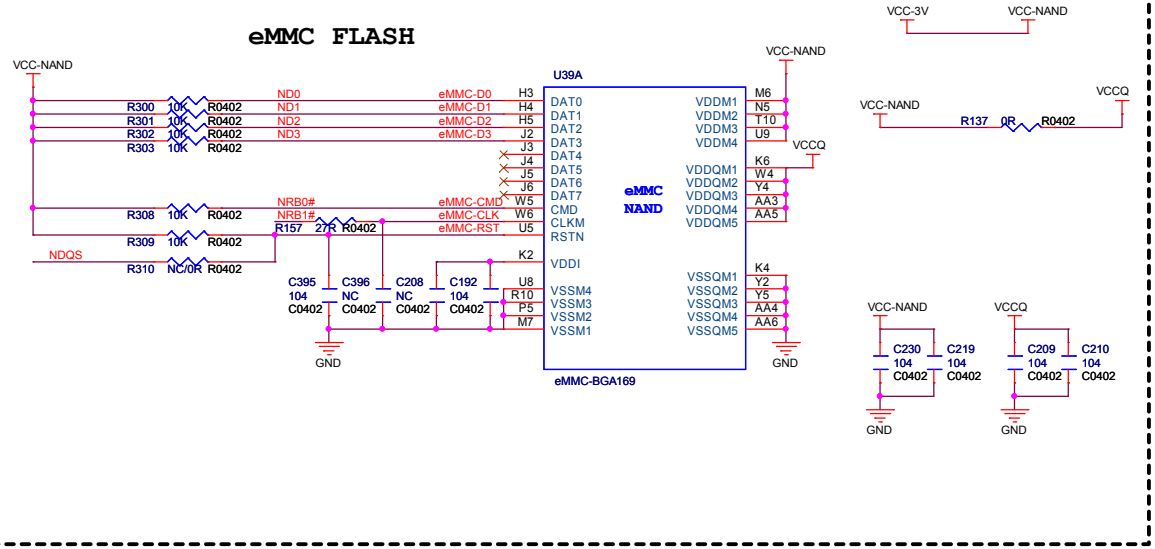
NAND Flash

(1) 接1片单片选Nand 时，电阻A，B全断开
(2) 接1片双片选Nand 时，连接电阻A， 断开电阻B
(3) 接1片四片选Nand 时，连接电阻B， 断开电阻A
(4) 接2片单片选或接2片双片选Nand 时，连接电阻A， 断开电阻B







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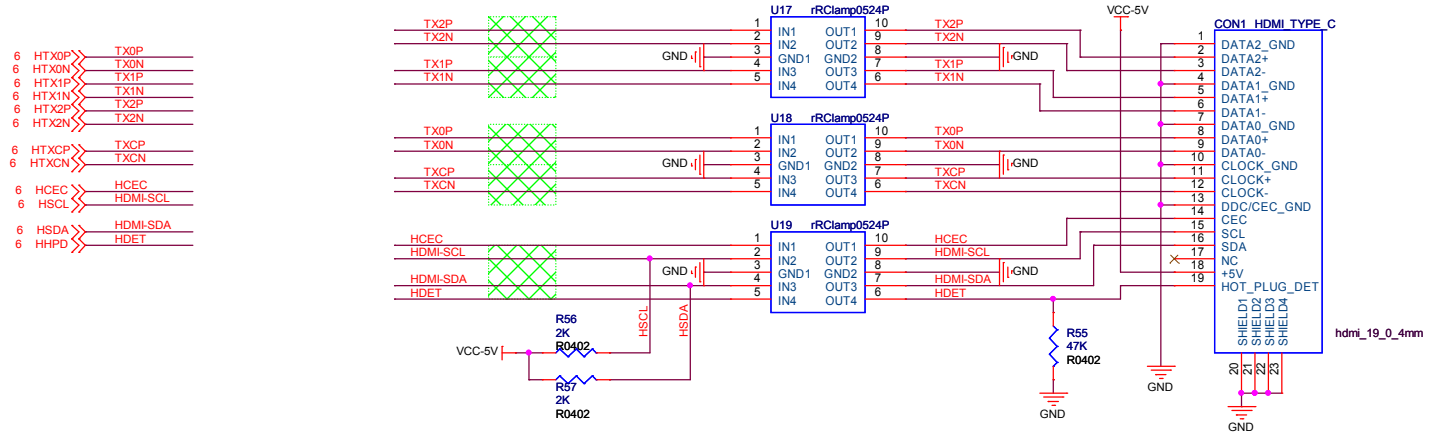
HDMI-CSI

HDMI

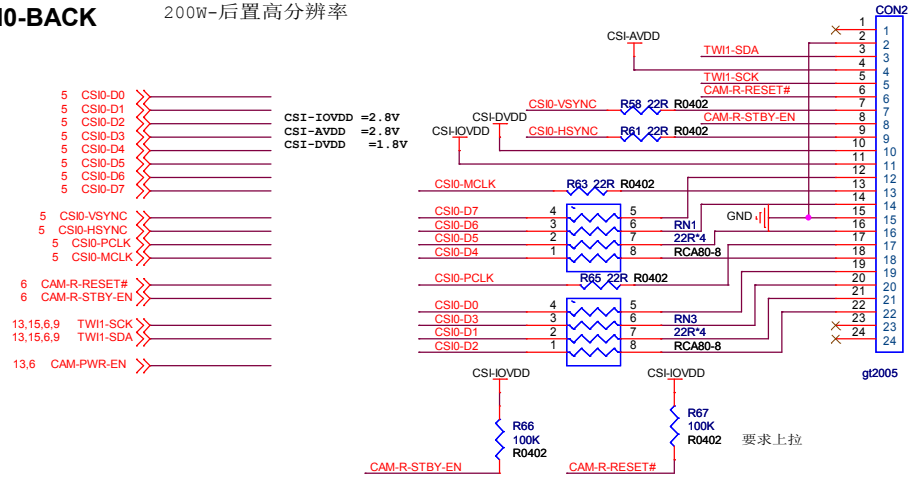


Differential pairs
Z0= 100 ohm

LAYOUT差分走线过孔不能超过2个，有完整铺地。

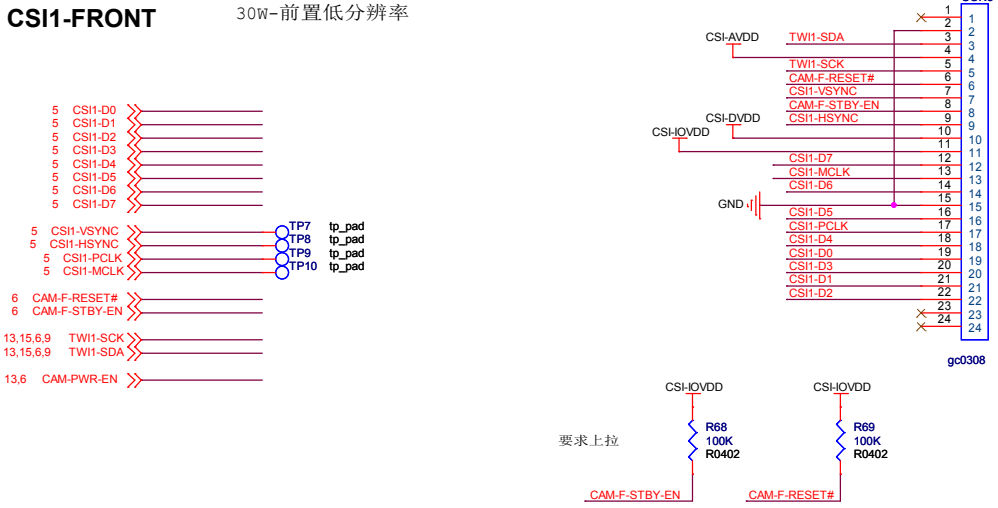
CSI0-BACK

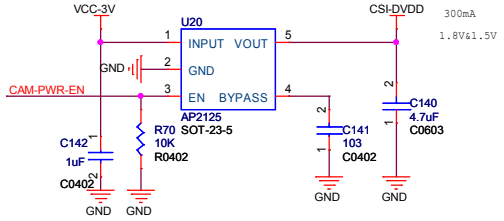
200W-后置高分辨率



CSI1-FRONT

30W-前置低分辨率





1、LAYOUT时，请保证摄像头成像方向与LCD显示一致；
2、LAYOUT时，请尽量保证两个摄像头的连接器不要分开太远，保证电源以及信号到达CSI的一致性；
3、若选用其他模组，请检查CSI-IOVDD，CSI-AVDD,CSI-DVDD的具体电压值以及负载能力能够满足。

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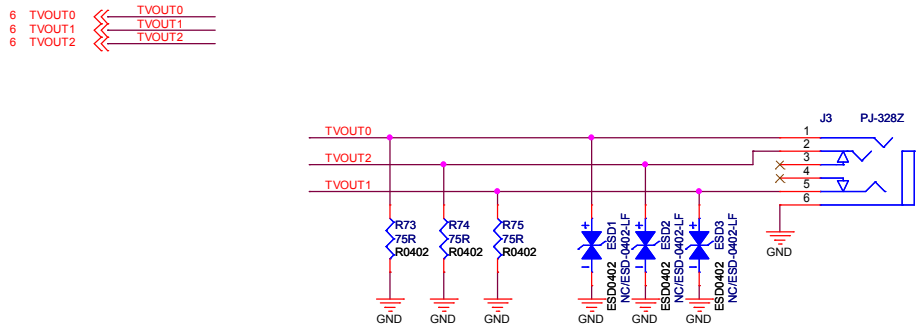
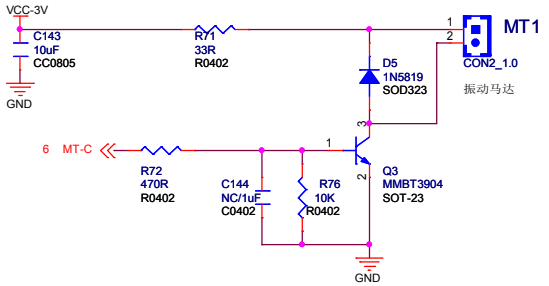
KEY-IR-TVOUT-MT

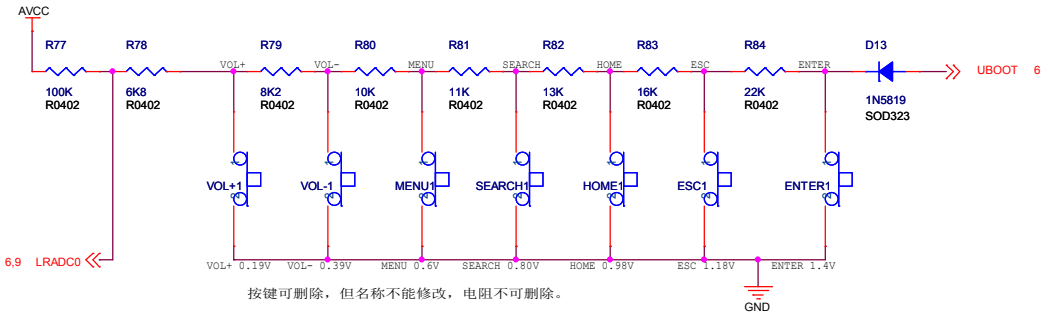
TVOUT



Motor

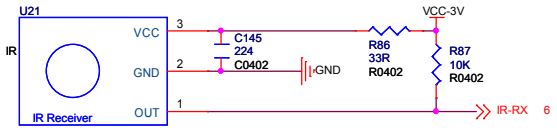


KEY



按键可删除，但名称不能修改，电阻不可删除。

IR MODULE



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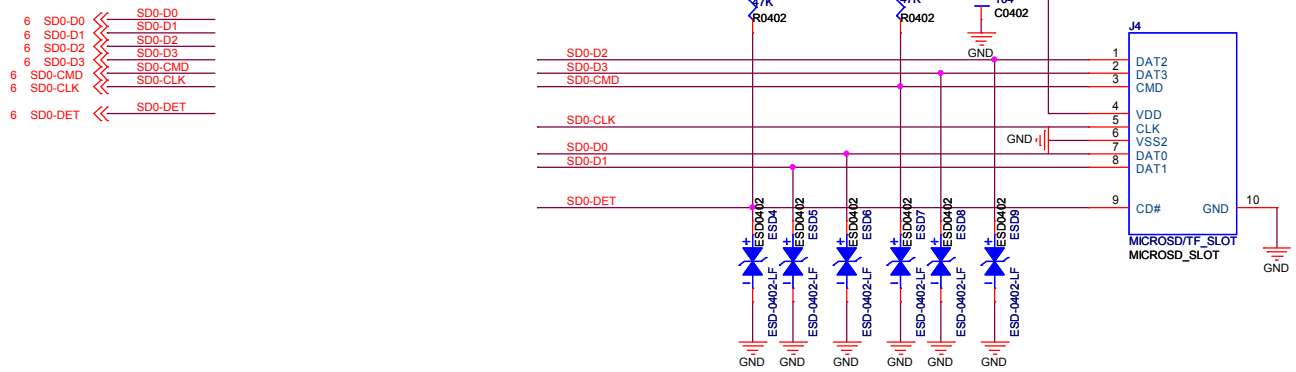
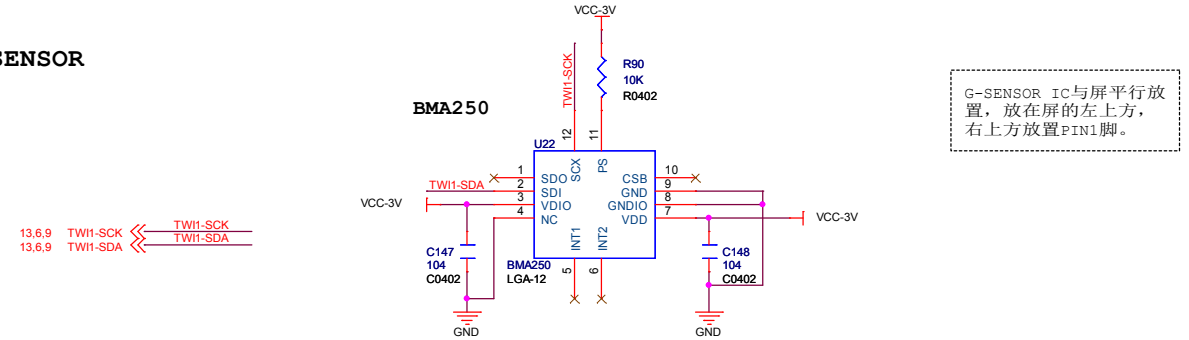
CARD-DEBUG-GS

CARD0

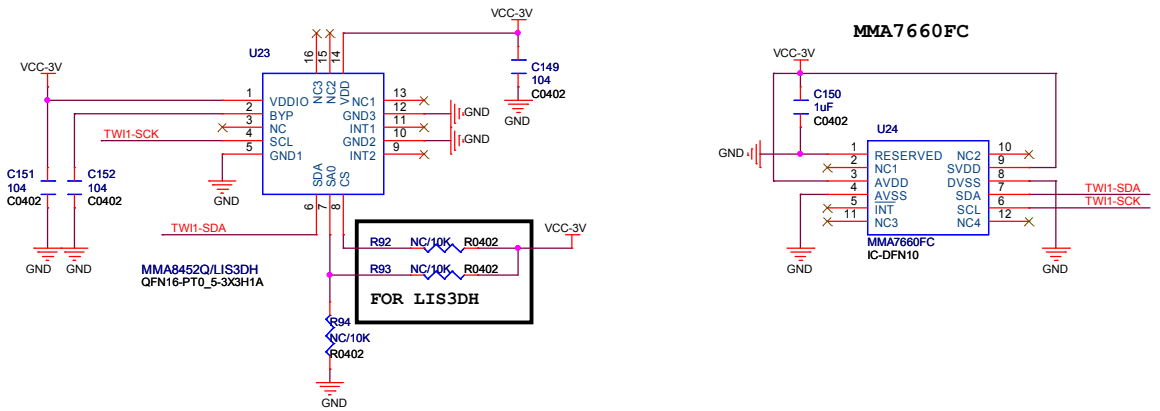


G-SENSOR

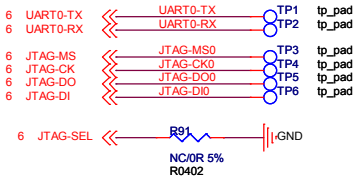


G-SENSOR IC与屏平行放置，放在屏的左上方，右上方放置PIN1脚。

Option



DEBUG



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。

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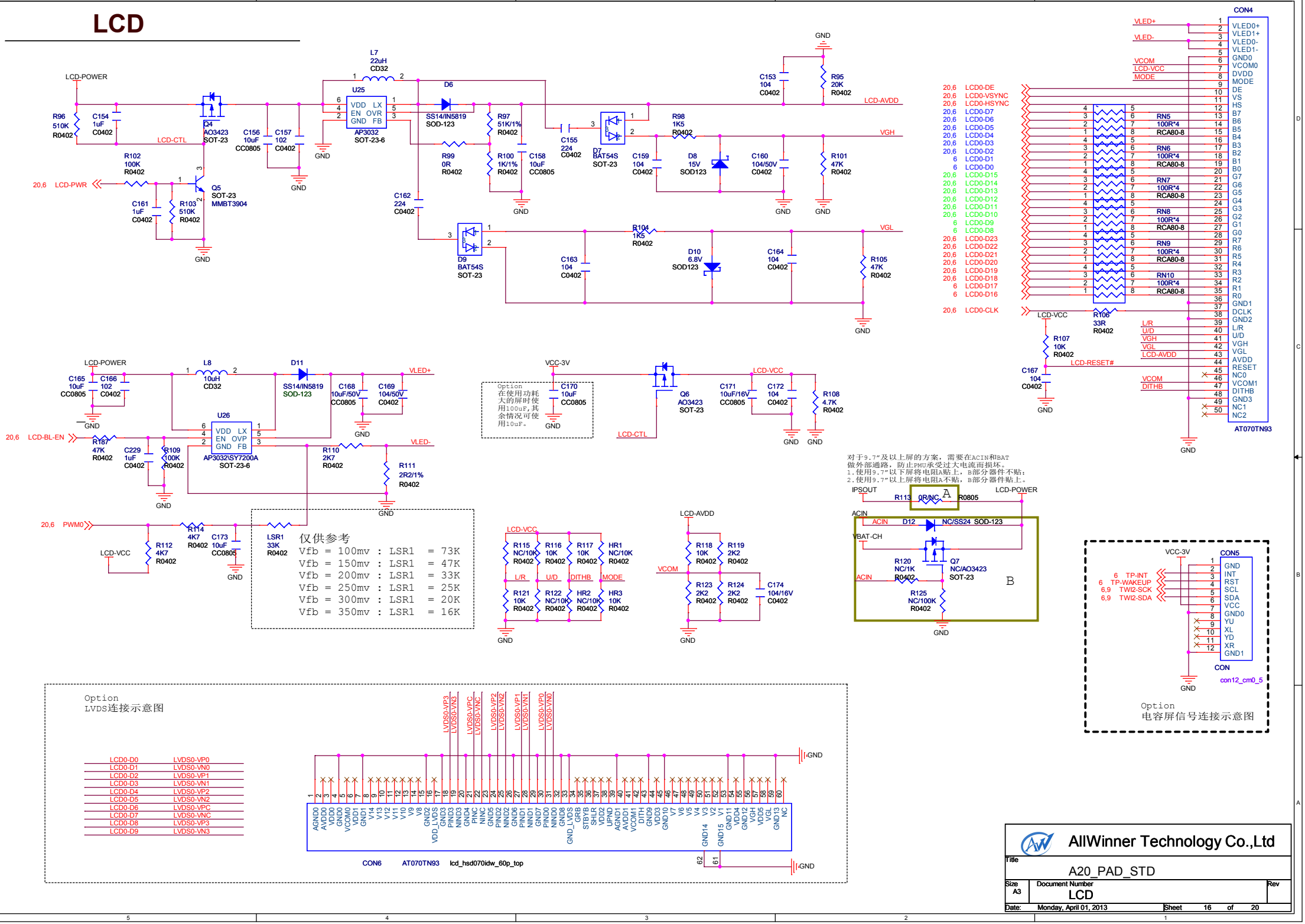
LCD



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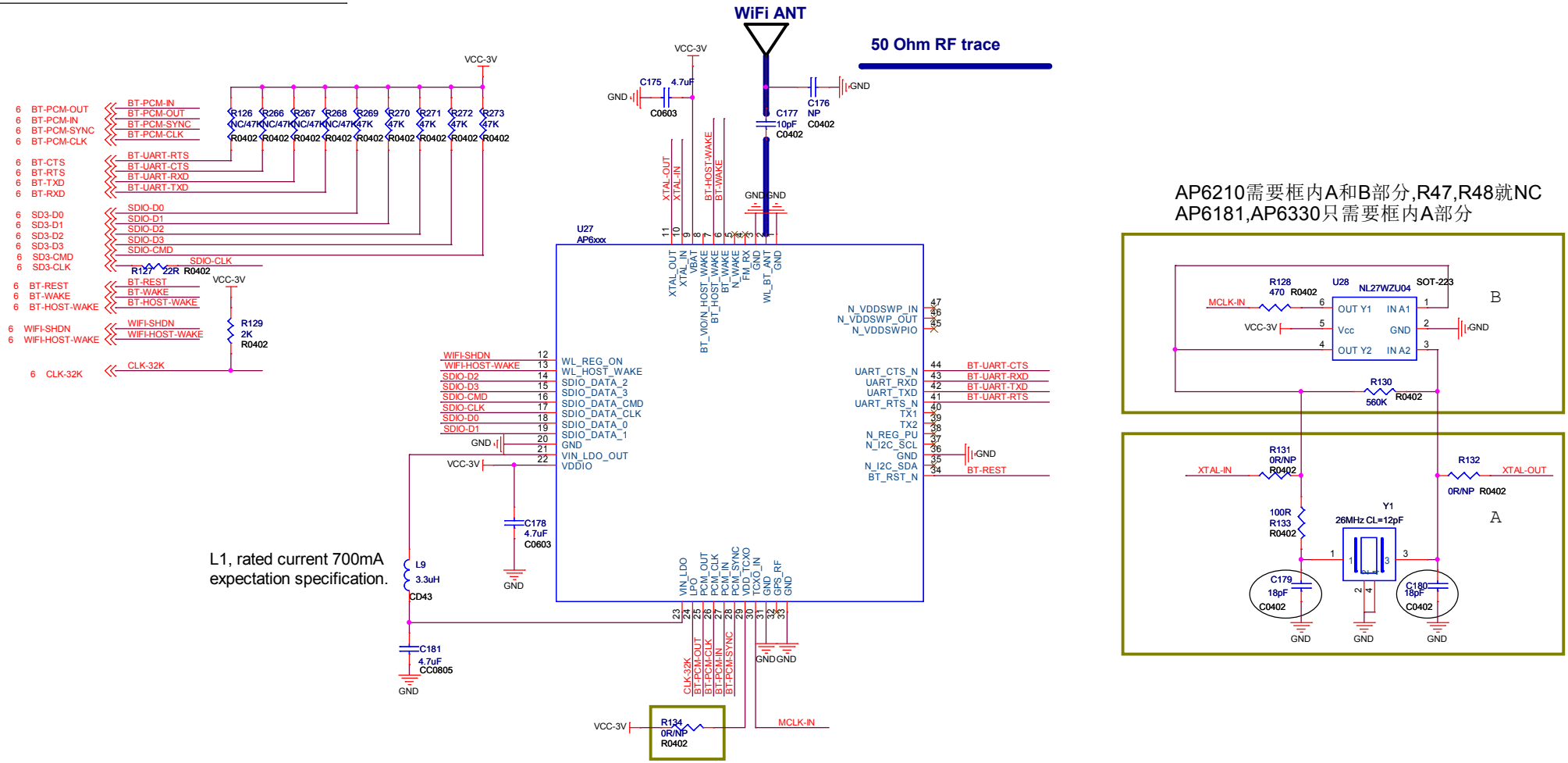
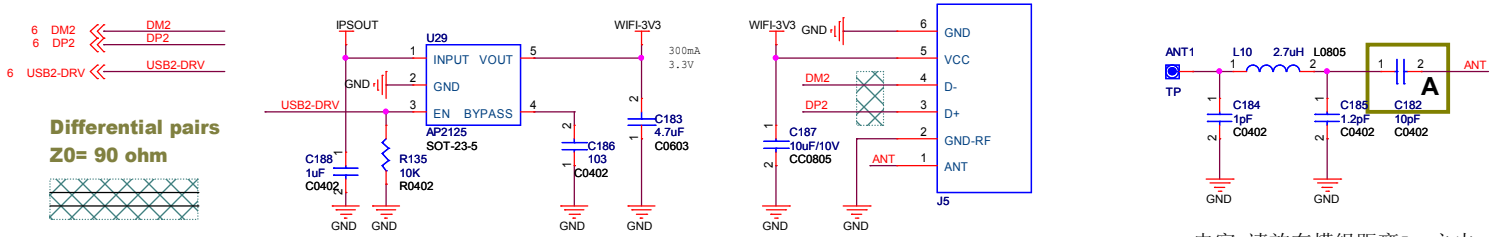
WIFI-BT



USB WIFI



电容A请放在模组距离5mm之内，
电容A位贴0欧电阻也可以

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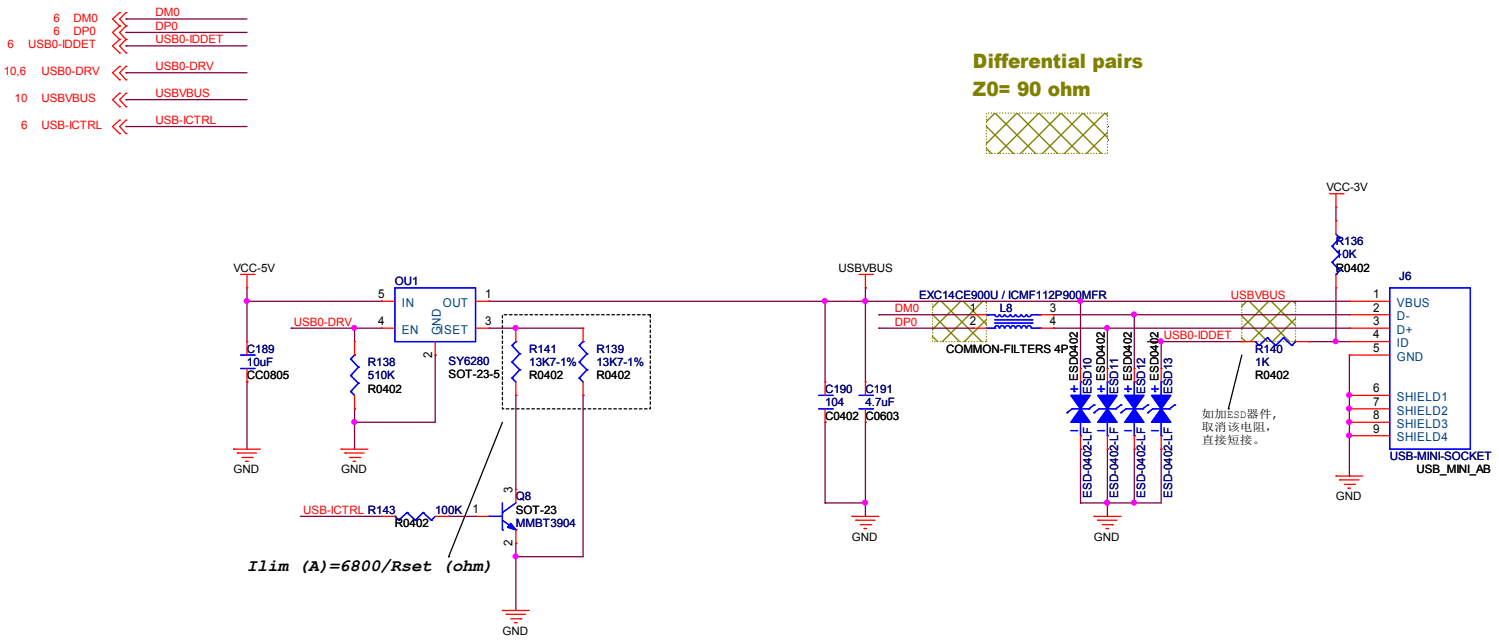
USB-USB OTG



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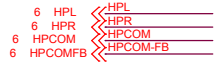
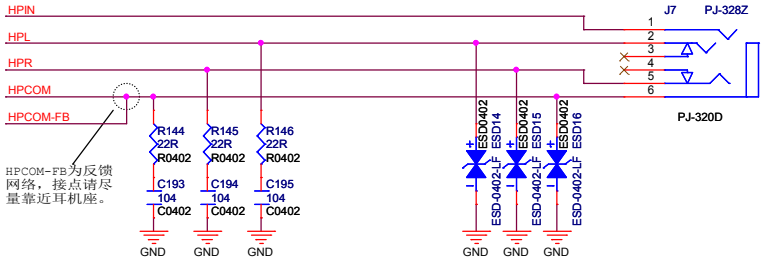
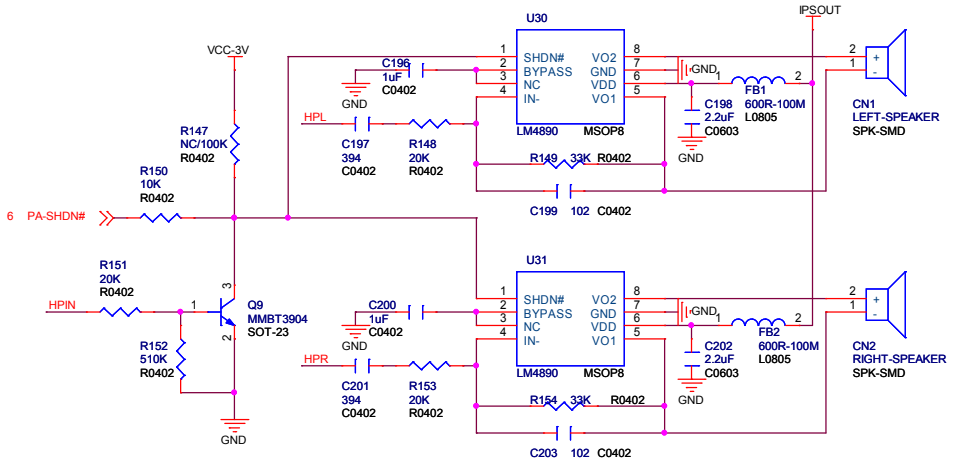
HP-MIC-SPK

Head Phone

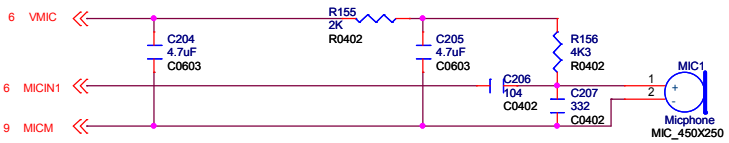




Speaker



Microphone



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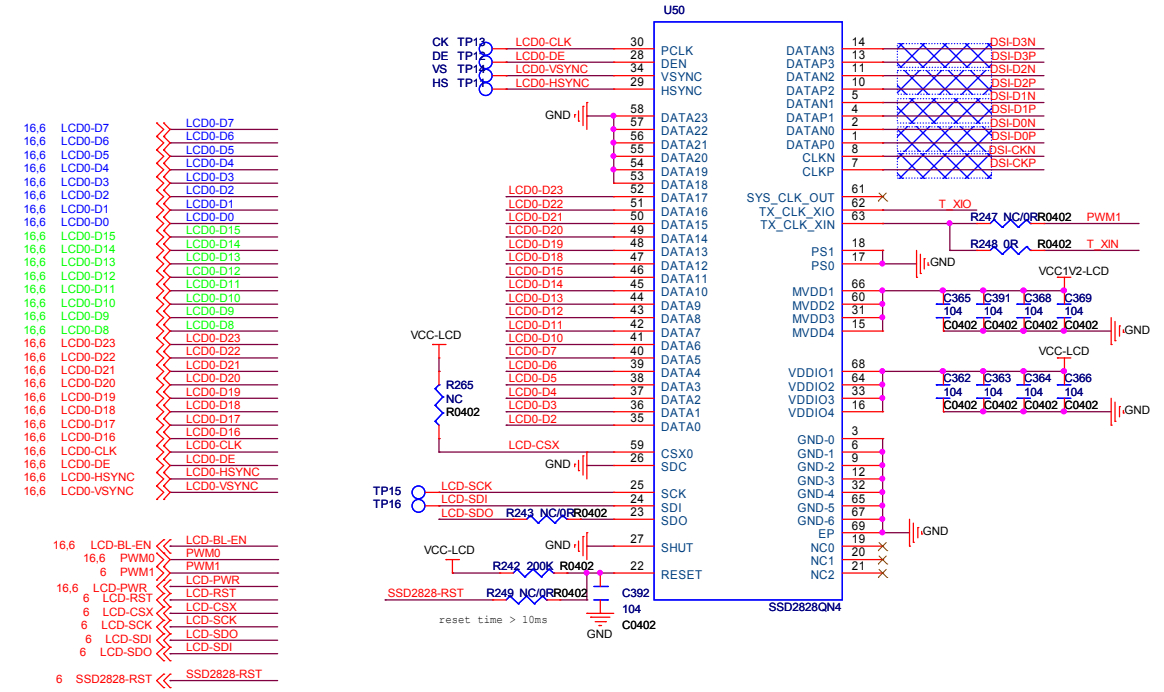
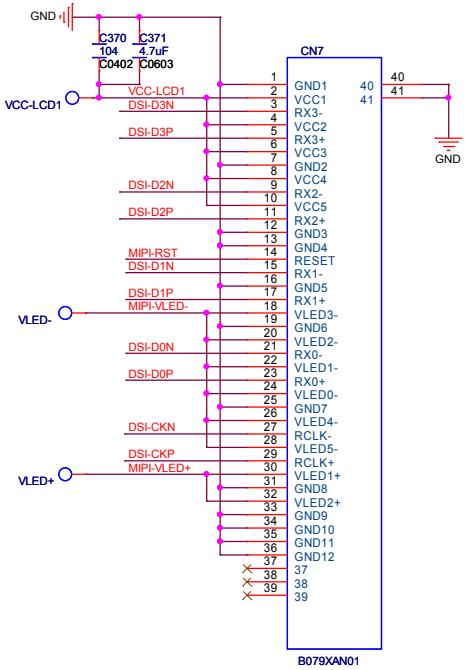
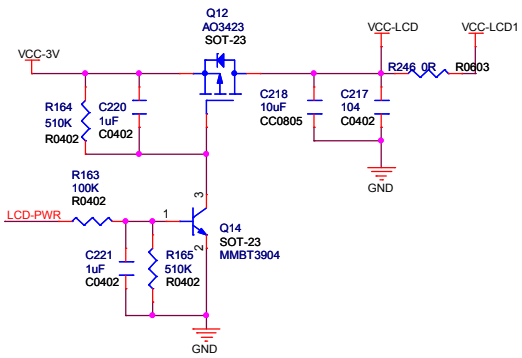
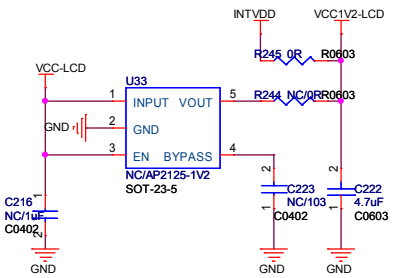
LCD MIPI

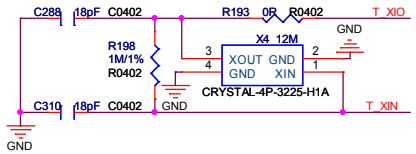
Differential pairs
Z0= 100 ohm

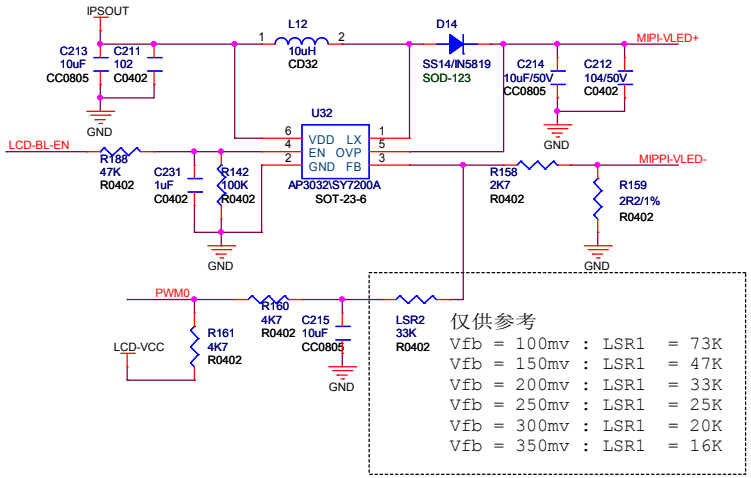












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