

Scheme Spec:

FLASH: MLC, 3V
 DRAM: DDR3, 1.5V
 Power: DCIN, 5V, 2A
 Card: MicroSD

Schematics Index:

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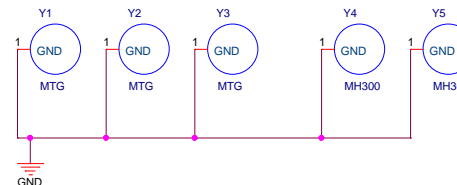
Power Supply:

Name	Vout	I _{max}	Use
AXP209 DCDC2	1.25V	1600mA	CPU-VDD-1V25
AXP209 DCDC3	1.2V	1200mA	DLL-VDD-1V2
AXP209 LDO1	1.3V	30mA	RTCVD
AXP209 LDO2	3V	200mA	AVCC-3V
TCP4199 DCDC	1.5V	1200mA	DRAM-VCC-1V5
TCP4199 DCDC	3.3V	1200mA	VCC-3V3
TCP2108 LDO	2.5V	300mA	SATA-VDD-2V5

Notes:

预留屏蔽罩设计。
 屏蔽罩外预留定位孔X2,
 LED X2, SW X3, SATA X1,
 配置电阻 X6, uSD卡槽 X1

Rev	Description	Date	Drawn	Checked	Approved
Itead Core V2		2014-05-20			



Core V2		
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Notes:

PD0-PD1, PD2-PD3, PD4-PD5, PD6-PD7,
PD8-PD9, PD10-PD11, PD12-PD13,
PD14-PD15, PD16-PD17, PD18-PD19,
差分走线, 阻抗100R+-5%

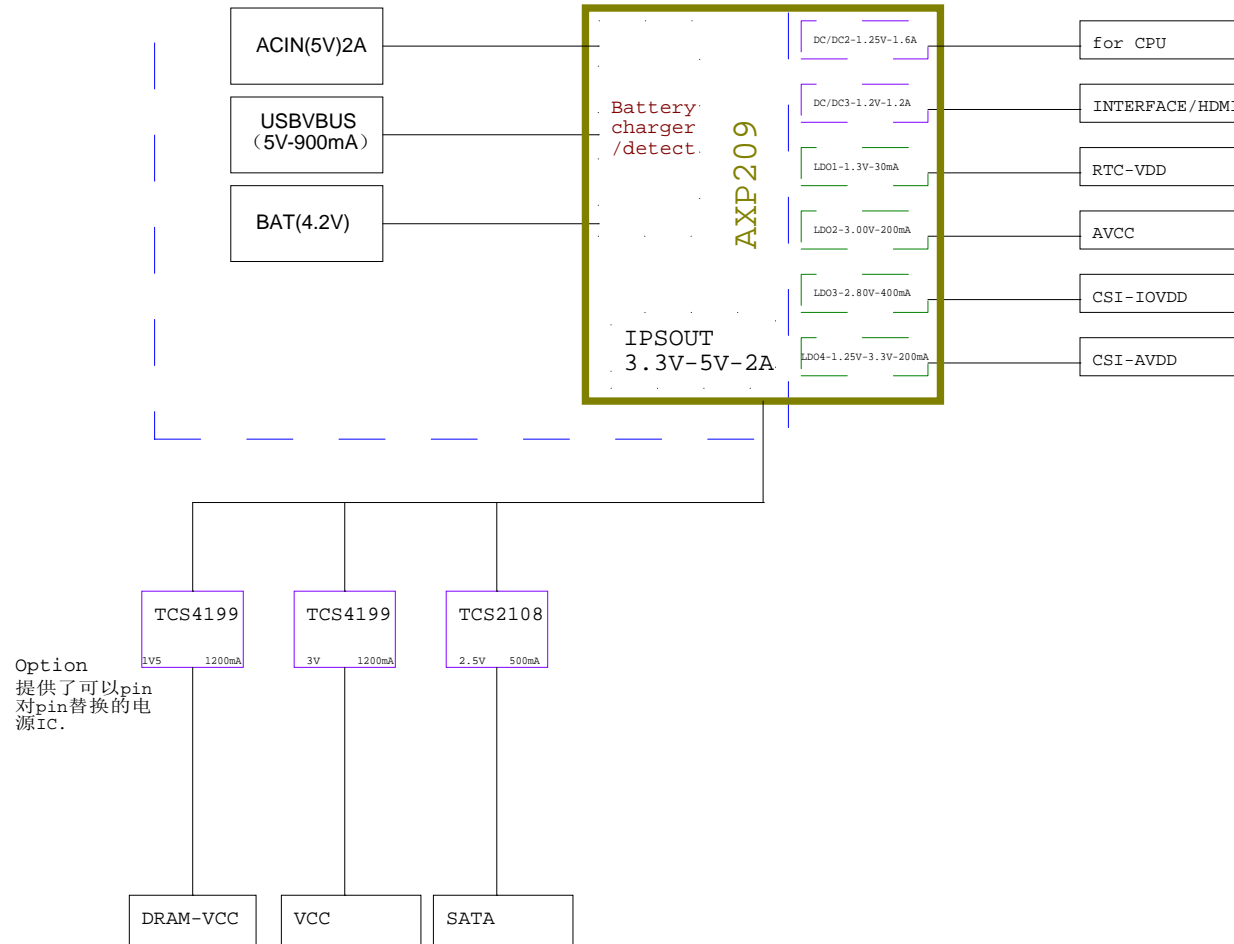
R57, R58, R59, R60, R61, R62, R63
为配置电阻, 放在屏蔽罩外。

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Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function							
PA(18)	PA0	ERXD3	ETH MII/GMII	PC(25)	PC0	NWE#	NAND	PD(28)	PD17	GPIO	LCD0_D17	PH(28)	PH0	GPIO	PI(22)	PI14	GPIO	PS2_SCK								
	PA1	ERXD2			PC1	NALE			PD18	GPIO	LCD0_D18		PH1	SD0-DET		PI15	GPIO	PS2_SDA								
	PA2	ERXD1			PC2	NCLE			PD19	GPIO	LCD0_D19		PH2	GPIO		PI16	GPIO	UART2_RTS								
	PA3	ERXD0			PC3	NCE1			PD20	GPIO	LCD0_D20		PH3	GPIO		PI17	GPIO	UART2_CTS								
	PA4	ETXD3			PC4	NCE0			PD21	GPIO	LCD0_D21		PH4	GPIO		PI18	GPIO	UART2_TX								
	PA5	ETXD2			PC5	NRE#			PD22	GPIO	LCD0_D22		PH5	GPIO		PI19	GPIO	UART2_RX								
	PA6	ETXD2			PC6	NRB0			PD23	GPIO	LCD0_D23		PH6	GPIO		PI20	GPIO	UART7_TX								
	PA7	ETXD2			PC7	NRB1			PD24	GPIO	LCD0_CLK		PH7	GPIO		PI21	GPIO	UART7_RX								
	PA8	ETXD2			PC8	NDQ0			PD25	GPIO	LCD0_DE		PH8	GPIO												
	PA9	ERXERR			PC9	NDQ1			PD26	GPIO	LCD0_HSYNC		PH9	GPIO												
	PA10	ERXDV			PC10	NDQ2			PD27	GPIO	LCD0_VSYNC		PH10	GPIO												
	PA11	EMDC			PC11	NDQ3							PH11	GPIO												
	PA12	EMDIO			PC12	NDQ4							PH12	GPIO												
	PA13	ETXEN			PC13	NDQ5							PH13	GPIO												
	PA14	ETXCK			PC14	NDQ6			PE(12)	PE0	GPIO		CSI0	PH(28)		PH14	GPIO									
	PA15	ECSR			PC15	NDQ7				PE1	GPIO						PH15	GPIO								
	PA16	ECOL			PC16	NWP				PE2	GPIO						PH16	GPIO								
PA17	ETXERR	PC17	NCE2	PE3	GPIO		PH17	GPIO																		
				PC18	NCE3		PH18	GPIO																		
				PC19	NC		PH19	GPIO																		
				PC20	NC		PH20	GPIO																		
				PC21	NC		PH21	GPIO																		
				PC22	NC		PH22	GPIO																		
				PC23	NC		PH23	GPIO																		
				PC24	NDQS		PH24	GPIO																		
							PH25	GPIO																		
							PH26	GPIO																		
							PH27	GPIO																		
PB(24)	PB0	TWI0_SCK	PMU	PD(28)	PD0	GPIO	LCD0_D0	PF(6)		PF0	SDC0_D1	SDC0			PI(22)	PI0	GPIO	Pwm								
	PB1	TWI0_SDA			PD1	GPIO	LCD0_D1			PF1	SDC0_CLK					PI1	GPIO									
	PB2	GPIO	PWM		PD2	GPIO	LCD0_D2			PF2	SDC0_CMD					PI2	GPIO		SDC3_CMD							
	PB3	GPIO	IR_TX		PD3	GPIO	LCD0_D3		PF3	SDC0_CMD	PI3		GPIO	SDC3_CLK												
	PB4	GPIO	IR_RX		PD4	GPIO	LCD0_D4		PF4	SDC0_D3	PI4		GPIO	SDC3_D0												
	PB5	GPIO	I2S_MCLK		PD5	GPIO	LCD0_D5		PF5	SDC0_D2	PI5		GPIO	SDC3_D1												
	PB6	GPIO	I2S_BCLK		PD6	GPIO	LCD0_D6	PG0	GPIO	SDIO1_CMD	PI6	GPIO	SDC3_D2													
	PB7	GPIO	I2S_LRCLK		PD7	GPIO	LCD0_D7	PG1	GPIO	SDIO1_CLK	PI7	GPIO	SDC3_D3													
	PB8	GPIO	I2S_D00		PD8	GPIO	LCD0_D8	PG2	GPIO	SDIO1_D0	PI8	GPIO	SPI0_CS													
	PB9	GPIO			PD9	GPIO	LCD0_D9	PG3	GPIO	SDIO1_D1	PI9	GPIO	SPI0_SCK													
	PB10	GPIO			PD10	GPIO	LCD0_D10	PG4	GPIO	SDIO1_D2	PI10	GPIO	SPI0_MOSI													
	PB11	GPIO			PD11	GPIO	LCD0_D11	PG5	GPIO	SDIO1_D3	PI11	GPIO	SPI0_MISO													
	PB12	GPIO			PD12	GPIO	LCD0_D12	PG6	GPIO	UART3_TX	PI12	GPIO														
	PB13	GPIO	SPDIF_OUT		PD13	GPIO	LCD0_D13	PG7	GPIO	UART3_RX	PI13	GPIO														
	PB14	GPIO			PD14	GPIO	LCD0_D14	PG8	GPIO	UART3_RTS																
PB15	GPIO		PD15	GPIO	LCD0_D15	PG9	GPIO	UART3_CTS																		
PB16	GPIO		PD16	GPIO	LCD0_D16	PG10	GPIO	UART4_TX																		
PB17	GPIO					PG11	GPIO	UART4_RX																		
PB18	GPIO	TWI1_SCK																								
PB19	GPIO	TWI1_SDA																								
PB20	GPIO	TWI2_SCK																								
PB21	GPIO	TWI2_SDA																								
PB22	UART0_TX	UART0 (DEBUG)																								
PB23	UART0_RX																									

POWER TREE

LAYOUT: ACIN、BATT、IPSOUT输入或输出线，从PMU管脚处就要保证尽量粗。



Option
提供了可以pin
对pin替换的电
源IC.

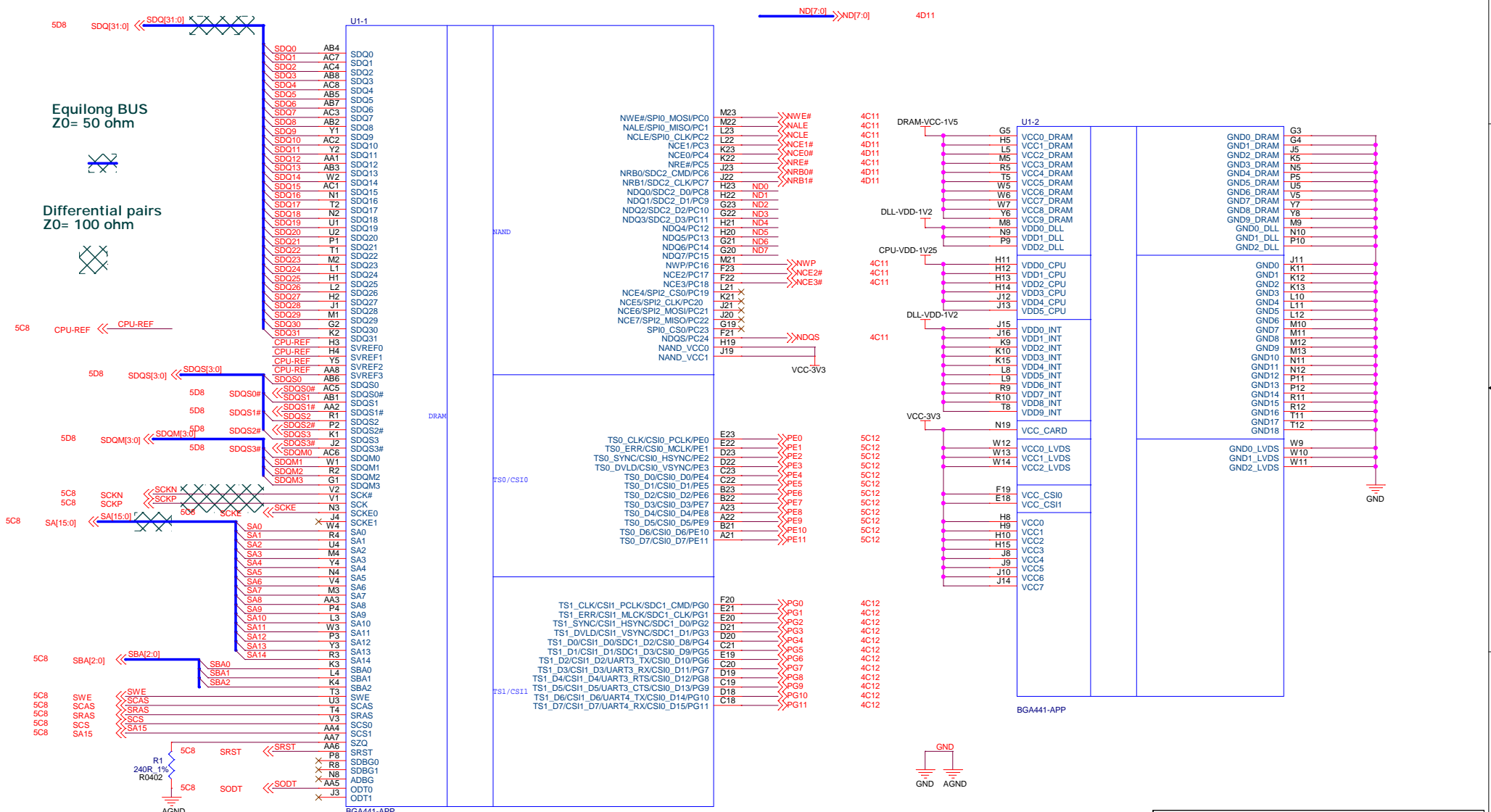
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CPU1

Equilong BUS
Z0= 50 ohm



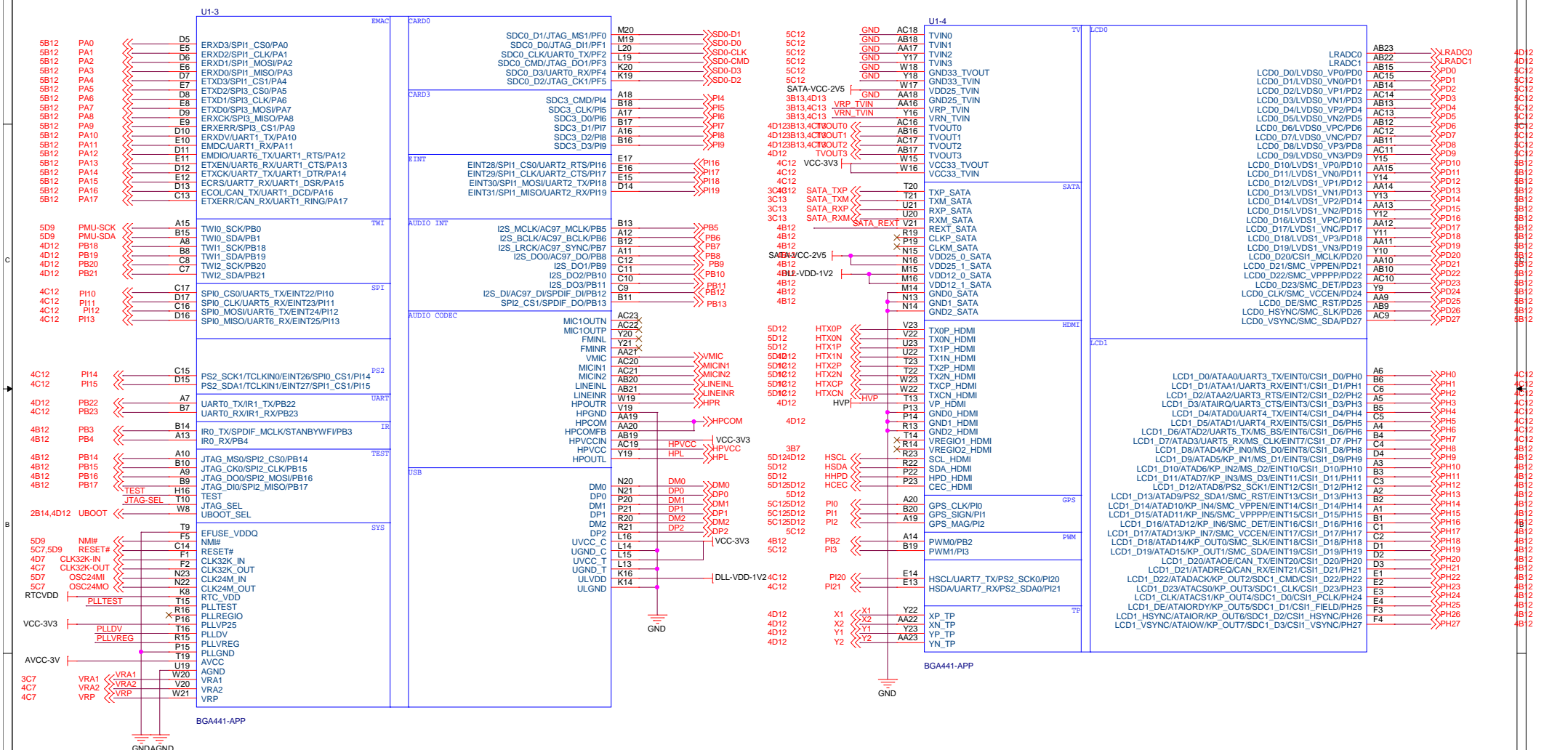
Differential pairs
Z0= 100 ohm



MAINCHIP_PAD_DDR3

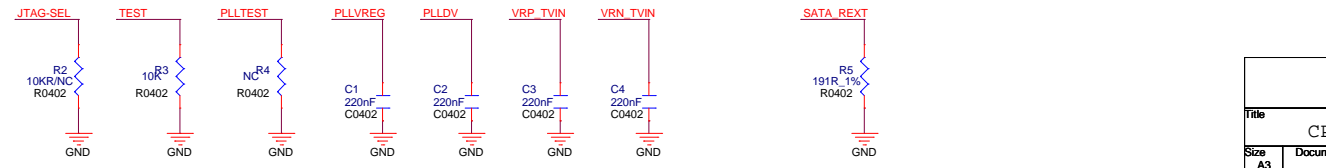
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CPU2



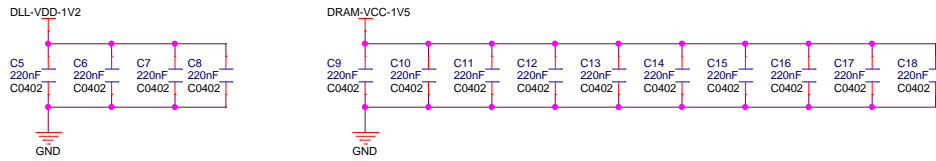
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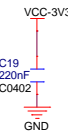


BESIDE CPU

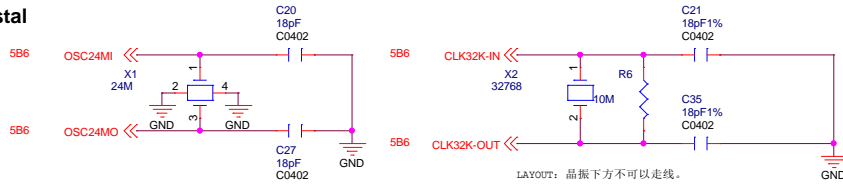
DRAM



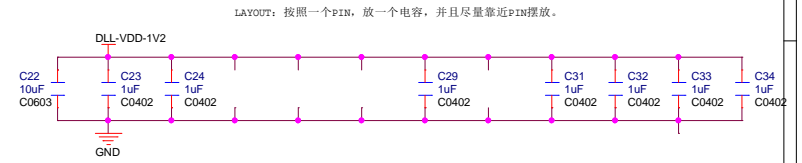
PLL



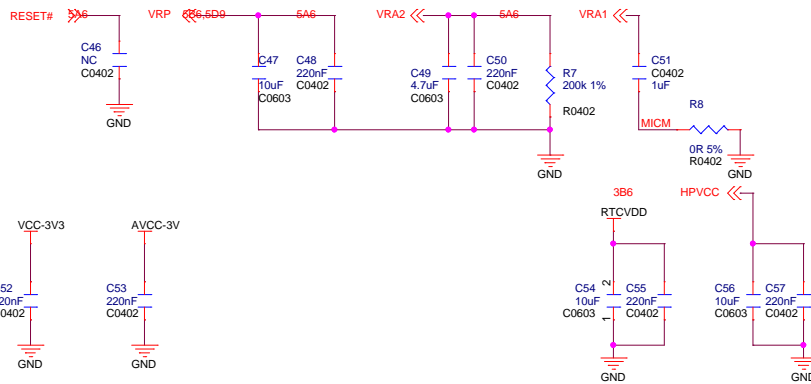
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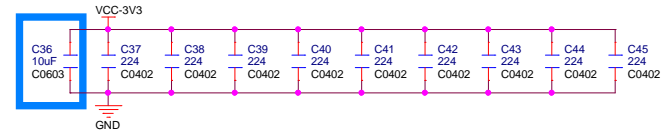
CORE



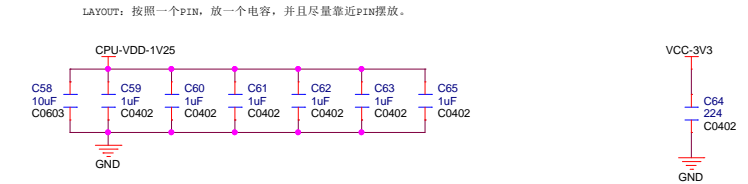
AUDIO&SYS&TP



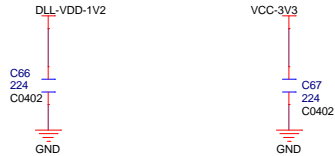
PIO-INTFACE



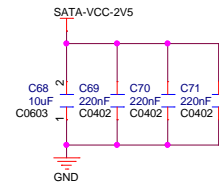
CPU&TV



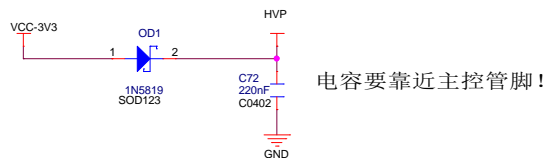
USB



SATA



HDMI



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DDR3-8BITX4

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



DQ0-7, DQM0, DQS0 Length matching 50mil
 DQ8-15, DQM1, DQS1 Length matching 50mil
 DQ16-23, DQM2, DQS2 Length matching 50mil
 DQ24-31, DQM3, DQS3 Length matching 50mil
 DA, CONTROL, CK Length matching 100mil
 DQSn, DQSn# Differential pairs Z0= 100 ohm, Length matching 10mil
 CK, CK# Differential pairs Z0= 100 ohm, Length matching 10mil

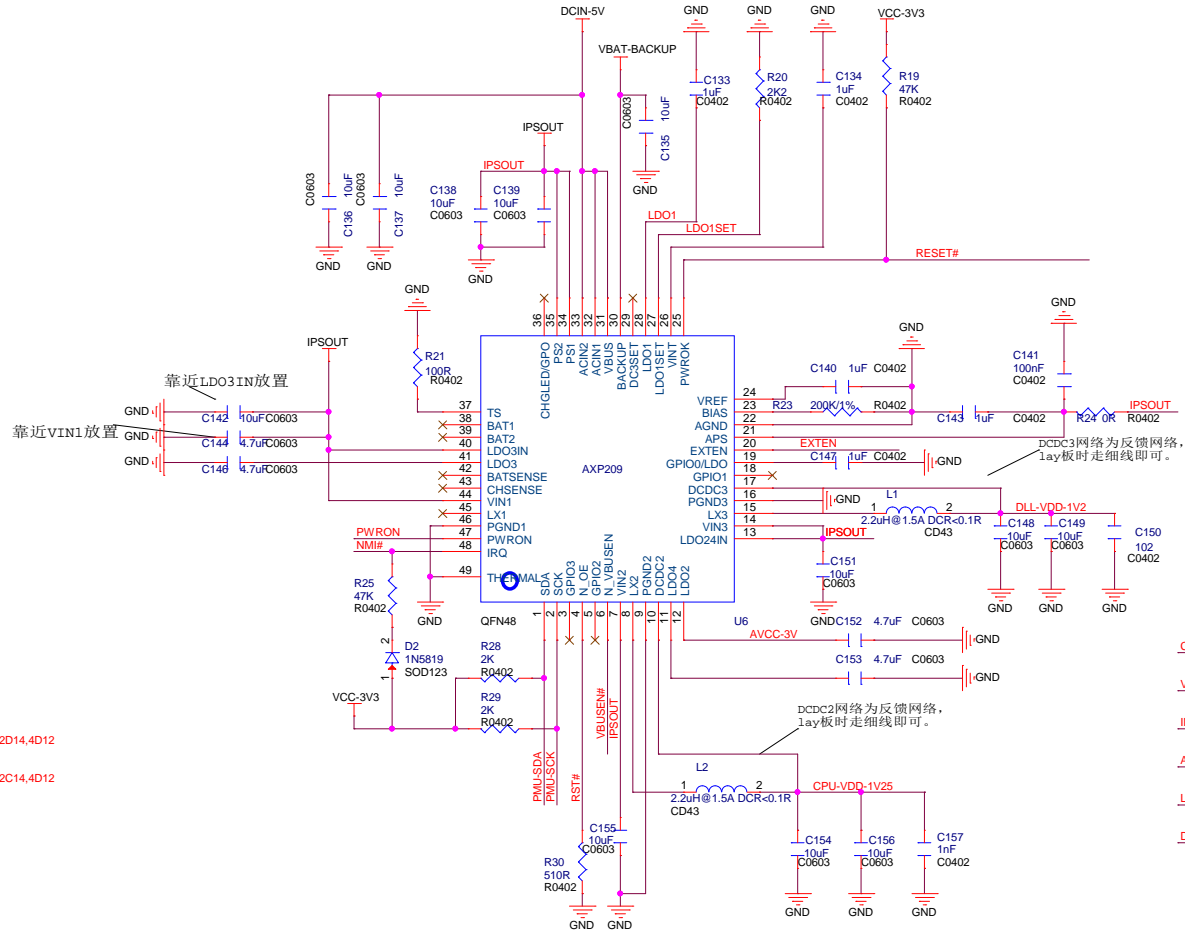
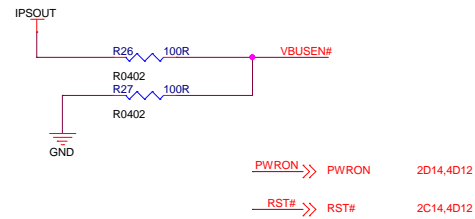
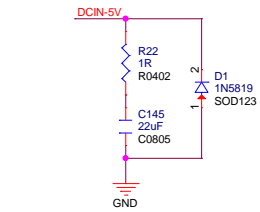
DDR3 4X

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DDR3		
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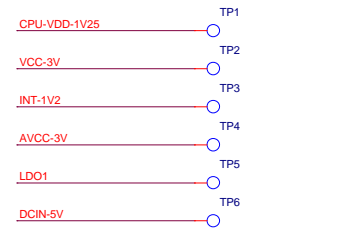
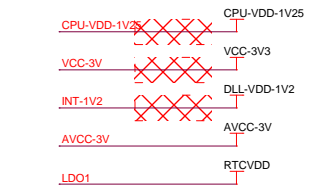
5B6 NMI# <<< NMI#
 5C8 PMU-SDA <<< PMU-SDA
 5C8 PMU-SCK <<< PMU-SCK

5D10 EXTEN <<< EXTEN
 5B6,5C7 RESET# <<< RESET#

POWER INPUT



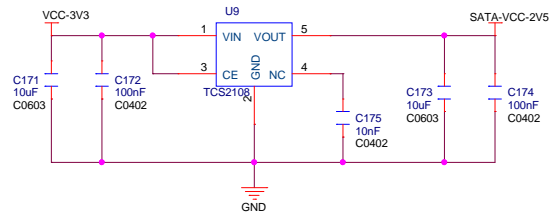
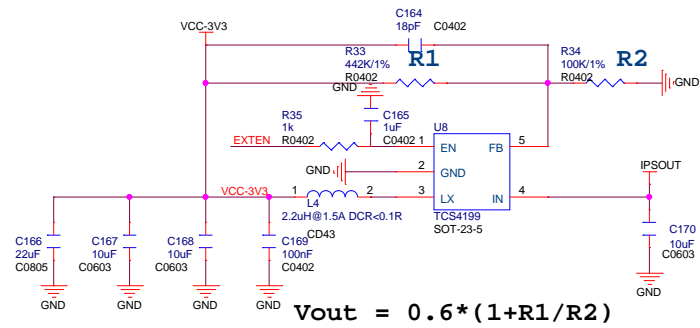
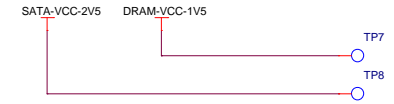
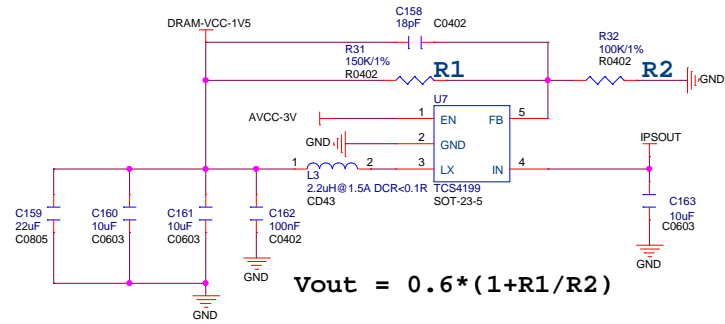
POWER LINE:Width>=80mil
 X X X X X X X X
 POWER LINE:Width>=40mil
 X X X X X X X X



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。

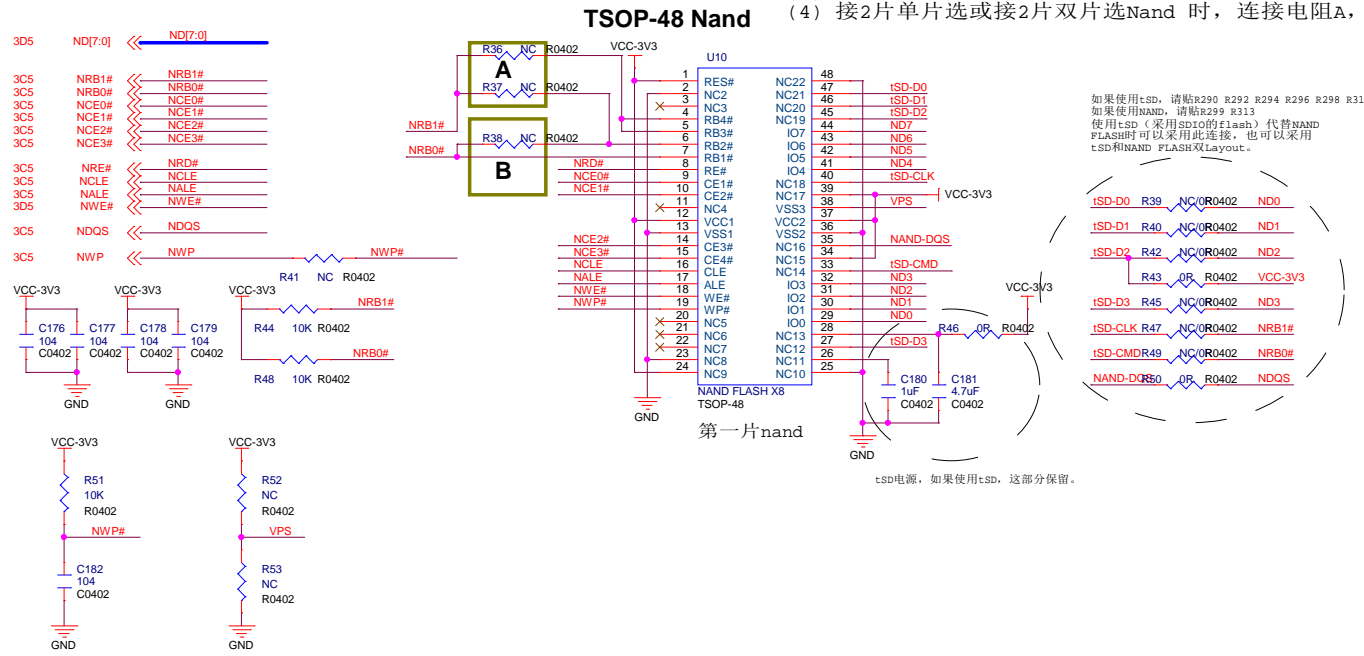
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EXTEN >>> EXTEN 6D9

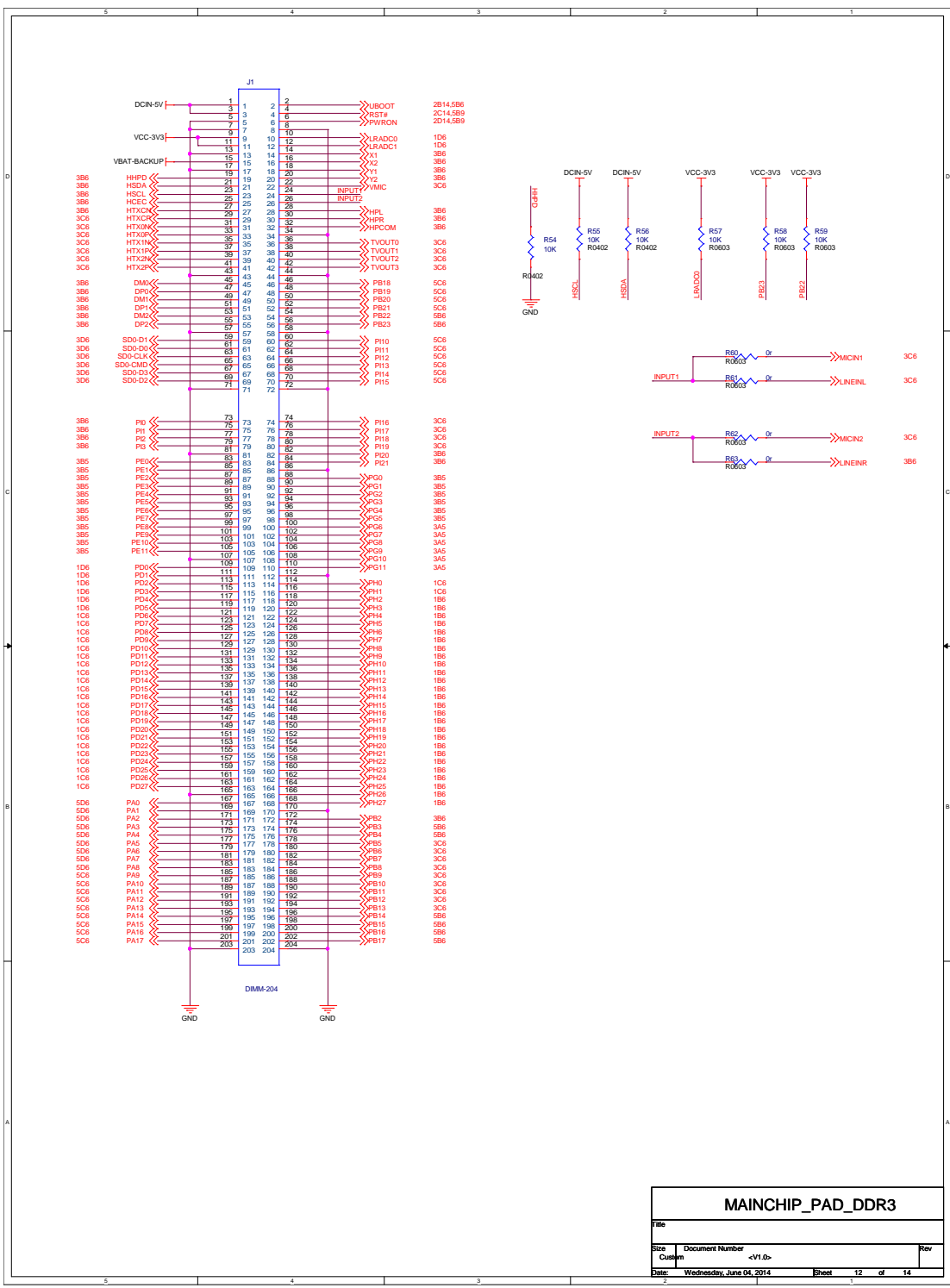


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- (1) 接1片单片选Nand 时, 电阻A, B全断开
- (2) 接1片双片选Nand 时, 连接电阻A, 断开电阻B
- (3) 接1片四片选Nand 时, 连接电阻B, 断开电阻A
- (4) 接2片单片选或接2片双片选Nand 时, 连接电阻A, 断开电阻B

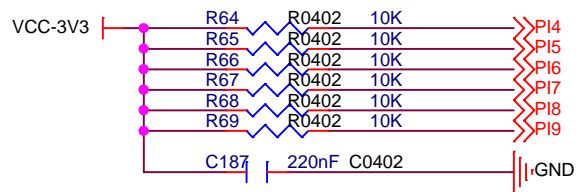
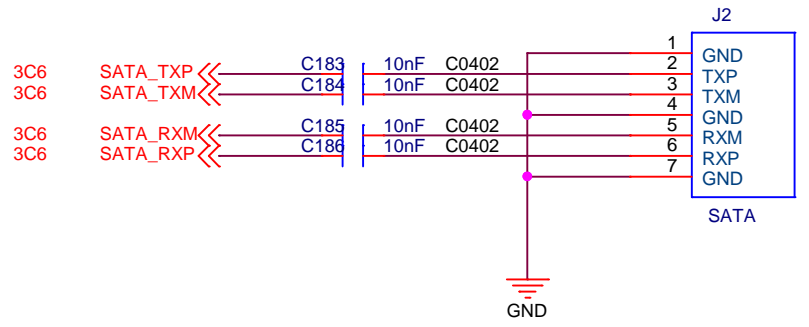
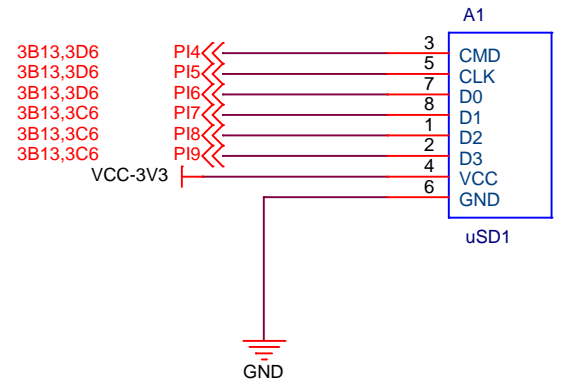


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MAINCHIP_PAD_DDR3

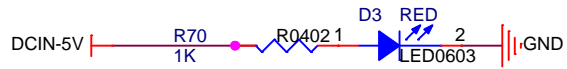
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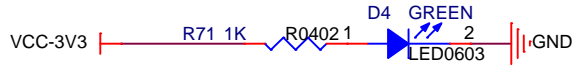
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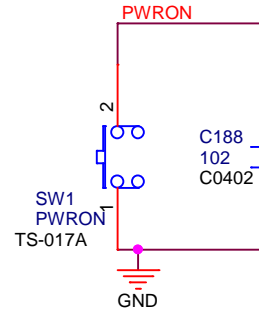
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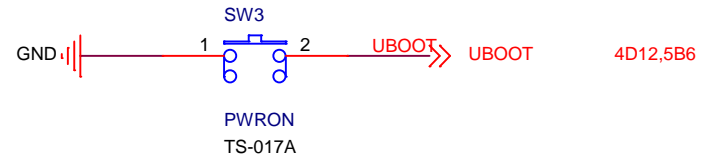
WORK INDOCTOR



4D12,5B9 PWRON <<< PWRON



IPSOUT



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