

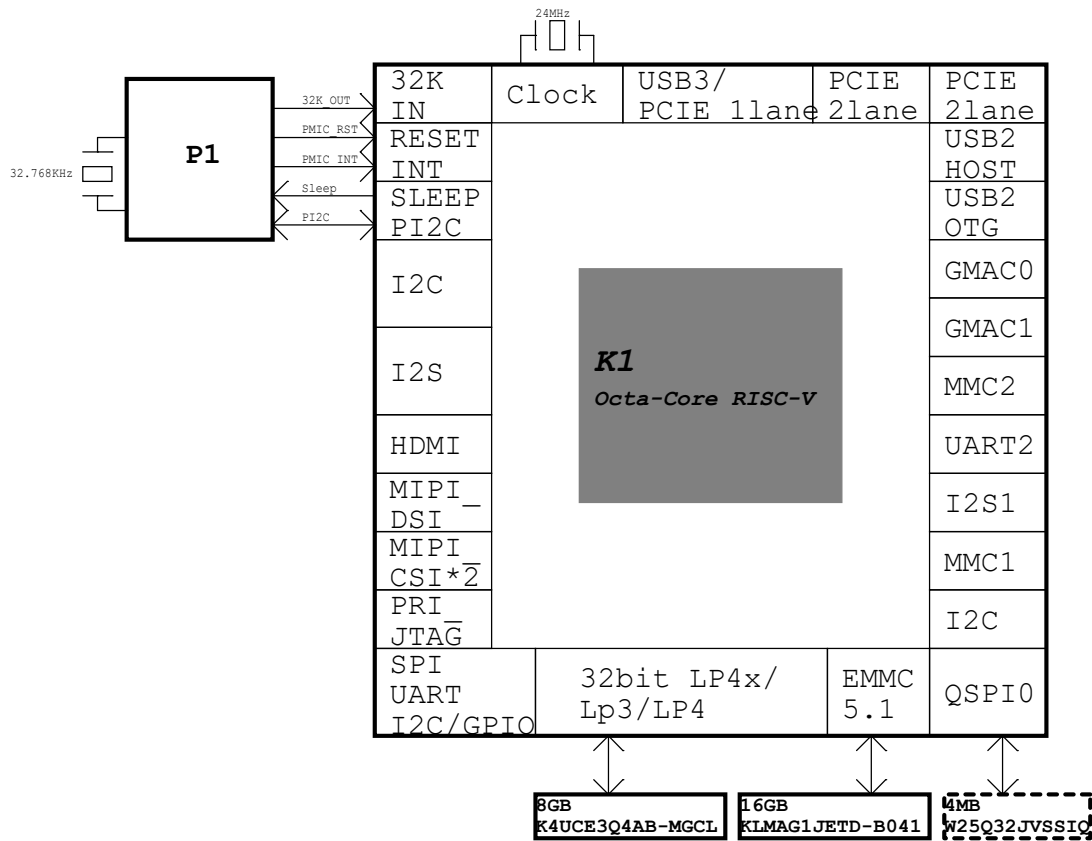
*K1\_REF\_P1\_LP4XP200\_32X1*

Revision	Date	Change Description
V1.0	20231207	Initial version
V2.0	20240131	Update based on test results
V3.0	20240401	Update based on test results
V3.1	20240605	Update based on test results



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BLOCK

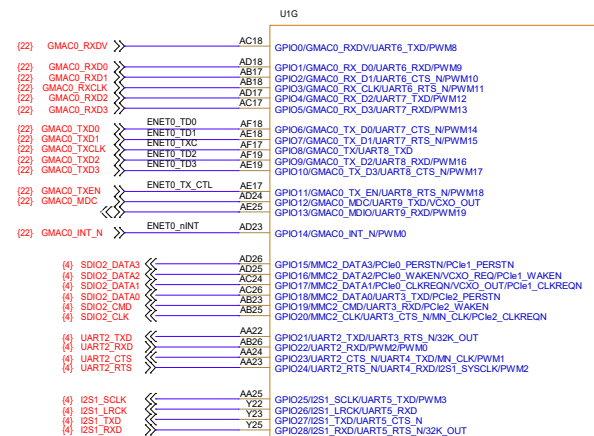
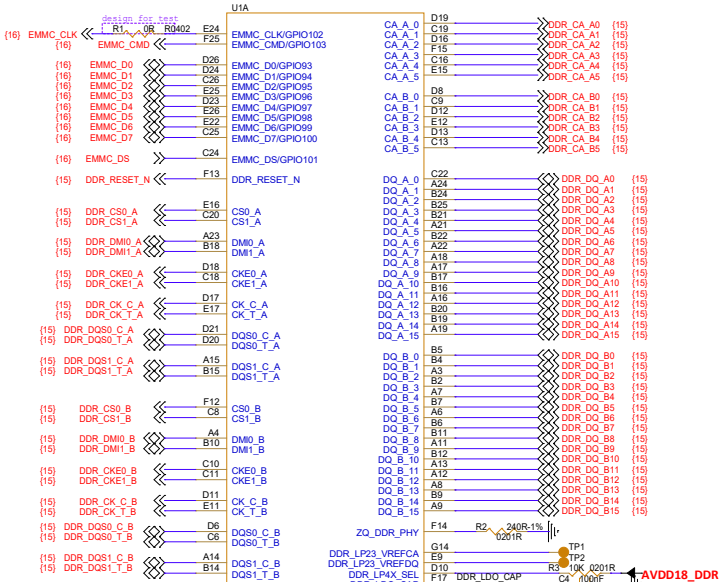


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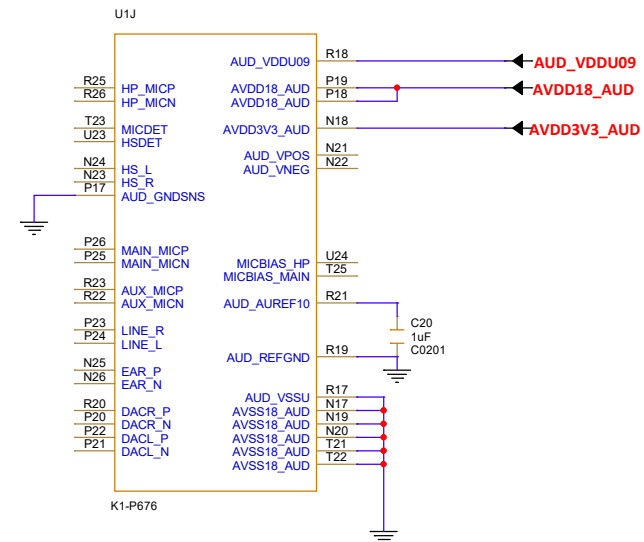
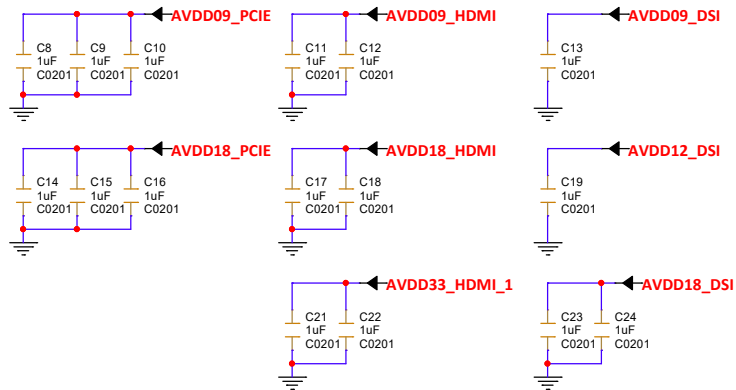
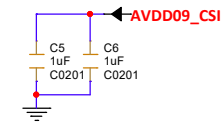
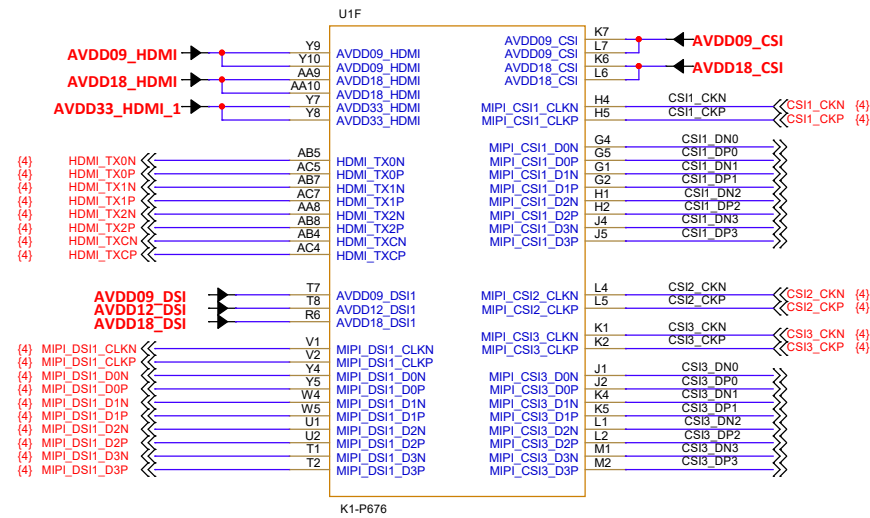
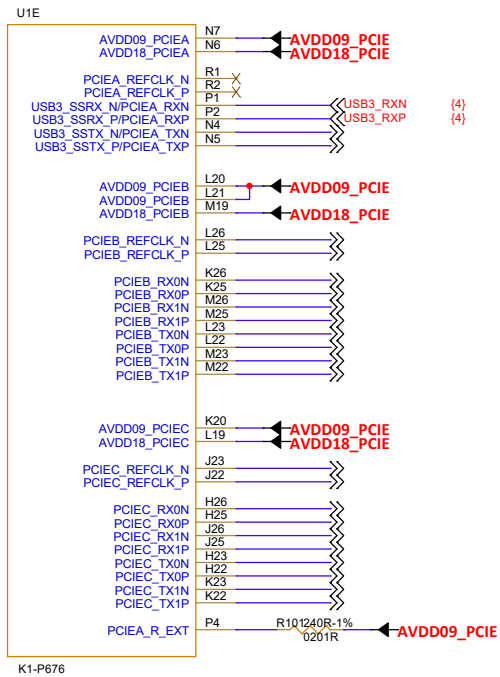
# eMMC+DDR

# GPIO

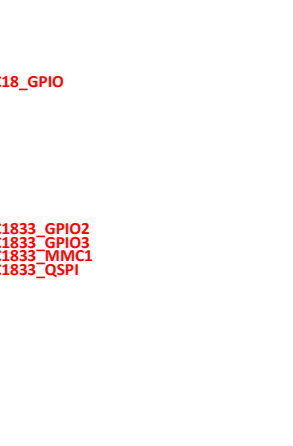
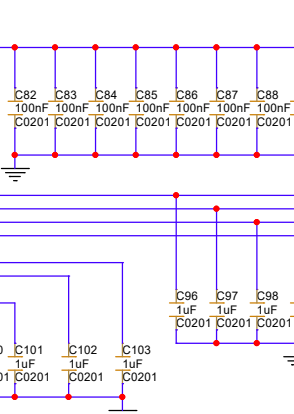
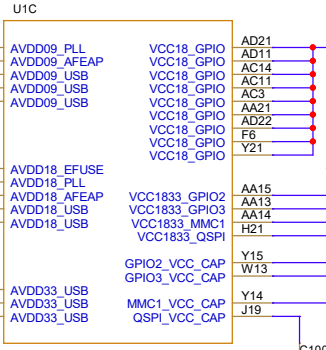
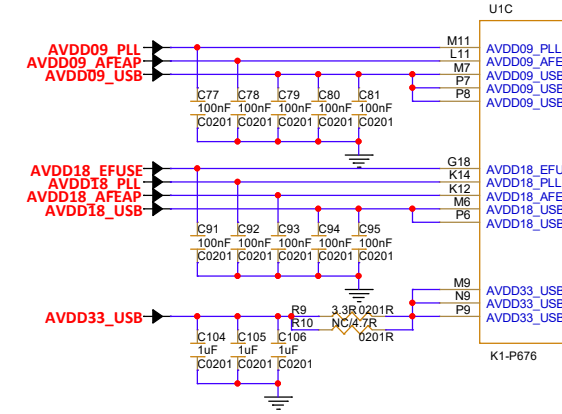
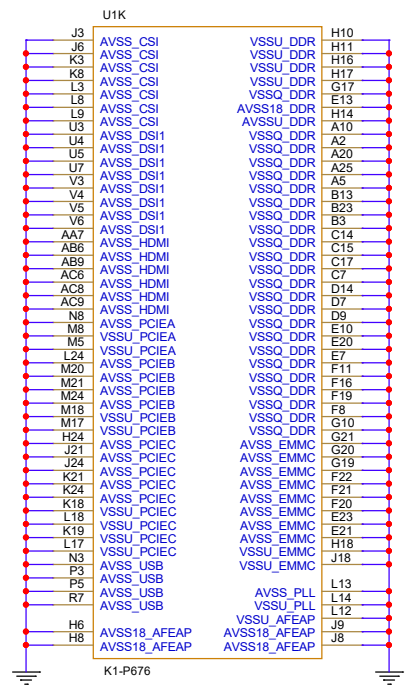
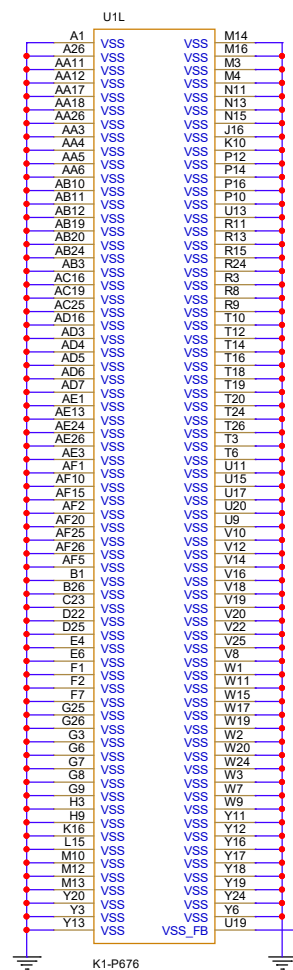
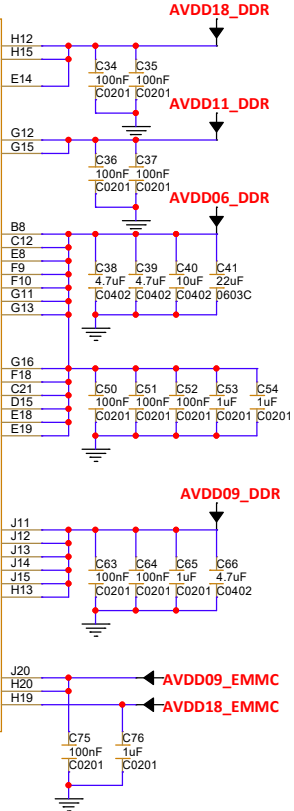
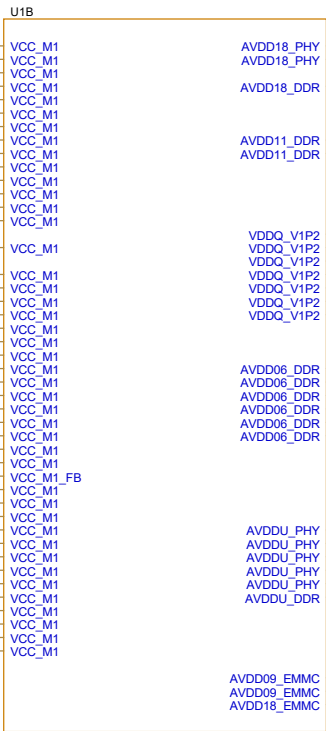
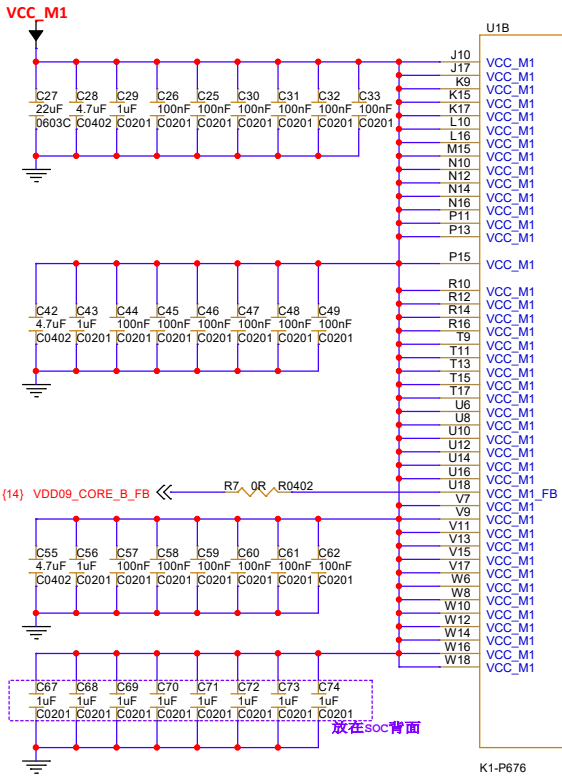


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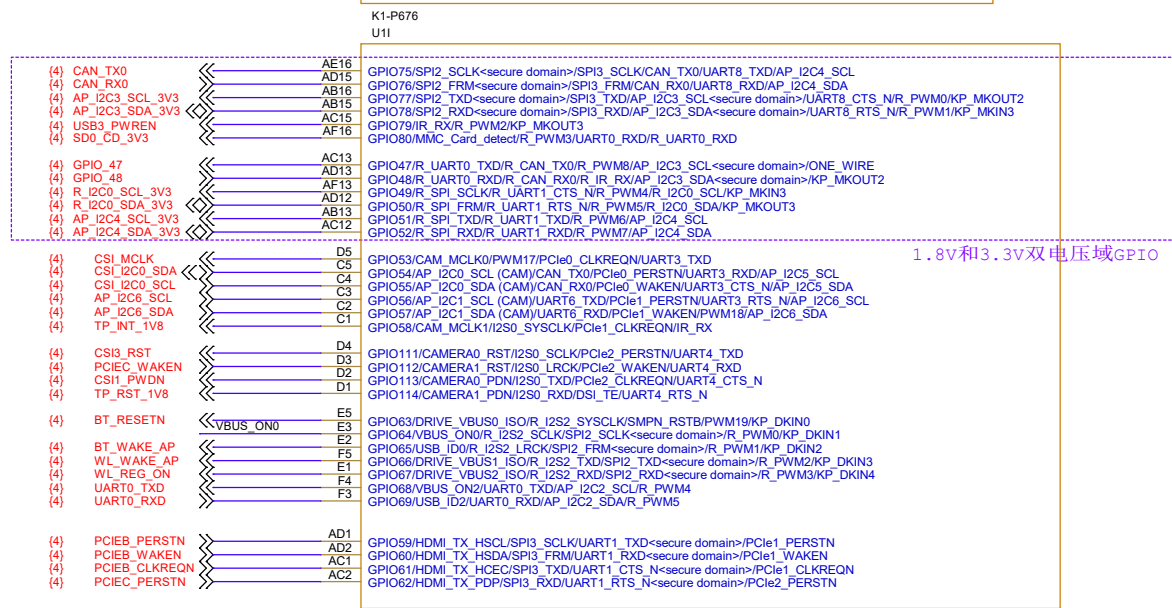
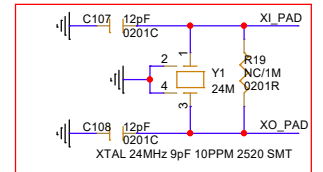
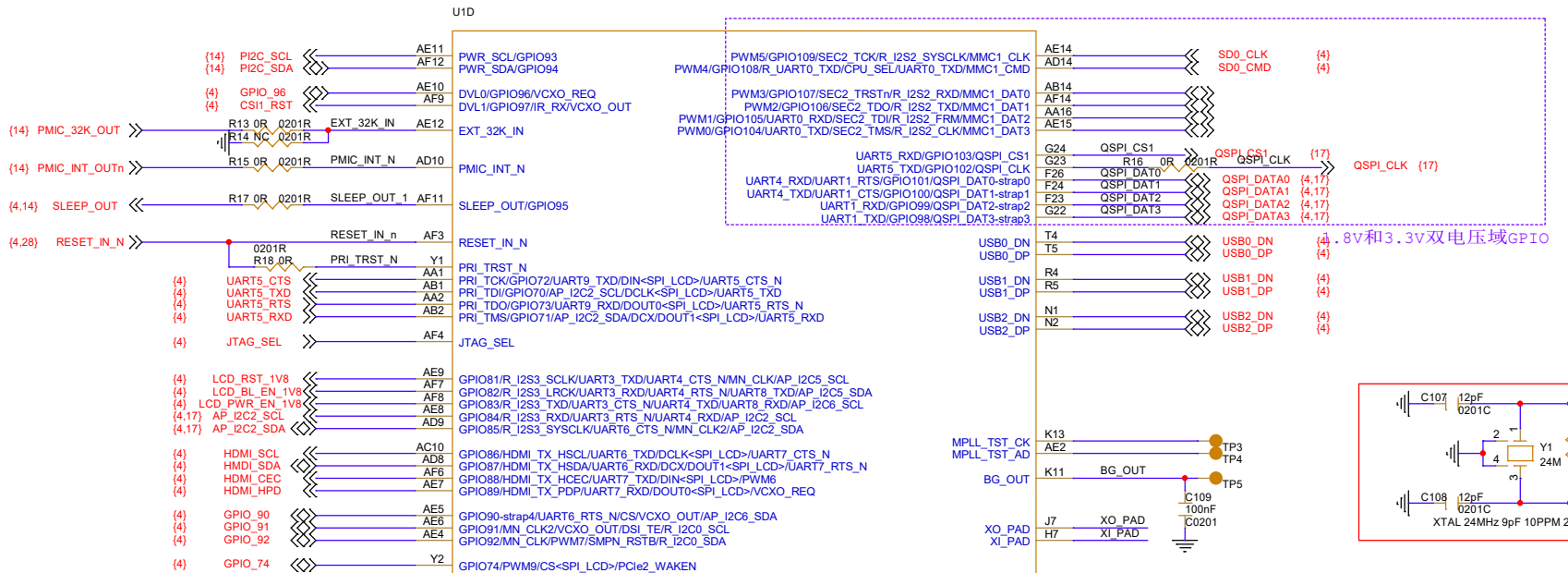
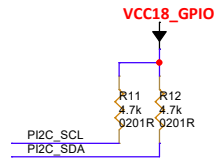
## Periphery



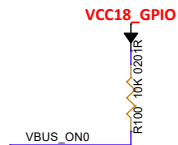
CPU-PWR

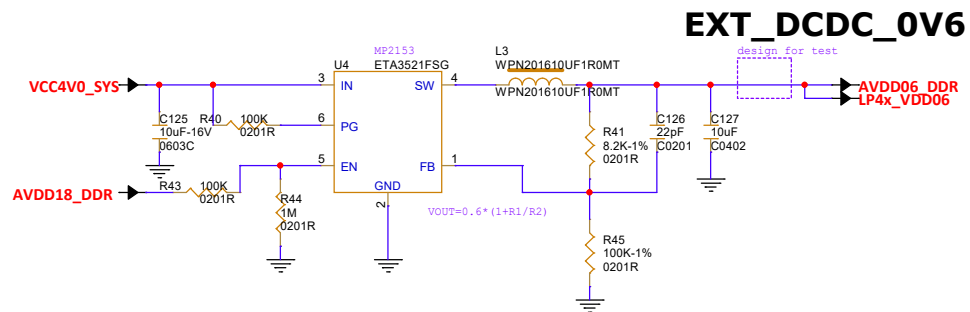


# SYS-GPIO

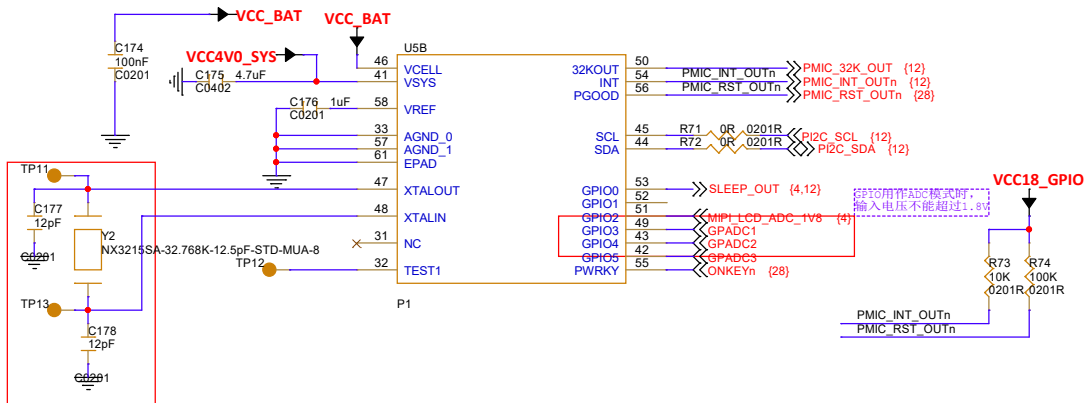
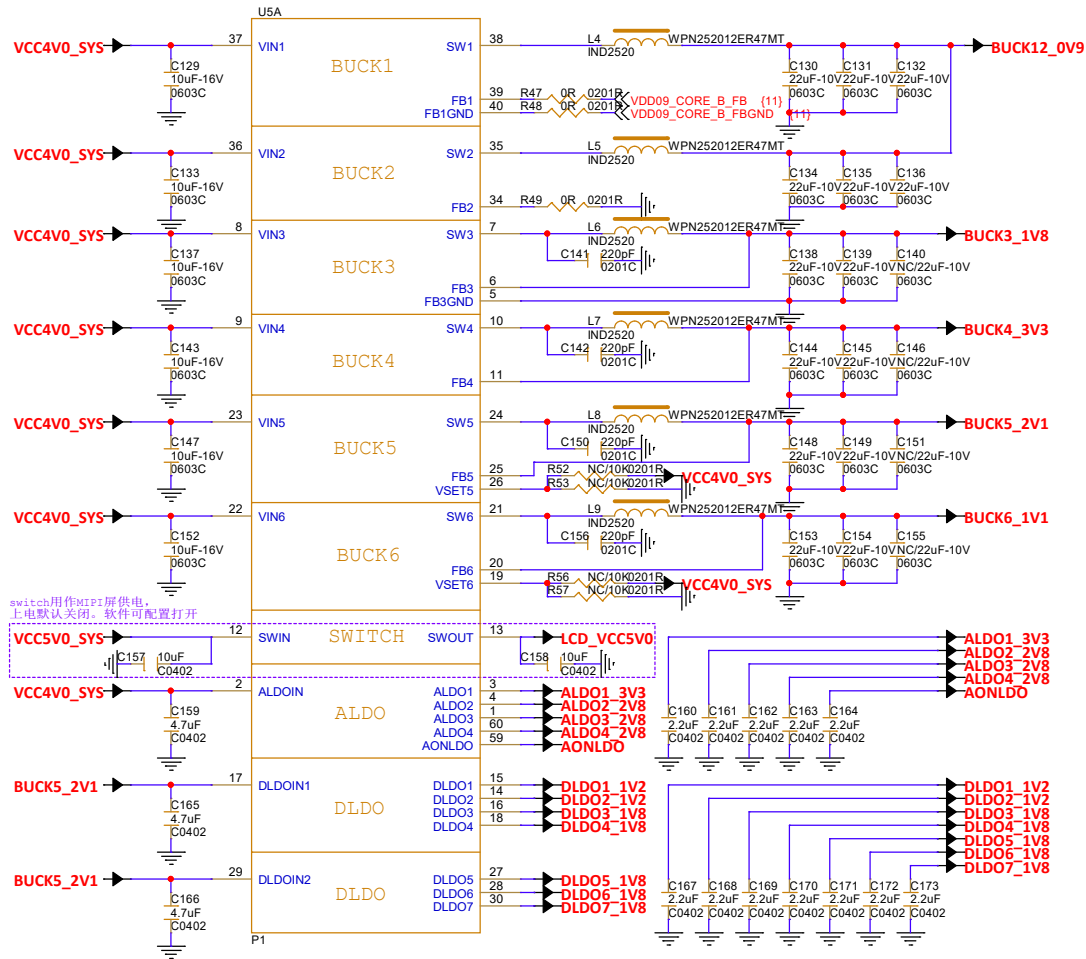


1.8V和3.3V双电压域GPIO



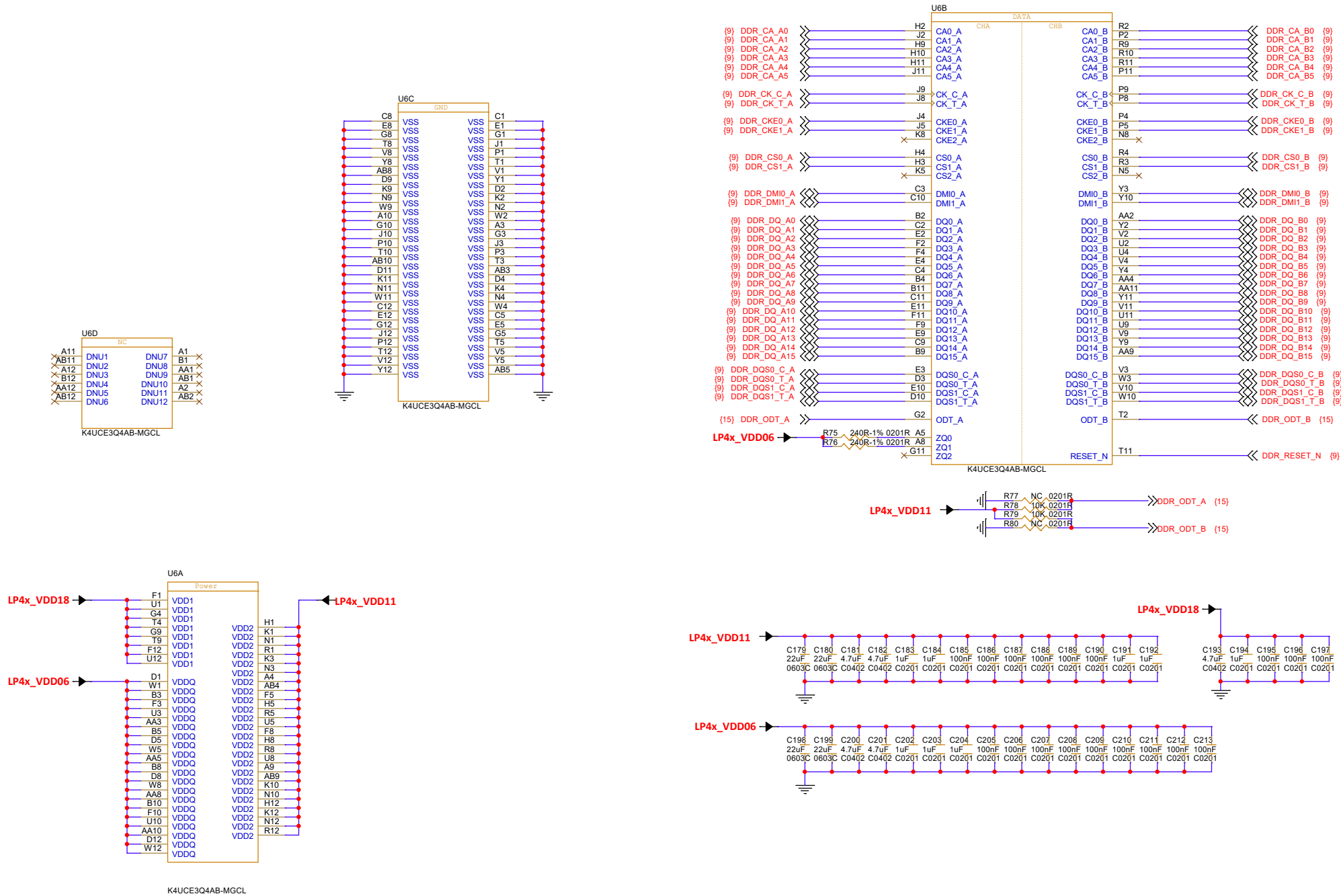




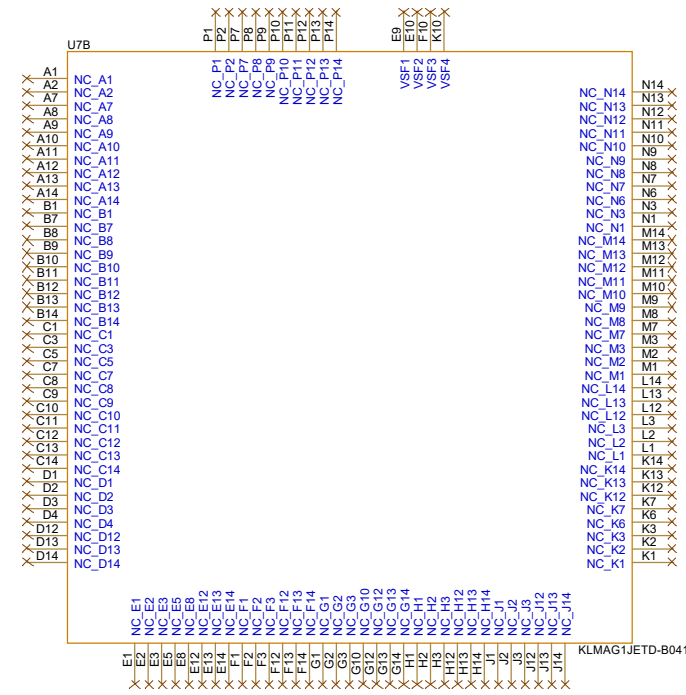
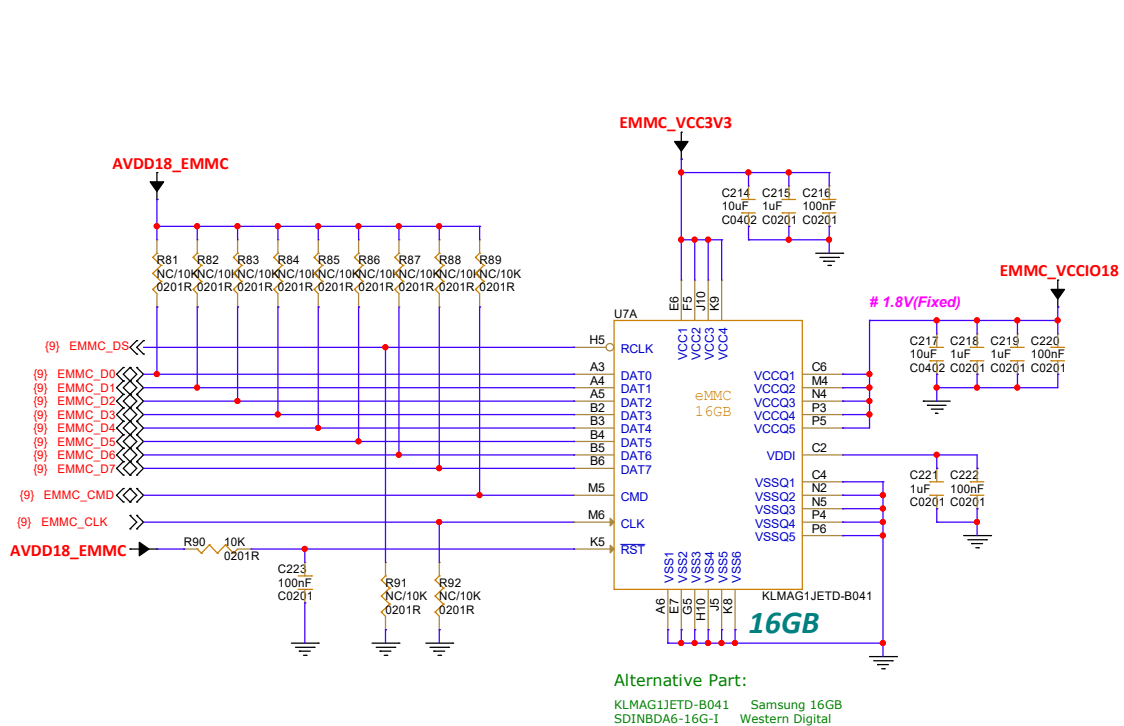


LPDDR4X

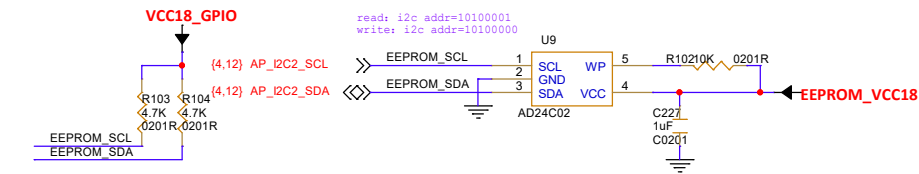
NOTE:CKE2/CS2/ZQ2 NC IN SAMSUNG



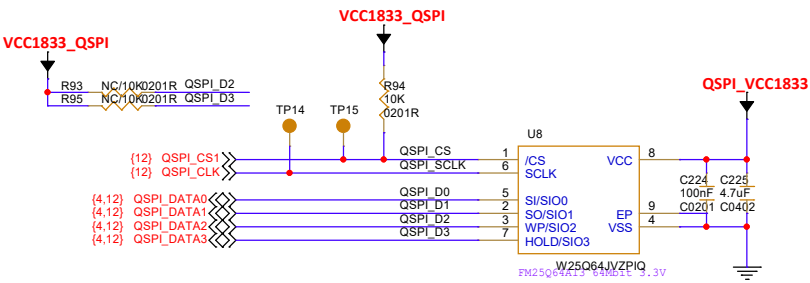
EMMC



EEPROM



SPI FLASH



GPIO 90	Function
0	1V8
1	3V3

boot download sel

QSPI_DATA3	Function
0	启动
1	下载

download sel

QSPI_DATA2	Function
0	USB
1	UART

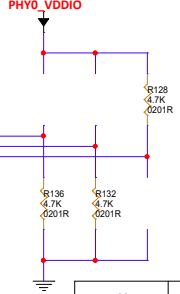
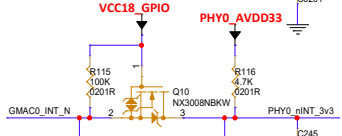
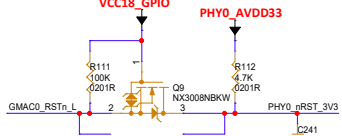
Boot SEL

QSPI_DATA1	QSPI_DATA0	Function
0	0	TF Card -> EMMC
0	1	TF Card -> SPI NOR
1	0	TF Card -> SPI NAND
1	1	TF Card -> SD

# GMAC Ethernet0

GMAC0\_TXD0 (9)  
GMAC0\_TXD1 (9)  
GMAC0\_TXD2 (9)  
GMAC0\_TXD3 (9)  
GMAC0\_TXEN (9)  
GMAC0\_TXCLK (9)

GMAC0\_RXD0 (9)  
GMAC0\_RXD1 (9)  
GMAC0\_RXD2 (9)  
GMAC0\_RXD3 (9)  
GMAC0\_RXDV (9)  
GMAC0\_RXCLK (9)  
GMAC0\_REF0\_CLK\_25M (4,9)  
GMAC0\_MDC (9)  
GMAC0\_MDIO (9)  
GMAC0\_RSTn\_L (9)  
GMAC0\_INT\_N (9)

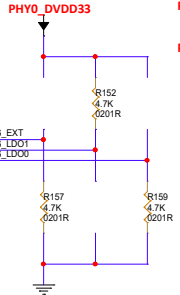


Pull-up for additional 2ns delay to TXC for data latching

Pull-up for additional 2ns delay to RXC for data latching

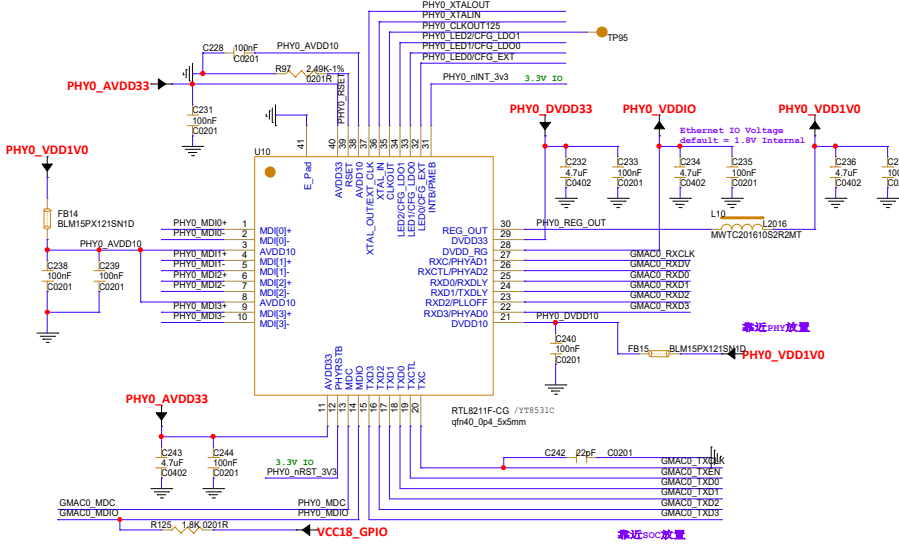
Pull-up to disable PEL @ XLPDS mode (Low power mode)

PHY Address	PHYAD[2:0]
1	001



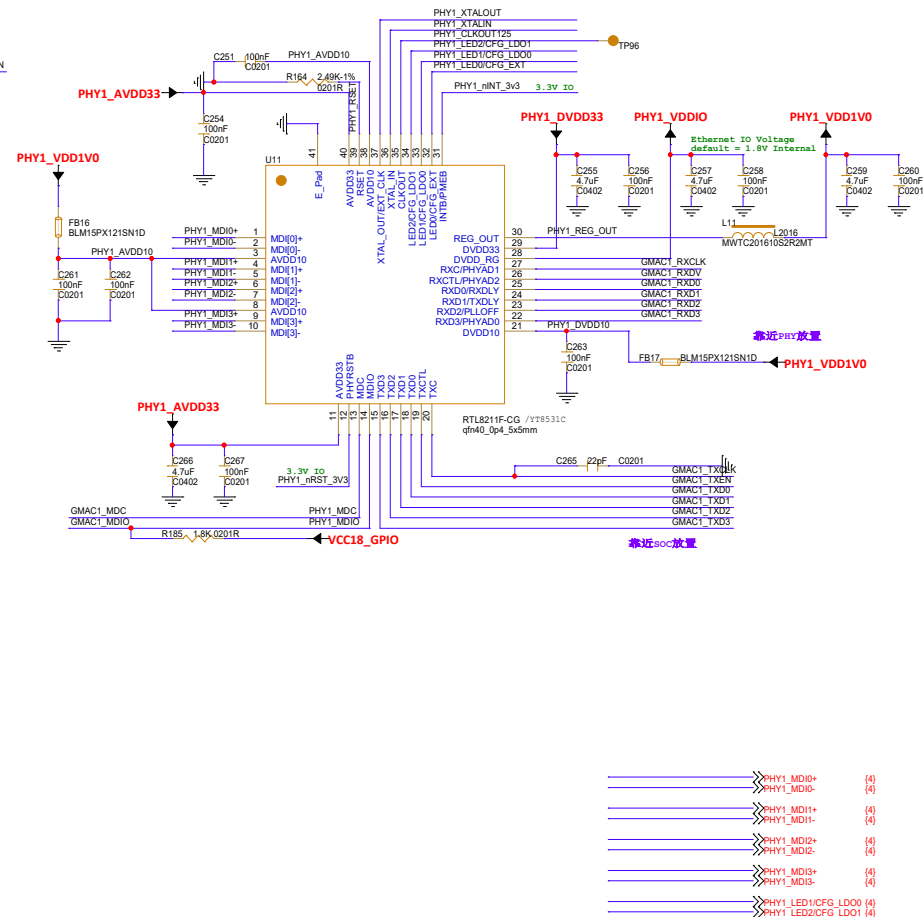
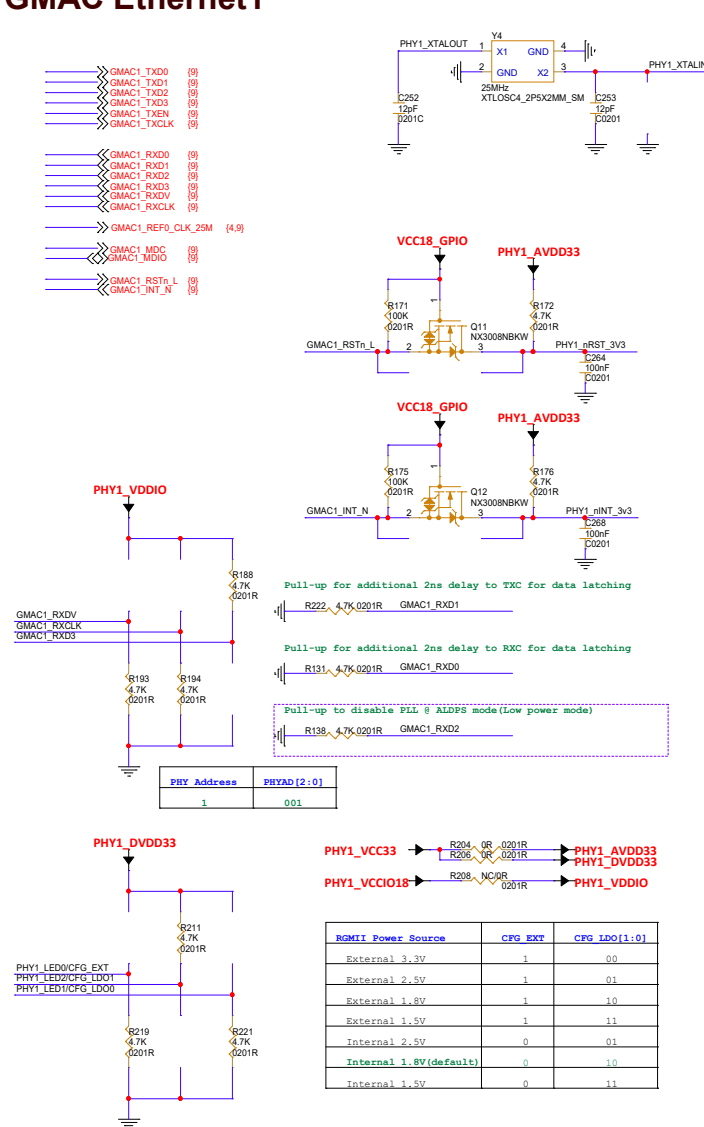
PHY0\_VCC33 → PHY0\_AVDD33  
PHY0\_VCCIO18 → PHY0\_VDDIO

RGMII Power Source	CFG_EXT	CFG_LD0[1:0]
External 3.3V	1	00
External 2.5V	1	01
External 1.8V	1	10
External 1.5V	1	11
Internal 2.5V	0	01
Internal 1.8V (default)	0	10
Internal 1.5V	0	11



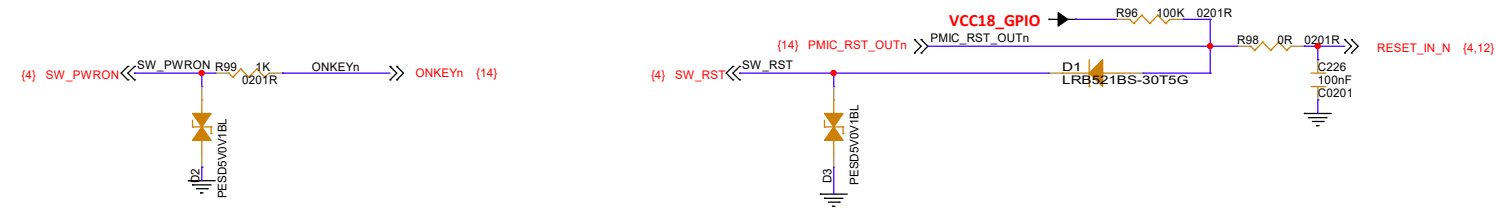
PHY0\_MDIO+ (4)  
PHY0\_MDIO- (4)  
PHY0\_MDIO1+ (4)  
PHY0\_MDIO1- (4)  
PHY0\_MDIO2+ (4)  
PHY0\_MDIO2- (4)  
PHY0\_MDIO3+ (4)  
PHY0\_MDIO3- (4)  
PHY0\_LED2/CFG\_LD01 (4)  
PHY0\_LED1/CFG\_LD00 (4)

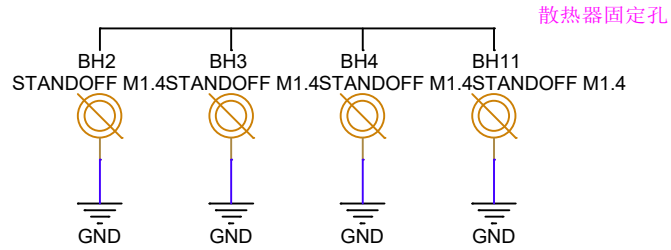
## GMAC Ethernet1



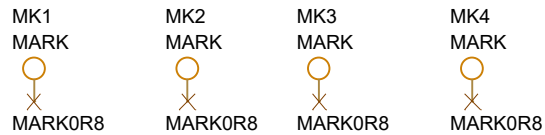
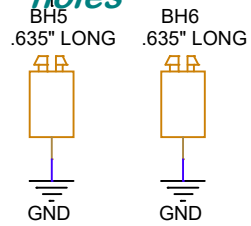
RGMI1 Power Source	CFG EXT	CFG LDO[1:0]
External 3.3V	1	00
External 2.5V	1	01
External 1.8V	1	10
External 1.5V	1	11
Internal 2.5V	0	01
Internal 1.8V(default)	0	10
Internal 1.5V	0	11

PowerON





*Base board screw  
holes*



Bit-Brick Co.,Ltd  
K1-RISC-V-SODIMM

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Date:	Wednesday, September 11, 2024			Sheet	29 of 29