

# 野火RK3562鲁班猫1H

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Title 野火_EBF RK3566安卓主控板		
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# 历史版本

版本号	日期	设计	描述
V1.0	2023-06-13	11m	初始版本
V1.1	2023-08-21	11m	1. I2C5上拉电源改为VCC_3V3 2. USB_HOST3用开关与mini pcie切换 3. 更正lbc_1h的board id 4. 修正网口LED2电路 5. 更新D1, 解决正负极反的问题 6. 更改VCC_DDR供电, 改为默认支持LPDDR4x 7. GM8775C的REFCLK增加0R电阻接地
V1.2	2023-11-24	11m	1. RTC_INT引脚上电源由VCC3V3_PMU更正为VCC_RTC 2. 背光控制IO, 预留兼容3.3V_IO电平

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Title

野火\_EBF RK3566安卓主控板

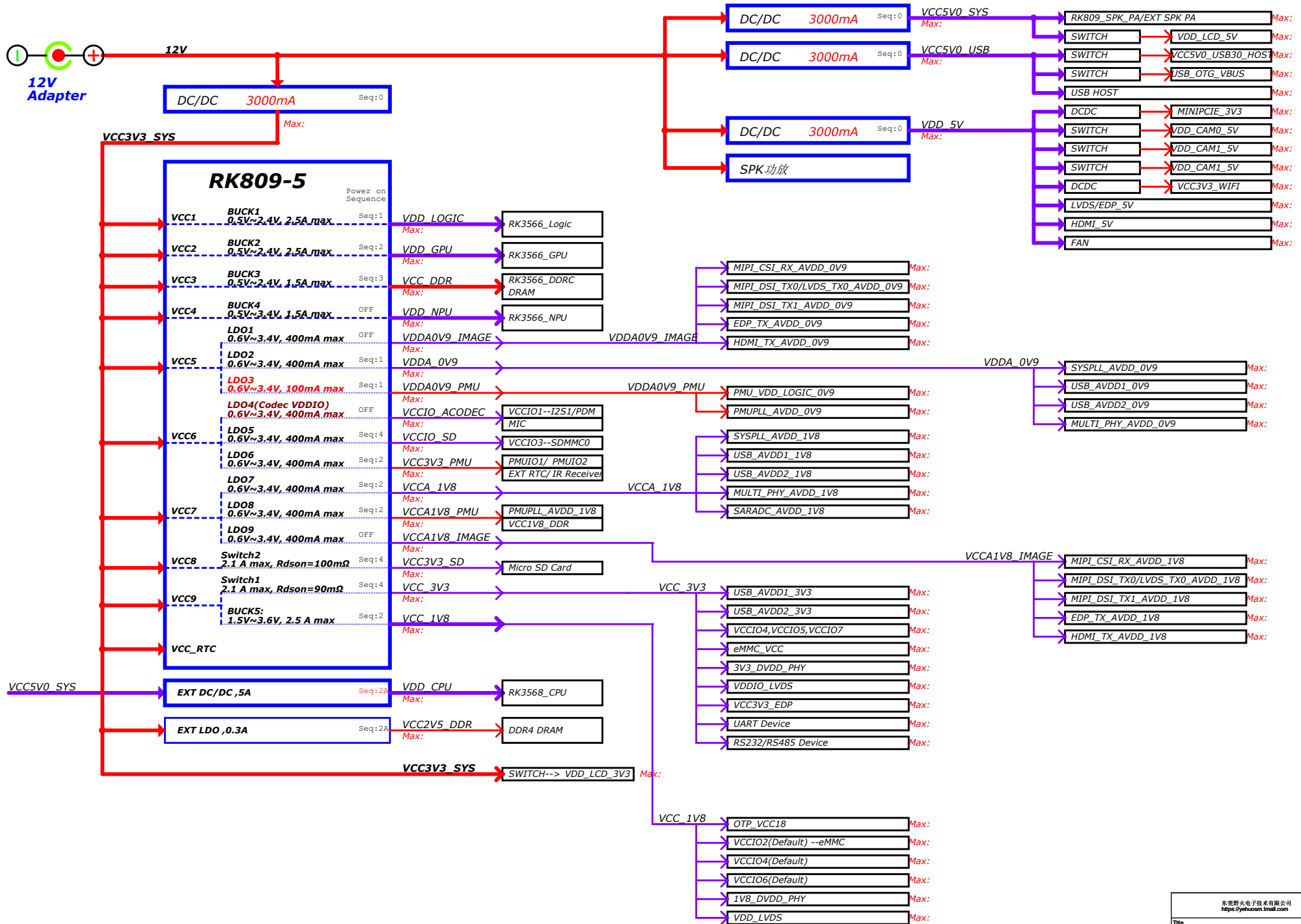
Size  
A4

Document Number  
历史版本

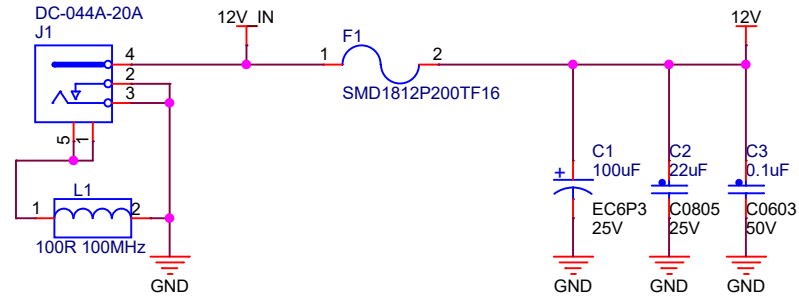
Rev  
V1.0

Date: Friday, November 24, 2023

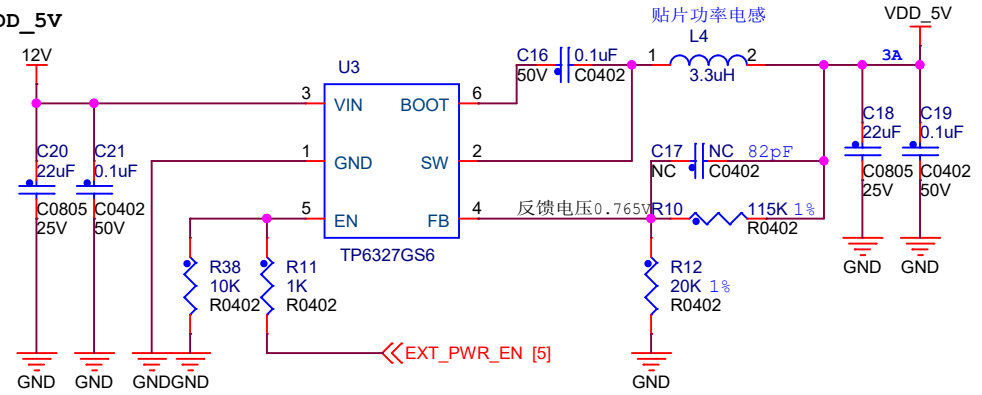
Sheet 2 of 25



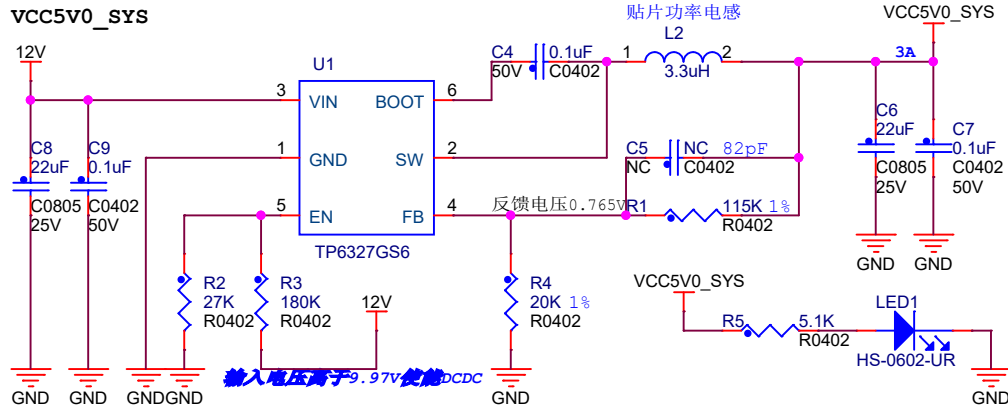
DC IN : 12V



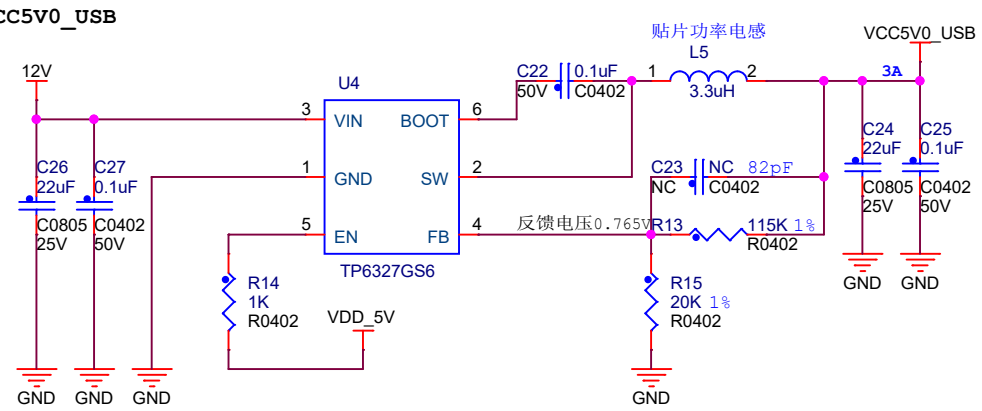
VDD\_5V



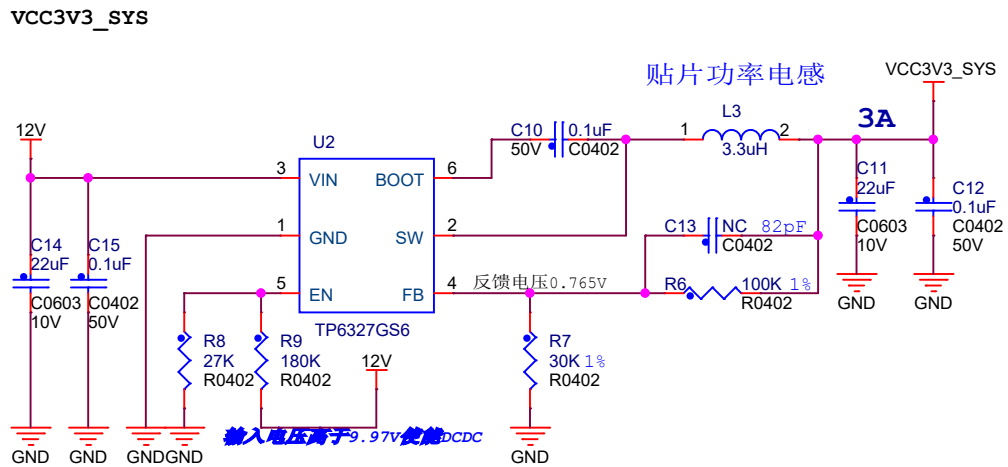
VCC5V0\_SYS



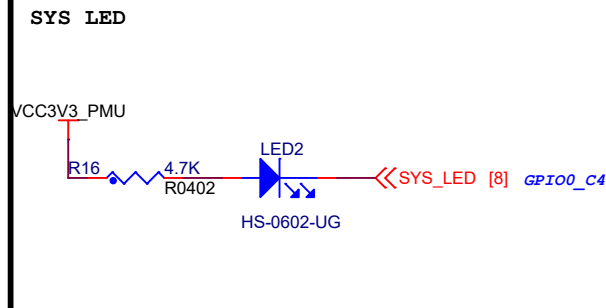
VCC5V0\_USB



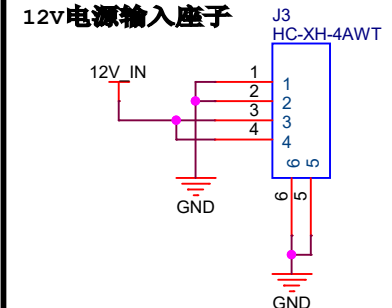
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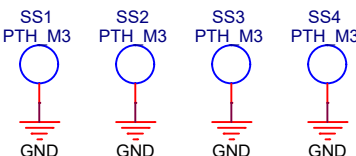
SYS LED



12V电源输入座子



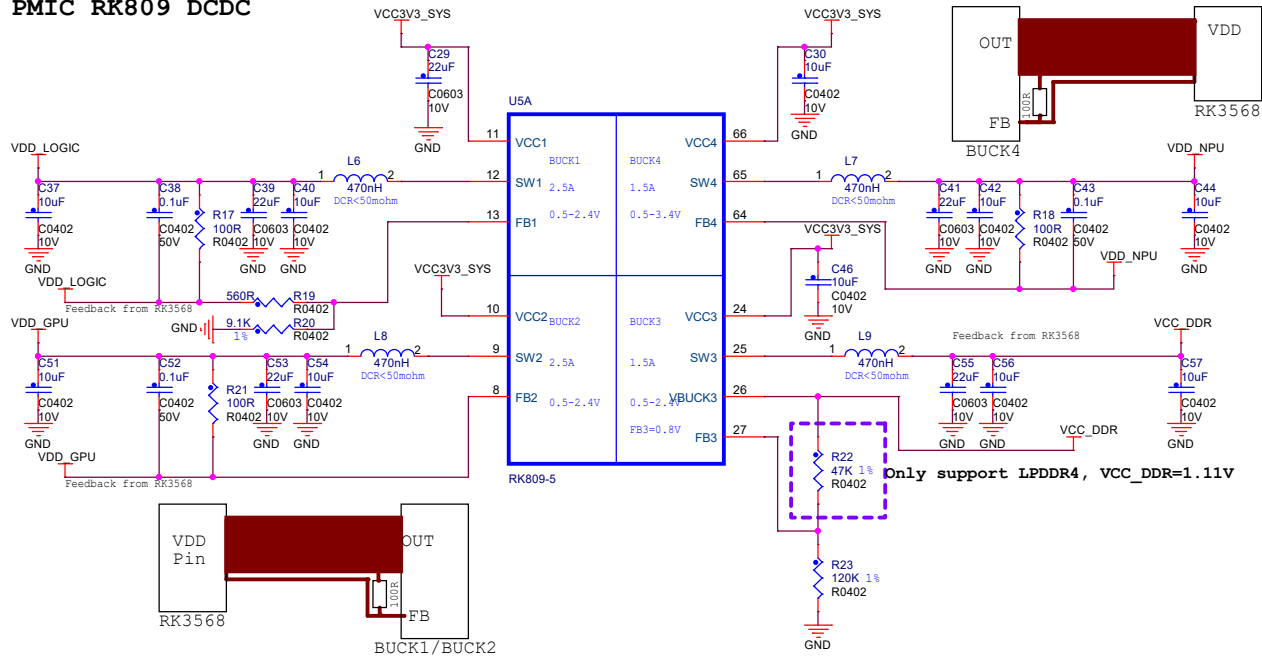
定位孔



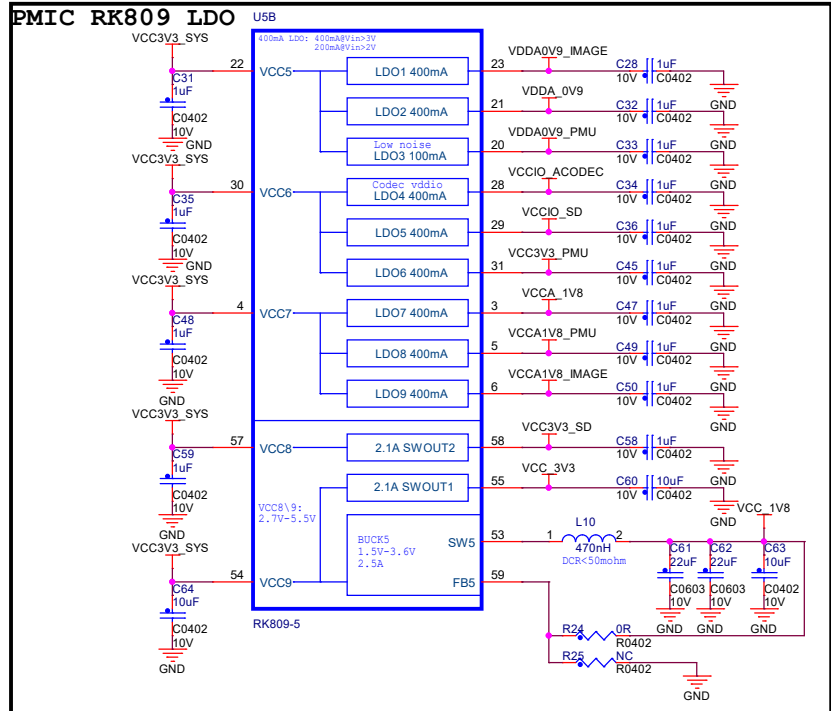
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A4	电源	V1.0
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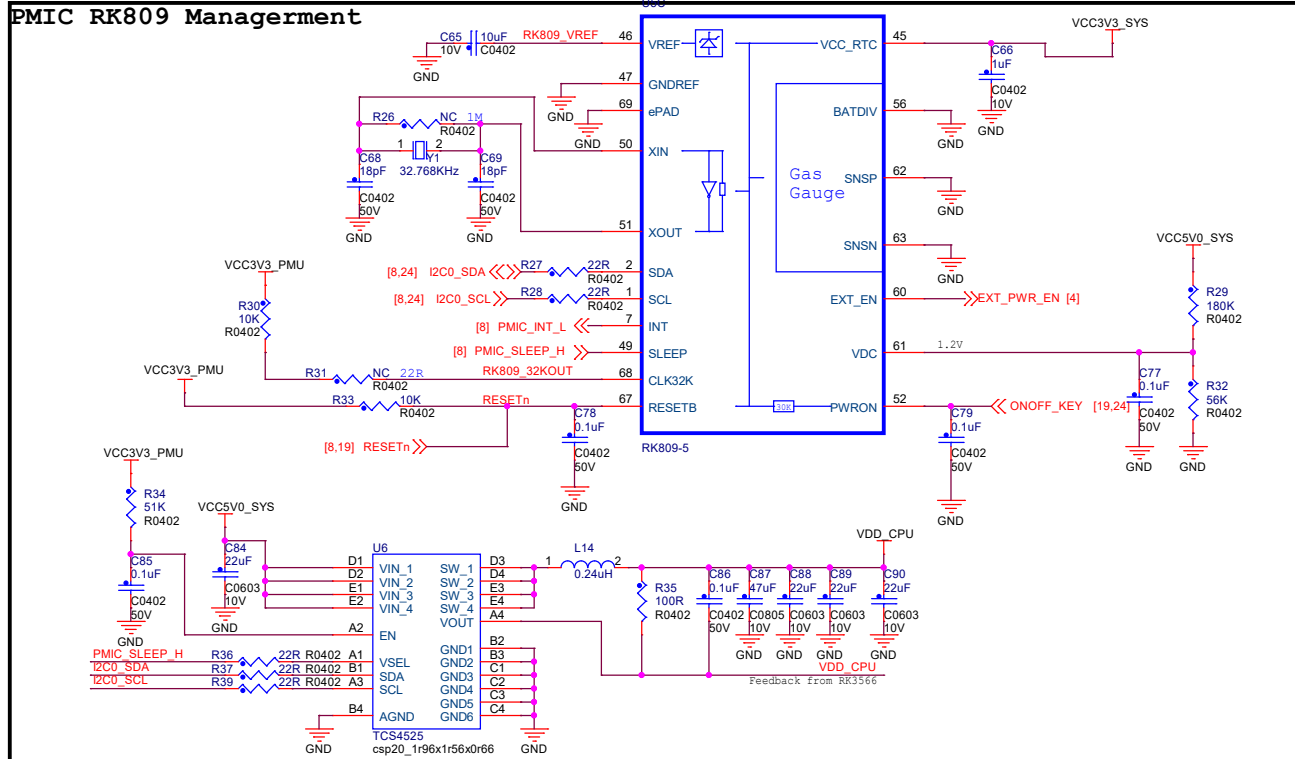
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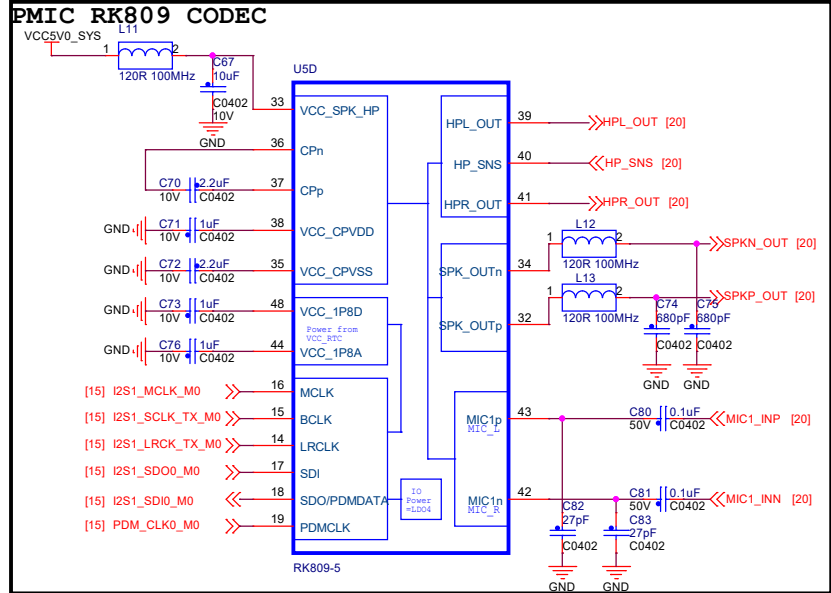
### PMIC RK809 LDO



### PMIC RK809 Management



### PMIC RK809 CODEC



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# RK3566 PWR

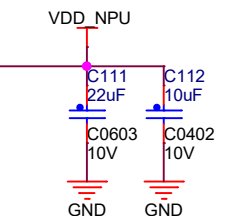
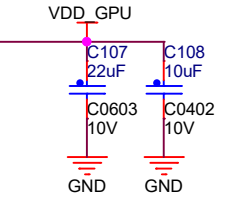
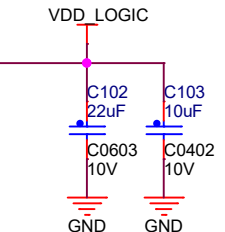
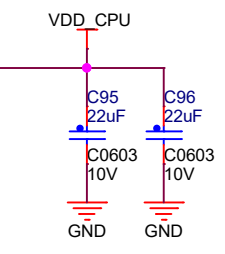
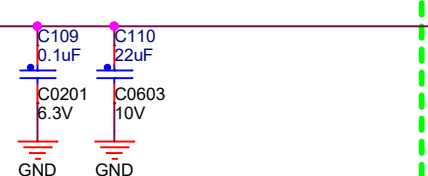
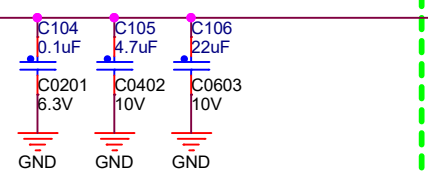
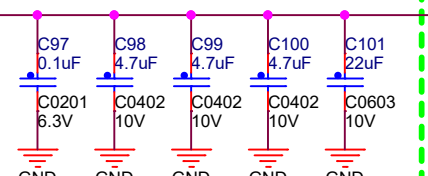
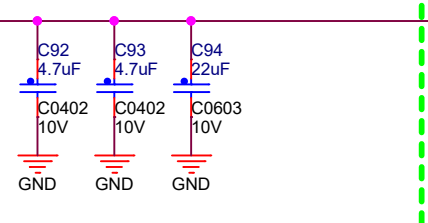
U7A

VDD\_CPU\_1 1C12  
 VDD\_CPU\_2 1D11  
 VDD\_CPU\_3 1E11  
 VDD\_CPU\_4 1E12  
 VDD\_CPU\_5 1E13  
 VDD\_CPU\_6 1F11  
 VDD\_CPU\_7 1F12  
 VDD\_CPU\_8 1F13  
 VDD\_CPU\_9 1F14  
 VDD\_CPU\_10 1G13  
 VDD\_CPU\_11 1G13

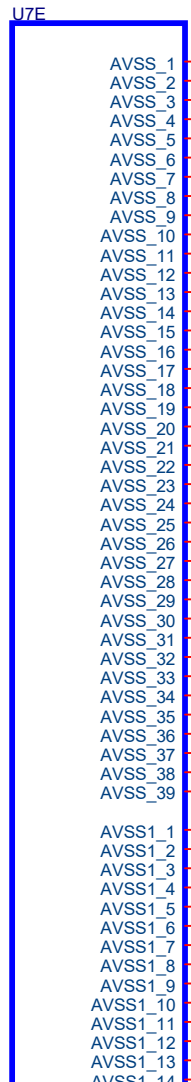
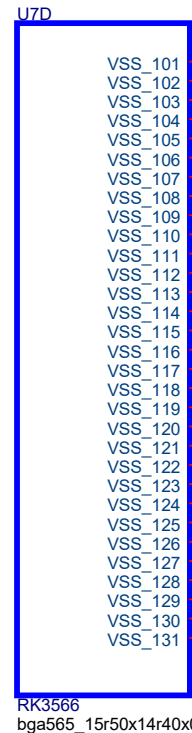
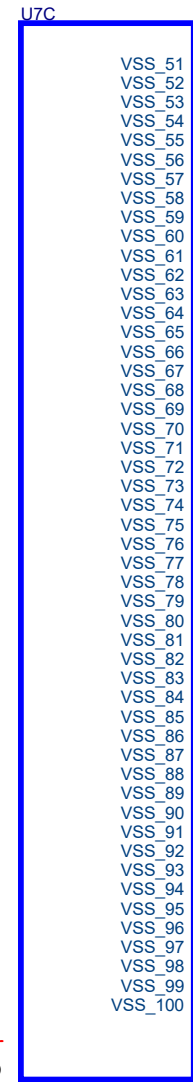
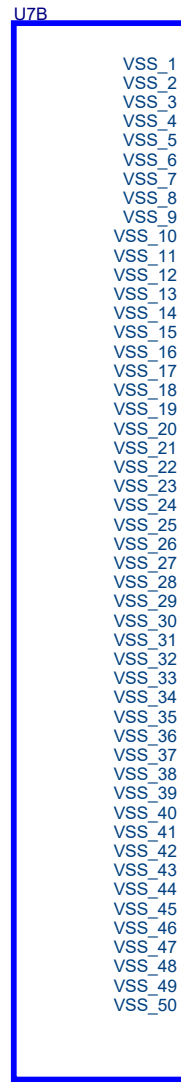
VDD\_LOGIC\_1 1H7  
 VDD\_LOGIC\_2 1H8  
 VDD\_LOGIC\_3 1H9  
 VDD\_LOGIC\_4 1H10  
 VDD\_LOGIC\_5 1J7  
 VDD\_LOGIC\_6 1J10  
 VDD\_LOGIC\_7 1K7  
 VDD\_LOGIC\_8 1K10  
 VDD\_LOGIC\_9 1L7

VDD\_GPU\_1 1L8  
 VDD\_GPU\_2 1L9  
 VDD\_GPU\_3 1M7  
 VDD\_GPU\_4 1M8  
 VDD\_GPU\_5 1M9

VDD\_NPU\_1 1G15  
 VDD\_NPU\_2 1H14  
 VDD\_NPU\_3 1H15  
 VDD\_NPU\_4 1J14  
 VDD\_NPU\_5 1J15



Caps should be placed under the U3 package  
 Caps should be placed close to the U3 package



RK3566  
bga565\_15r50x14r40x0r90

RK3566  
bga565\_15r50x14r40x0r90

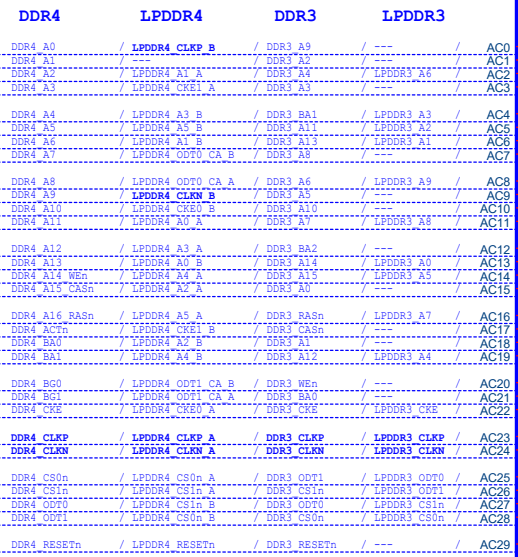
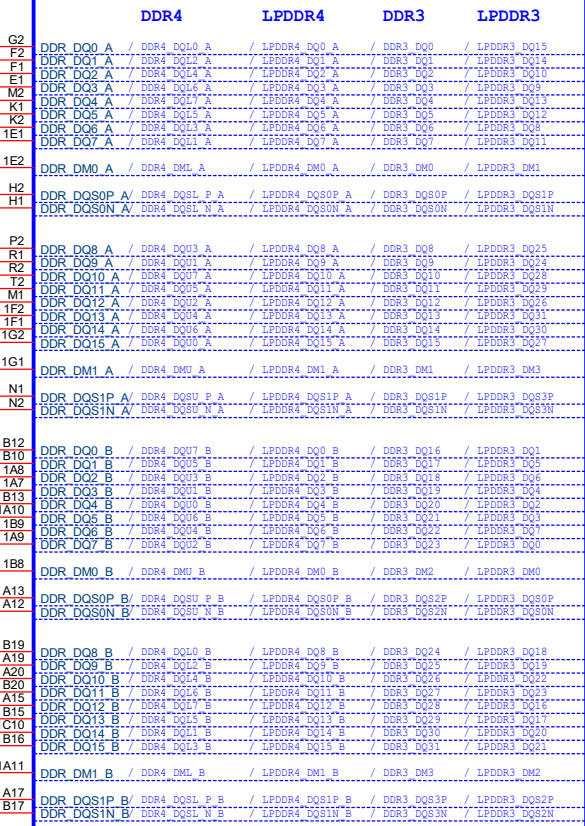
RK3566  
bga565\_15r50x14r40x0r90

RK3566  
bga565\_15r50x14r40x0r90

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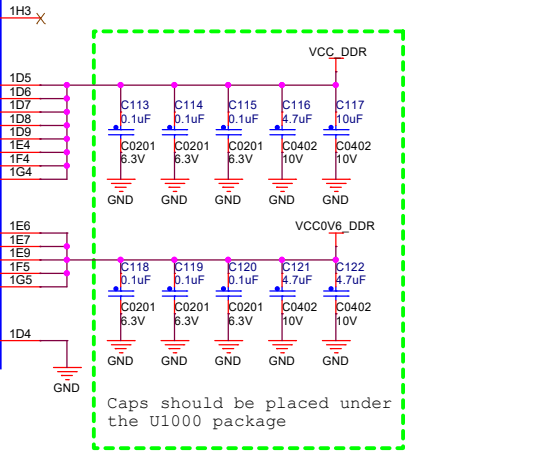
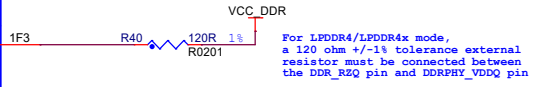
U7F

- [16] LPDDR4\_DQ0\_A
- [16] LPDDR4\_DQ1\_A
- [16] LPDDR4\_DQ2\_A
- [16] LPDDR4\_DQ3\_A
- [16] LPDDR4\_DQ4\_A
- [16] LPDDR4\_DQ5\_A
- [16] LPDDR4\_DQ6\_A
- [16] LPDDR4\_DQ7\_A
- [16] LPDDR4\_DM0\_A
- [16] LPDDR4\_DQS0P\_A
- [16] LPDDR4\_DQS0N\_A
- [16] LPDDR4\_DQ8\_A
- [16] LPDDR4\_DQ9\_A
- [16] LPDDR4\_DQ10\_A
- [16] LPDDR4\_DQ11\_A
- [16] LPDDR4\_DQ12\_A
- [16] LPDDR4\_DQ13\_A
- [16] LPDDR4\_DQ14\_A
- [16] LPDDR4\_DQ15\_A
- [16] LPDDR4\_DM1\_A
- [16] LPDDR4\_DQS1P\_A
- [16] LPDDR4\_DQS1N\_A
- [16] LPDDR4\_DQ0\_B
- [16] LPDDR4\_DQ1\_B
- [16] LPDDR4\_DQ2\_B
- [16] LPDDR4\_DQ3\_B
- [16] LPDDR4\_DQ4\_B
- [16] LPDDR4\_DQ5\_B
- [16] LPDDR4\_DQ6\_B
- [16] LPDDR4\_DQ7\_B
- [16] LPDDR4\_DM0\_B
- [16] LPDDR4\_DQS0P\_B
- [16] LPDDR4\_DQS0N\_B
- [16] LPDDR4\_DQ8\_B
- [16] LPDDR4\_DQ9\_B
- [16] LPDDR4\_DQ10\_B
- [16] LPDDR4\_DQ11\_B
- [16] LPDDR4\_DQ12\_B
- [16] LPDDR4\_DQ13\_B
- [16] LPDDR4\_DQ14\_B
- [16] LPDDR4\_DQ15\_B
- [16] LPDDR4\_DM1\_B
- [16] LPDDR4\_DQS1P\_B
- [16] LPDDR4\_DQS1N\_B



- A7
- 1D2
- C1 X
- 1C3
- 1B6
- 1B8
- B9
- A10
- E2
- B7
- 1A3
- C2
- 1B3
- A9
- 1B1
- 1C1
- 1A1
- 1A2
- 1B7
- 1A6
- 1A4
- 1C2 X
- B4 X
- A5
- B5
- B3
- A3
- 1A5
- 1B5
- 1C7

Note: Sequences can not be swap



	VDDQ	VDDQL
DDR3L	1.35V	1.35V
DDR3	1.50V	1.50V
DDR4	1.20V	1.20V
LPDDR3	1.20V	1.20V
LPDDR4	1.10V	1.10V
LPDDR4X	1.10V	0.60V

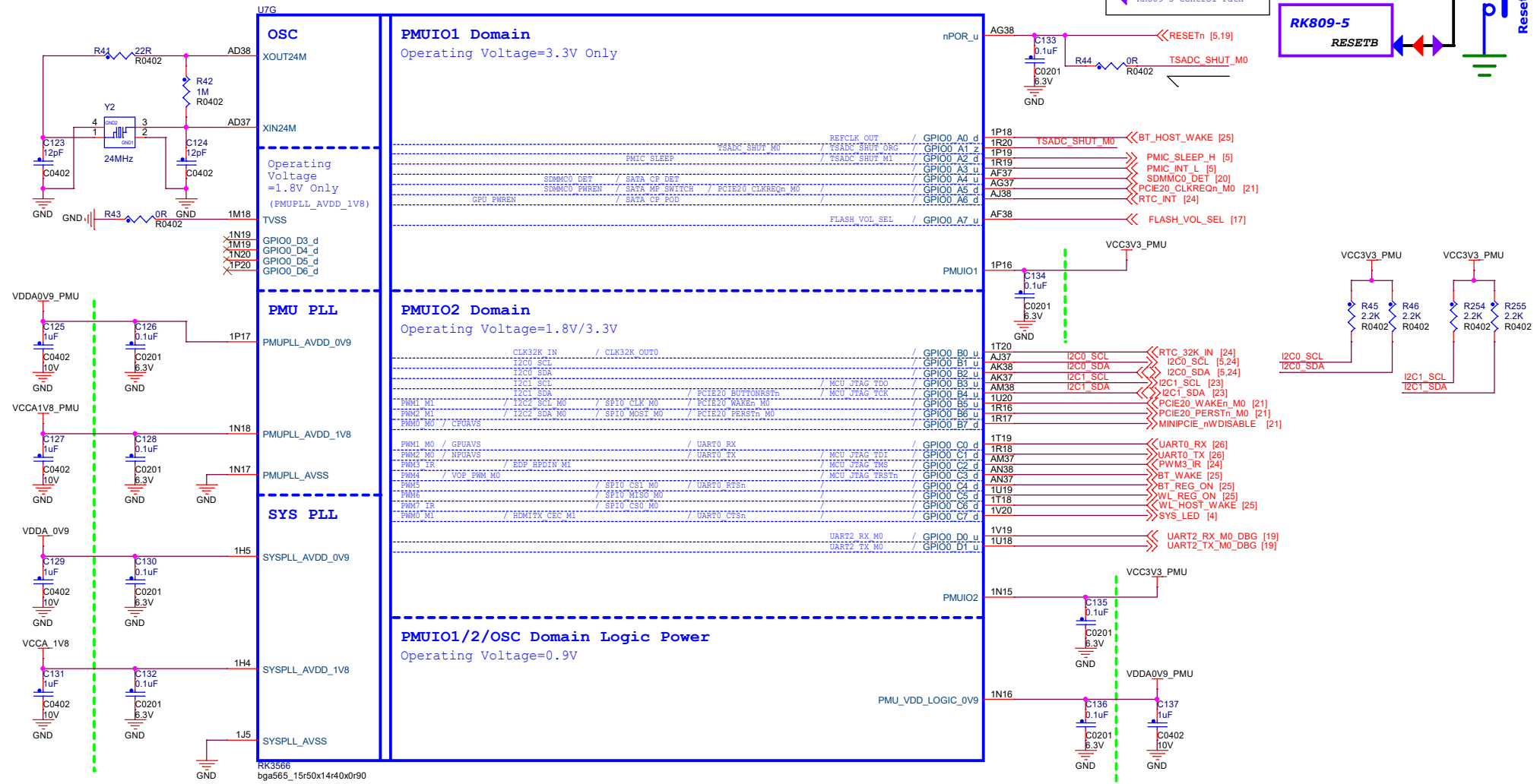
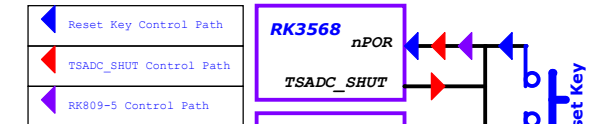
Note: DDR3, other DQ sequences can not be swap

RK3566  
bga565\_15r50x14r40x0r90

Caps should be placed under the U1000 package

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# RK3566 OSC/PLL/PMUIO

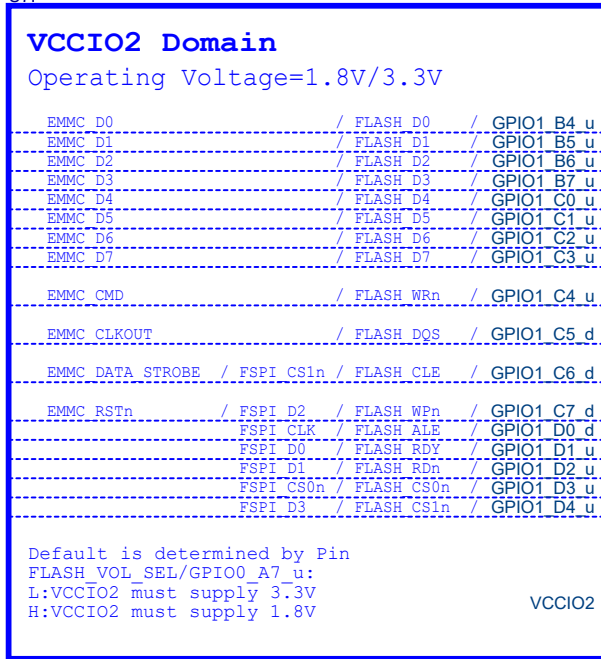


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Title: 野火_EBF RK3566安卓主控板			
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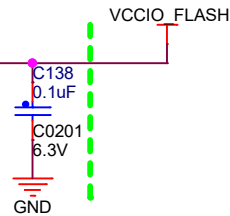


## RK3566 VCCIO2 Domain

U7J

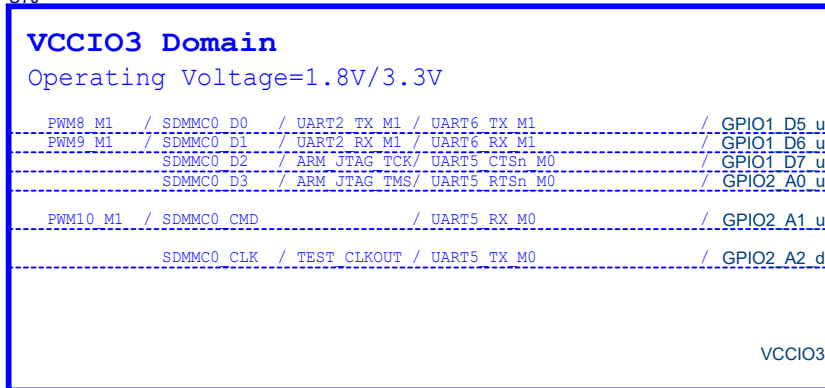


RK3566  
bga565\_15r50x14r40x0r90

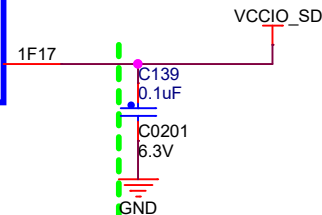


## RK3568 VCCIO3 Domain

U7J



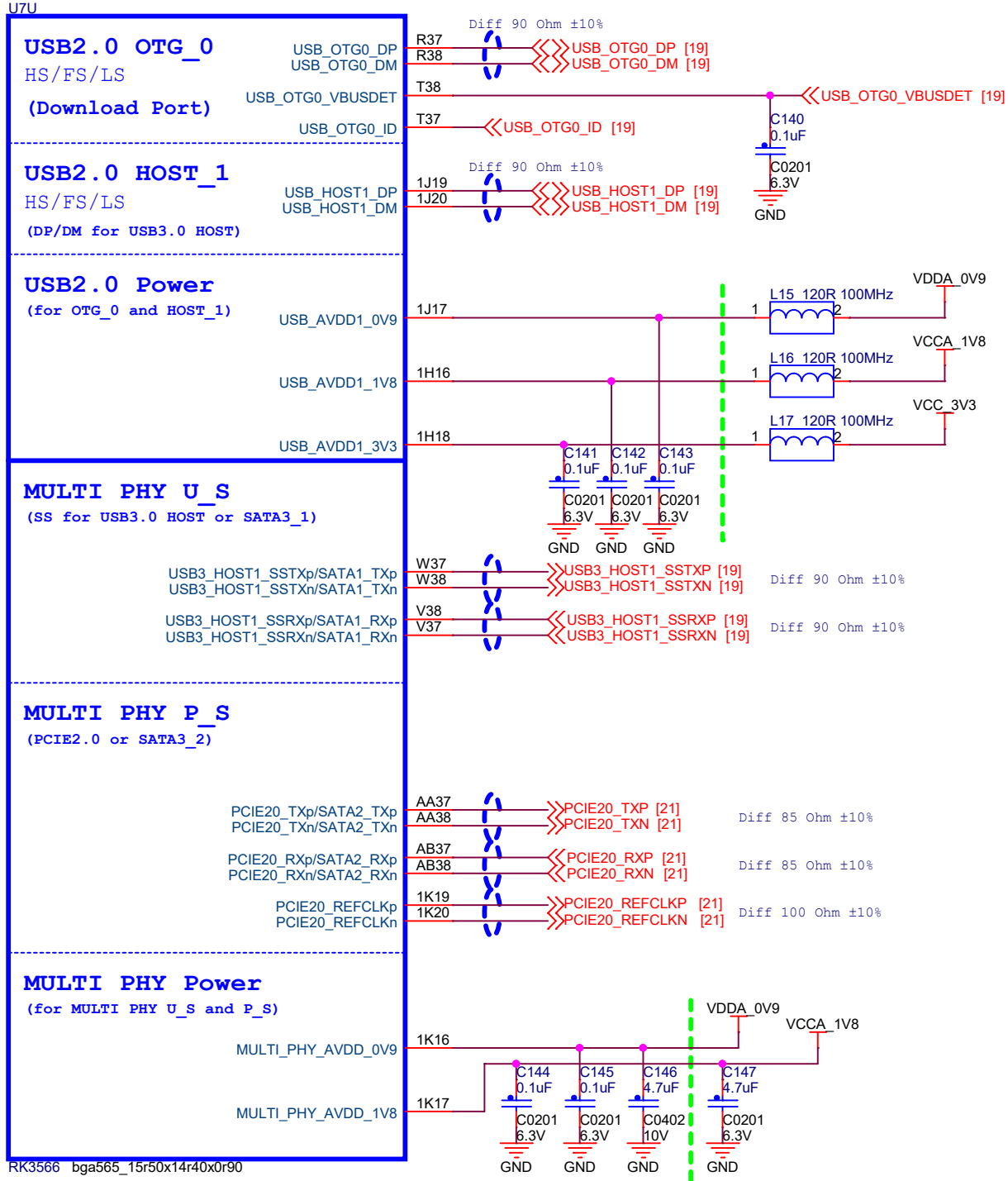
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bga565\_15r50x14r40x0r90



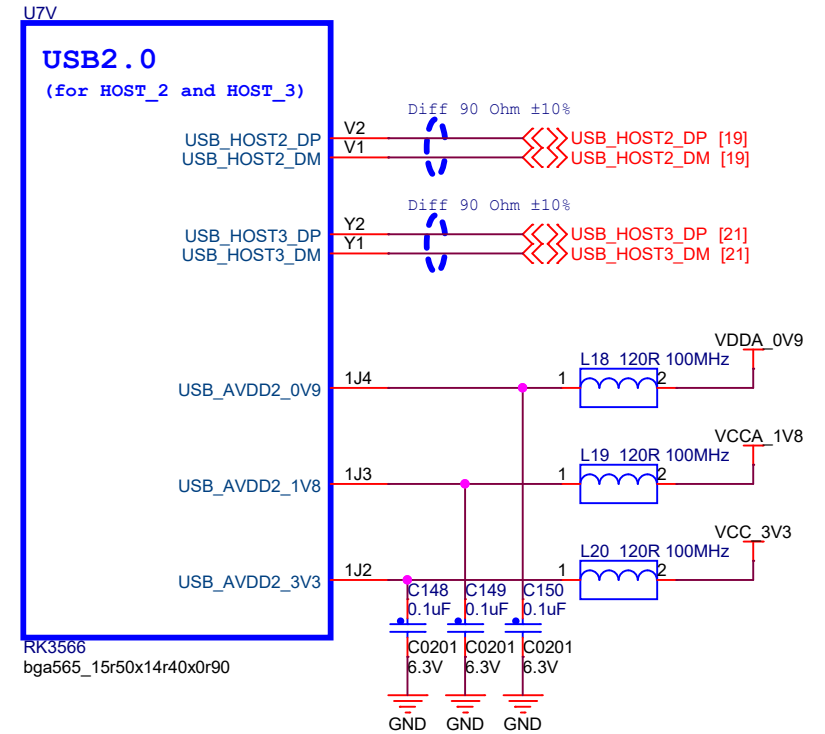
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# RK3566 USB3.0/SATA/PCIe2.0 x1



# RK3566 USB2.0 HOST



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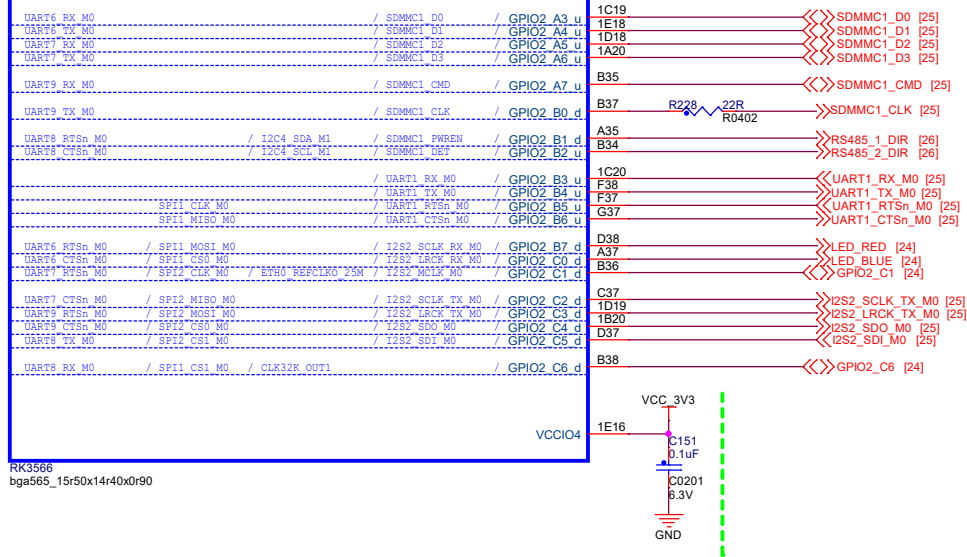
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## RK3566 VCCIO4 Domain

U7K

### VCCIO4 Domain

Operating Voltage=1.8V/3.3V



RK3566  
bga565\_15r50x14r40x0r90

## RK3566 SARADC

U7O

### SARADC

Recovery/

SARADC\_VIN0

SARADC\_VIN1

SARADC\_VIN2

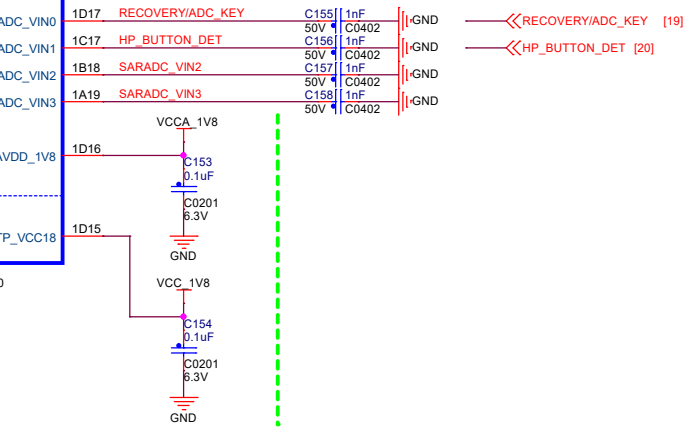
SARADC\_VIN3

SARADC\_AVDD\_1V8

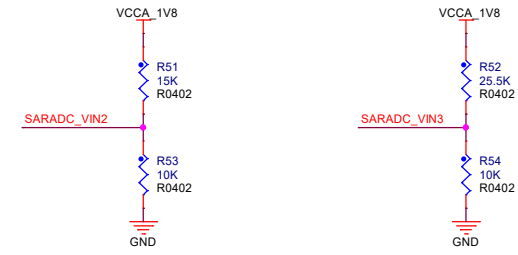
OTP

OTP\_VCC18

RK3566  
bga565\_15r50x14r40x0r90



**Note:**  
Must be mounted



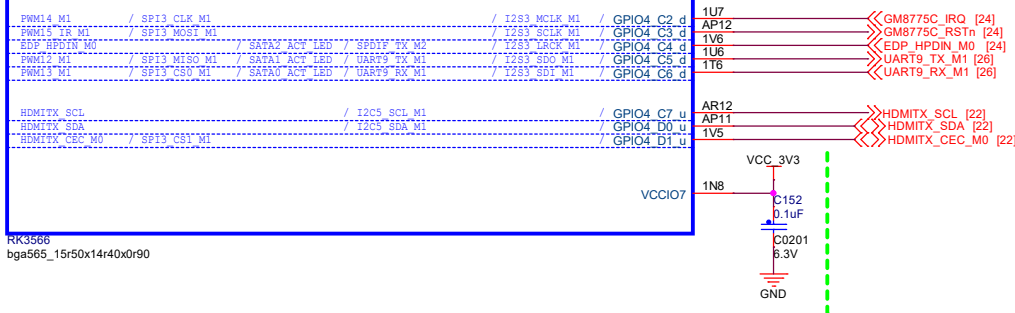
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## RK3566 VCCIO7 Domain

U7N

### VCCIO7 Domain

Operating Voltage=1.8V/3.3V



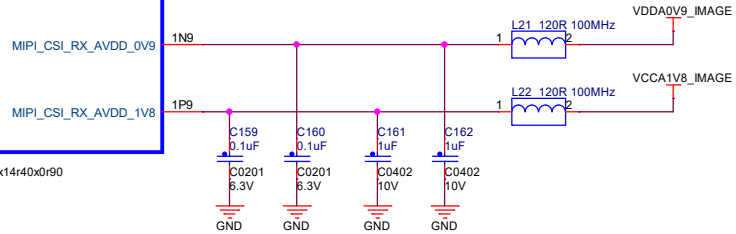
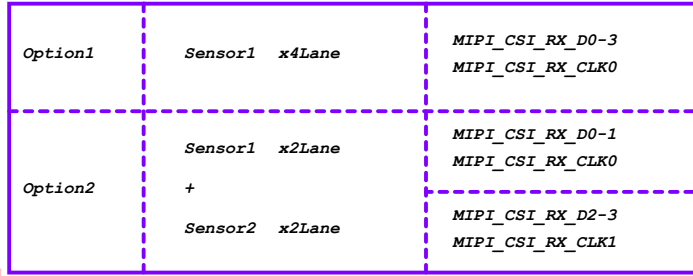
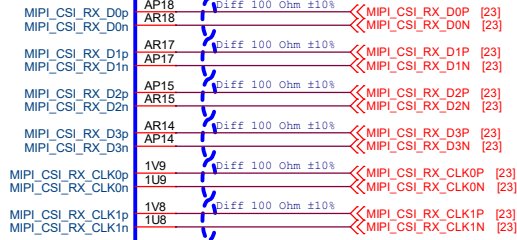
RK3566  
bga565\_15r50x14r40x0r90

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# RK3566 MIPI\_CSI\_RX

U7P

## MIPI CSI RX



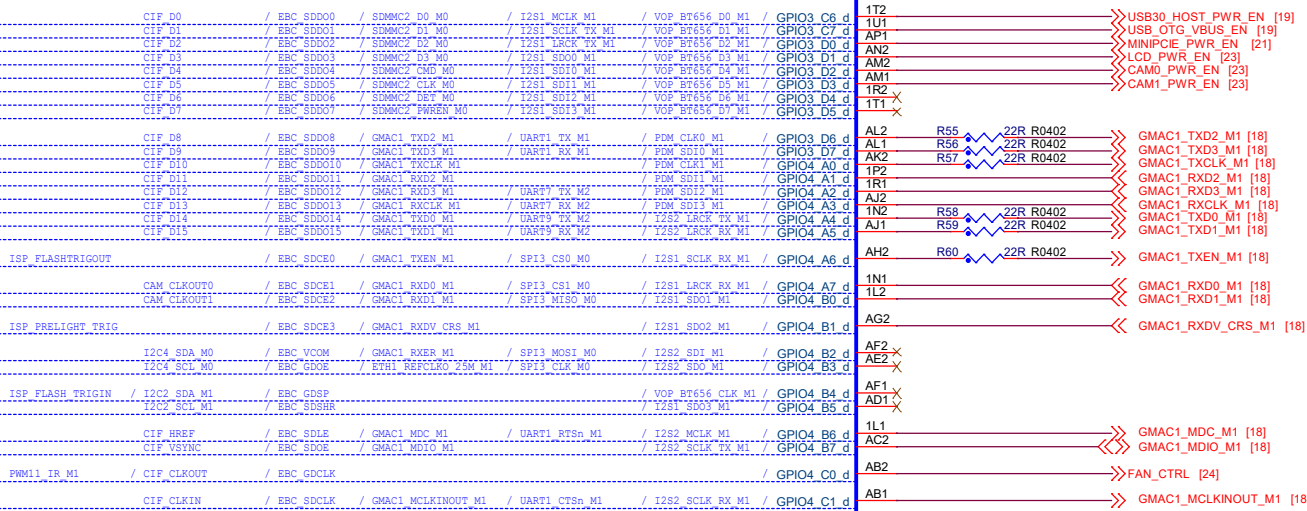
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# RK3566 VCCIO6 Domain

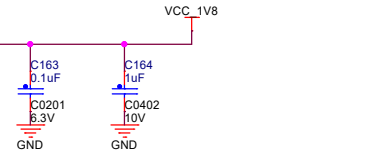
U7M

## VCCIO6 Domain

Operating Voltage=1.8V/3.3V



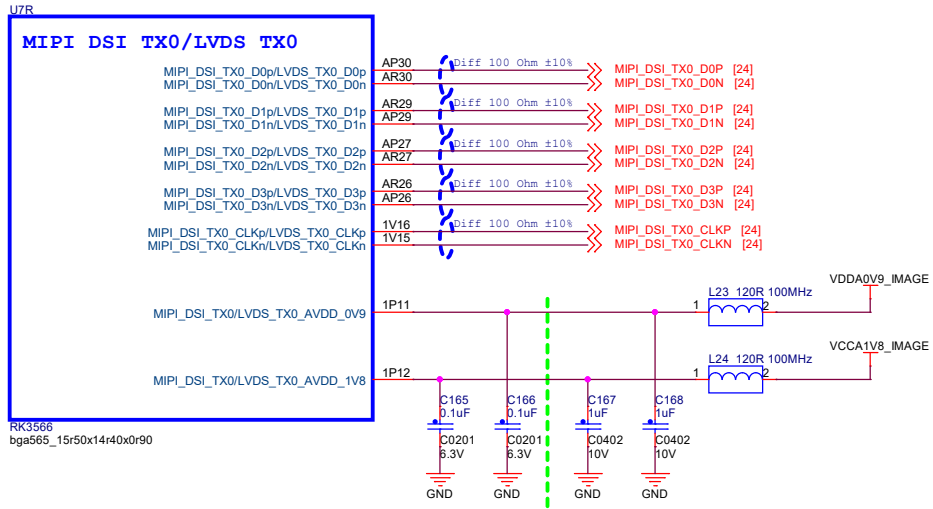
RK3566  
bga565\_15r50x14r40x0r90



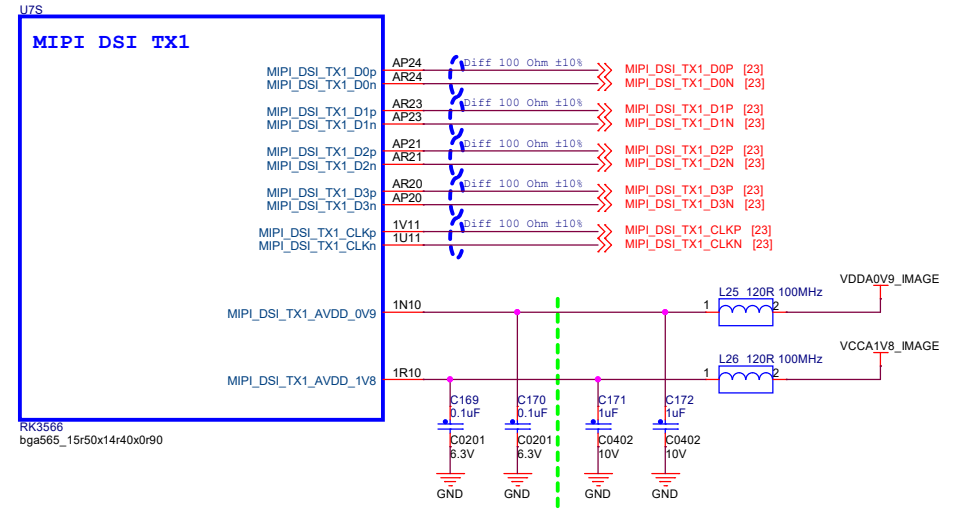
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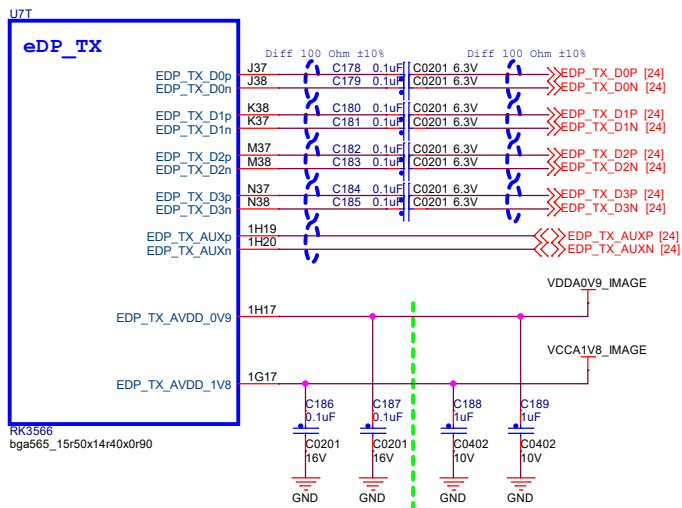
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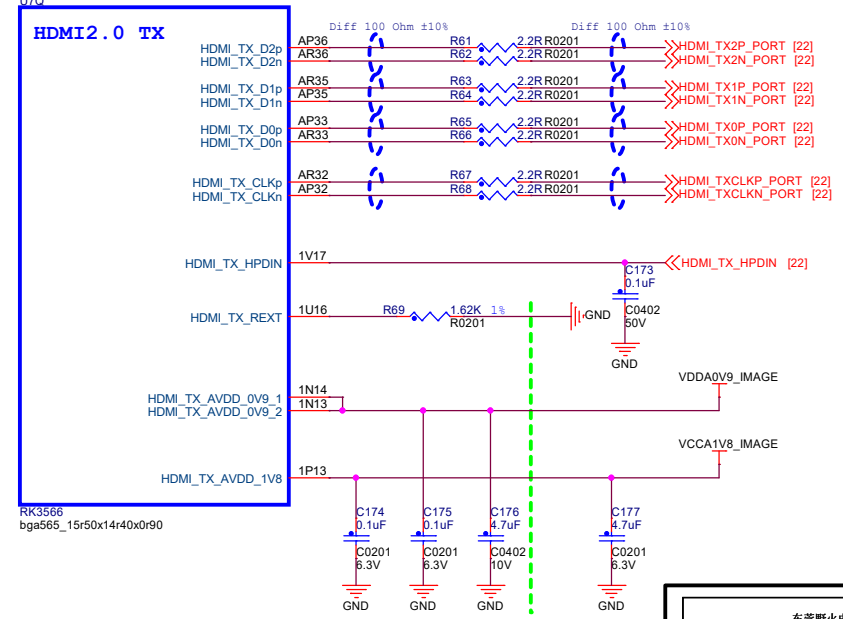
### RK3566 MIPI\_DSI\_TX1



### RK3566 eDP TX



### RK3566 HDMI2.0 TX



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# RK3566 VCCIO5 Domain

U7L

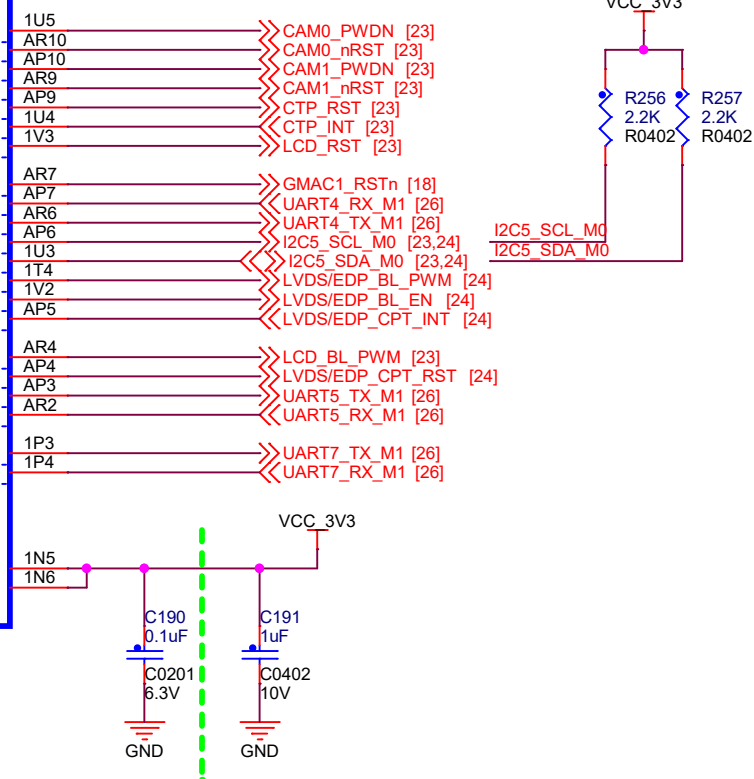
## VCCIO5 Domain

Operating Voltage=1.8V/3.3V

VOP_BT1120_D0	/ SPI1_CS0_M1			/ SDMMC2_D0_M1	/ GPIO3_A1_d
VOP_BT1120_D1		/ GMAC1_TXD2_M0	/ I2S3_MCLK_M0	/ SDMMC2_D1_M1	/ GPIO3_A2_d
VOP_BT1120_D2		/ GMAC1_TXD3_M0	/ I2S3_SCLK_M0	/ SDMMC2_D2_M1	/ GPIO3_A3_d
VOP_BT1120_D3		/ GMAC1_RXD2_M0	/ I2S3_LRCK_M0	/ SDMMC2_D3_M1	/ GPIO3_A4_d
VOP_BT1120_D4		/ GMAC1_RXD3_M0	/ I2S3_SDO_M0	/ SDMMC2_CMD_M1	/ GPIO3_A5_d
VOP_BT1120_CLK		/ GMAC1_TXCLK_M0	/ I2S3_SDI_M0	/ SDMMC2_CLK_M1	/ GPIO3_A6_d
VOP_BT1120_B5		/ GMAC1_RXCLK_M0		/ SDMMC2_DET_M1	/ GPIO3_A7_d
VOP_BT1120_D6		/ ETH1_REFCLK0_25M_M0		/ SDMMC2_PWREN_M1	/ GPIO3_B0_d
PWM8_M0	/ VOP_BT1120_D7	/ GMAC1_RXD0_M0	/ UART4_RX_M1		/ GPIO3_B1_d
PWM9_M0	/ VOP_BT1120_D8	/ GMAC1_RXD1_M0	/ UART4_TX_M1		/ GPIO3_B2_d
VOP_BT1120_B9	/ I2C5_SCL_M0	/ GMAC1_RXDV_CRS_M0		/ PDM_SDI0_M2	/ GPIO3_B3_d
VOP_BT1120_D10	/ I2C5_SDA_M0	/ GMAC1_RXER_M0		/ PDM_SDI1_M2	/ GPIO3_B4_d
PWM10_M0	/ VOP_BT1120_D11	/ I2C3_SCL_M1	/ GMAC1_TXD0_M0		/ GPIO3_B5_d
PWM11_IR_M0	/ VOP_BT1120_D12	/ I2C3_SDA_M1	/ GMAC1_TXD1_M0		/ GPIO3_B6_d
PWM12_M0		/ GMAC1_TXEN_M0	/ UART3_TX_M1	/ PDM_SDI2_M2	/ GPIO3_B7_d
PWM13_M0		/ GMAC1_MCLKINOUT_M0	/ UART3_RX_M1	/ PDM_SDI3_M2	/ GPIO3_C0_d
VOP_BT1120_D13	/ SPI1_MOSI_M1		/ PCIE20_PERSTn_M1	/ I2S1_SDO2_M2	/ GPIO3_C1_d
VOP_BT1120_D14	/ SPI1_MISO_M1		/ UART5_TX_M1	/ I2S1_SDO3_M2	/ GPIO3_C2_d
VOP_BT1120_B15	/ SPI1_CLK_M1		/ UART5_RX_M1	/ I2S1_SCLK_RX_M2	/ GPIO3_C3_d
PWM14_M0	/ VOP_PWM_M1	/ GMAC1_MDC_M0	/ UART7_TX_M1	/ PDM_CLK1_M2	/ GPIO3_C4_d
PWM15_IR_M0	/ SPDIF_TX_M1	/ GMAC1_MDIO_M0	/ UART7_RX_M1	/ I2S1_LRCK_RX_M2	/ GPIO3_C5_d

VCCIO5\_1  
VCCIO5\_2

RK3566  
bga565\_15r50x14r40x0r90



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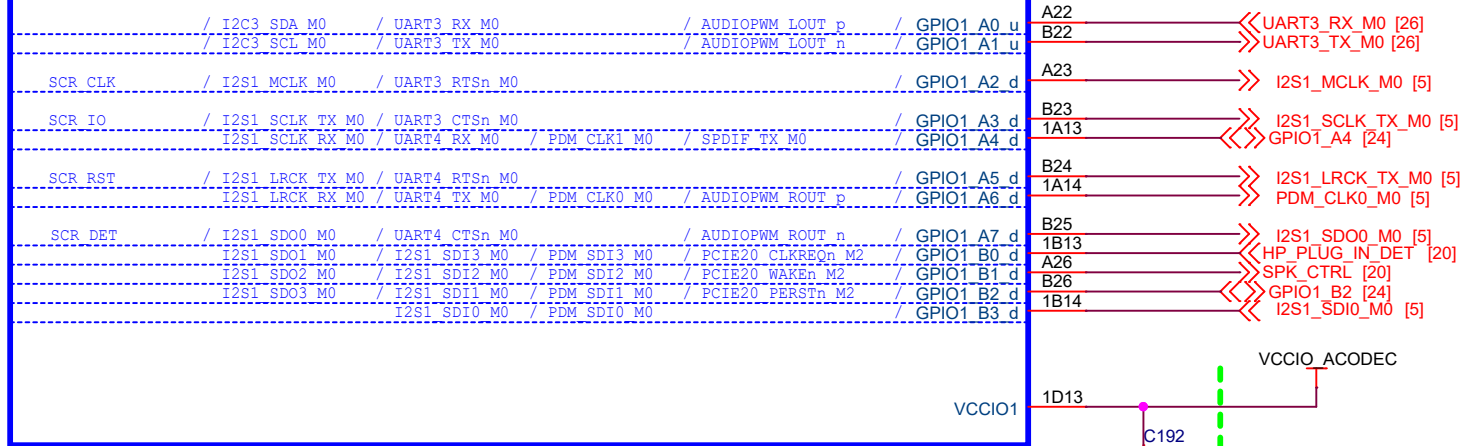
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# RK3566 VCCIO1 Domain

U7H

## VCCIO1 Domain

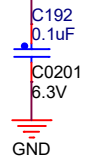
Operating Voltage=1.8V/3.3V



RK3566  
bga565\_15r50x14r40x0r90

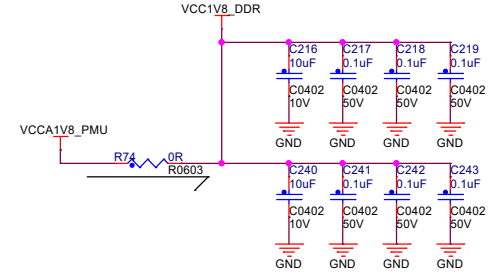
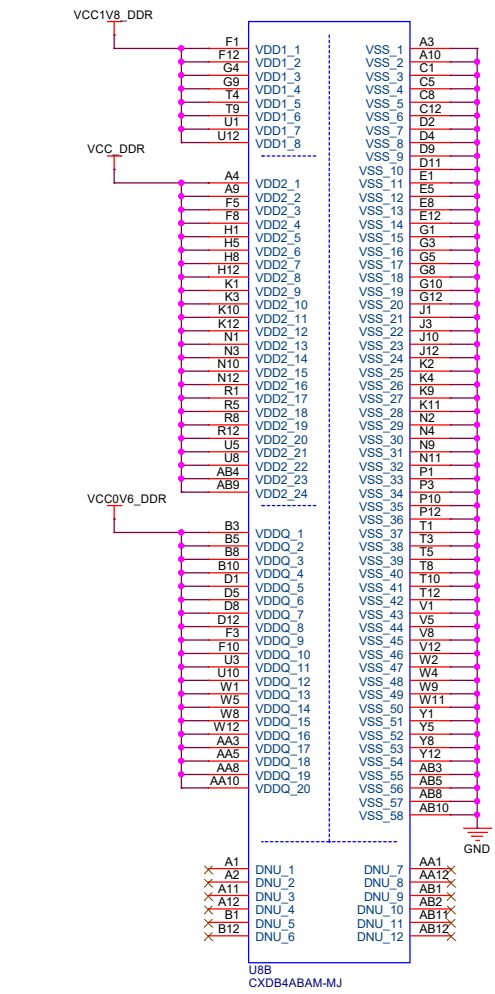
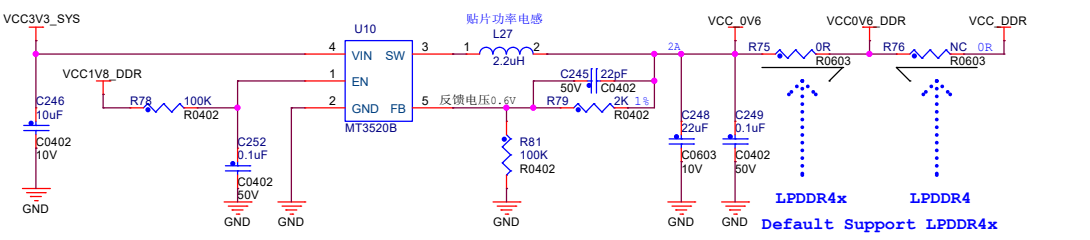
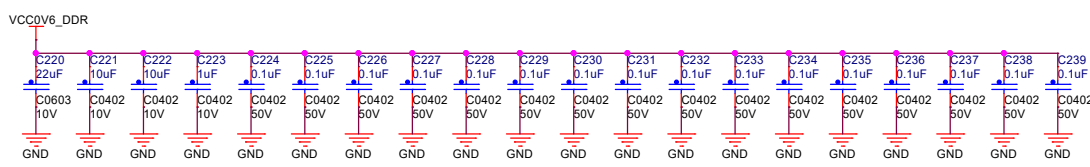
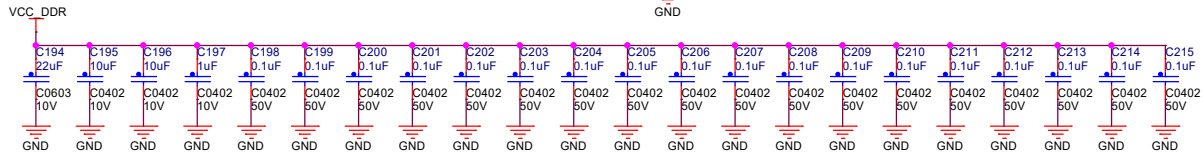
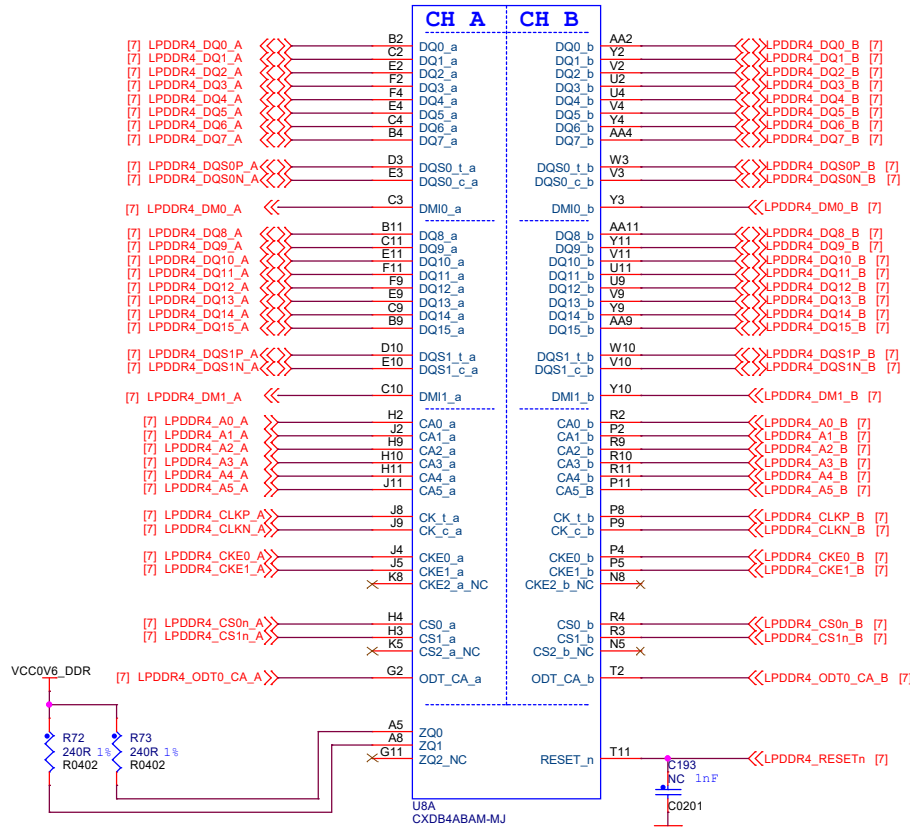
VCCIO1

VCCIO\_ACODEC



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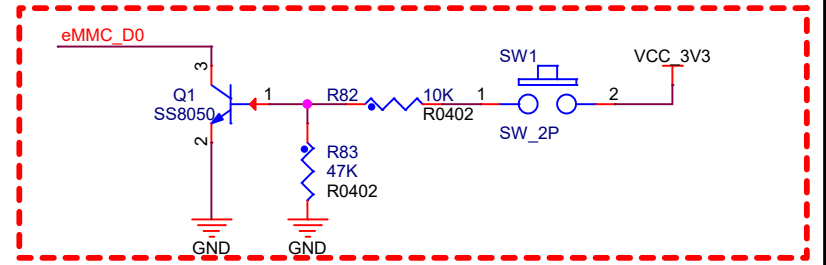
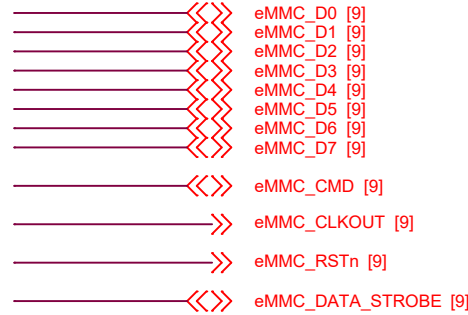
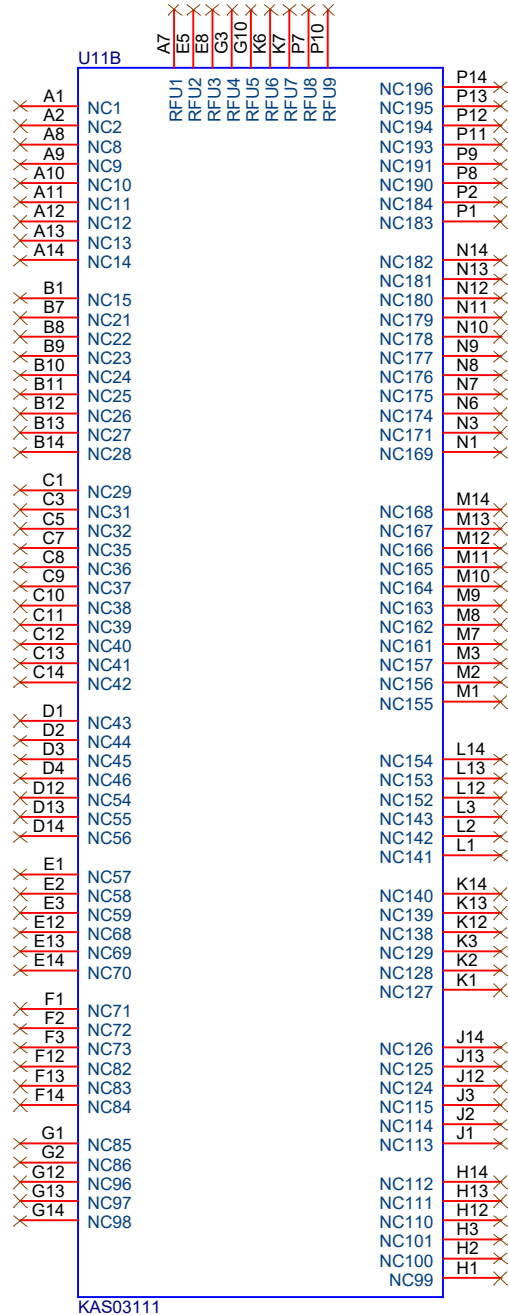
# LPDDR4 / 4x



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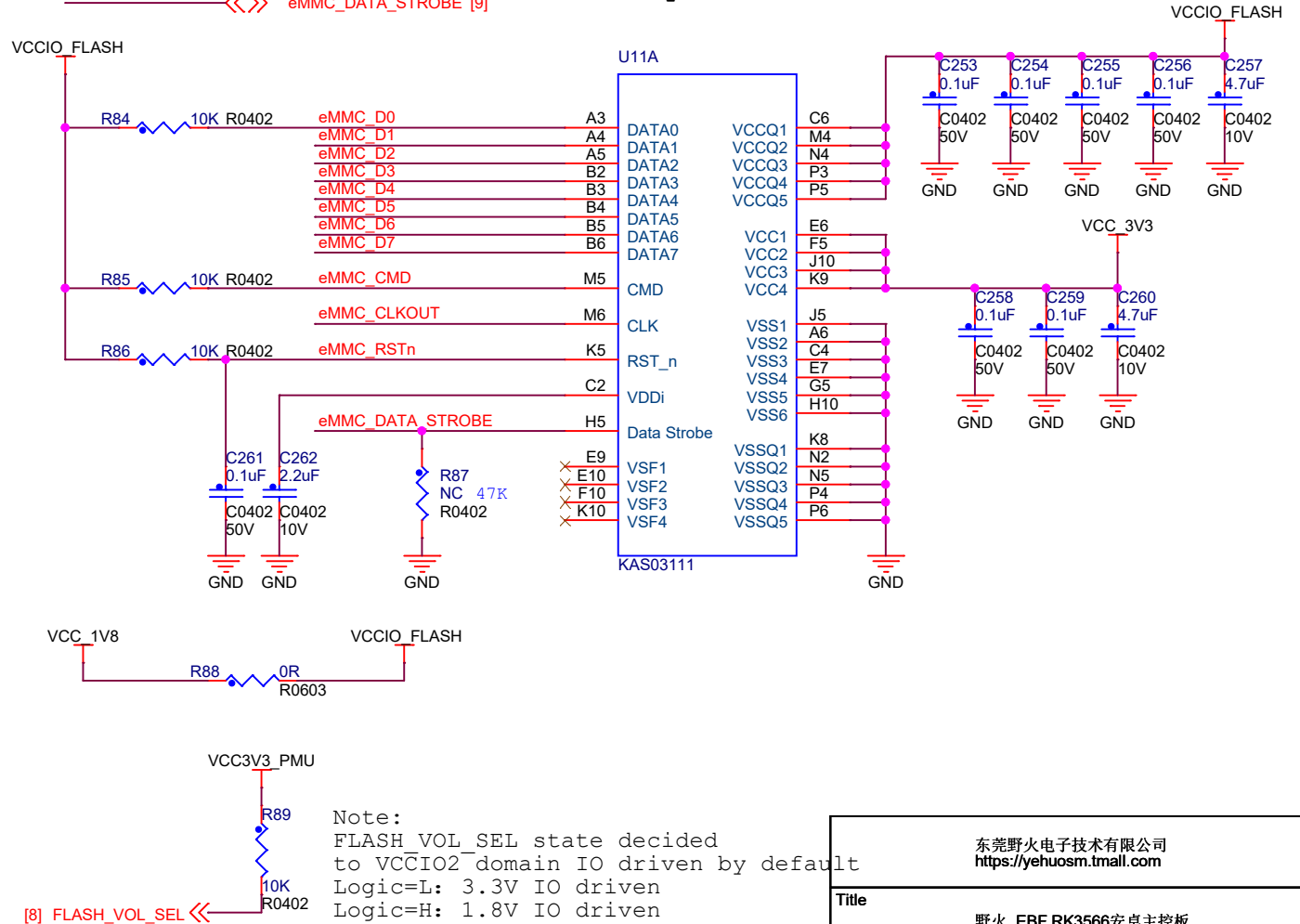


# eMMC Flash



**Note:**

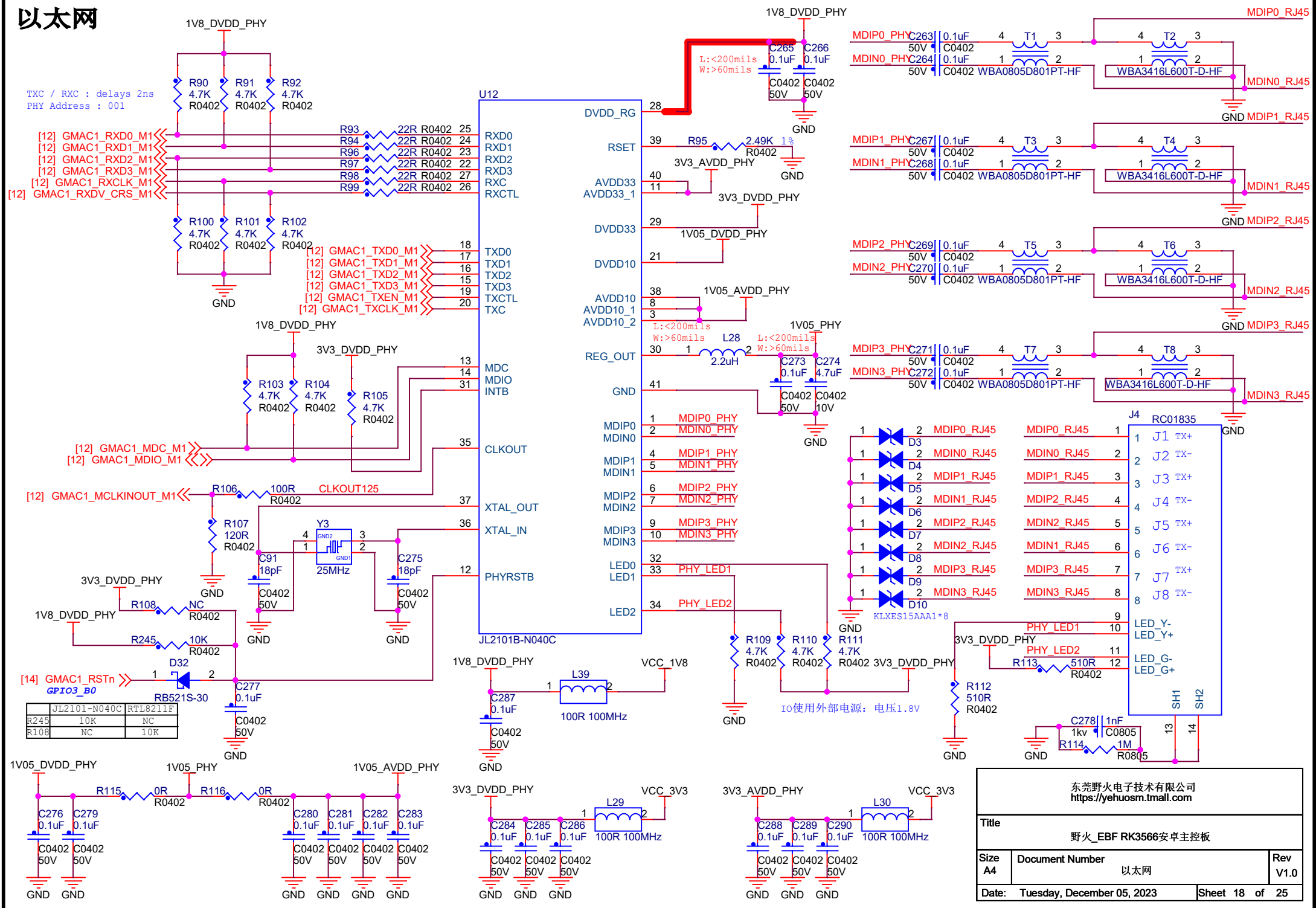
For eMMC or Nand Flash:  
If eMMC\_D0/FLASH\_D0=0V at after power on and reset,  
then system will enter into Maskrom mode.



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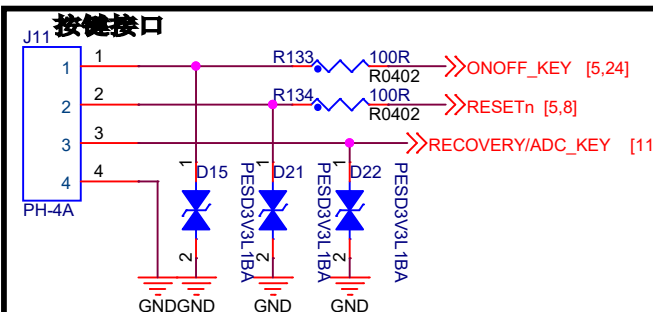
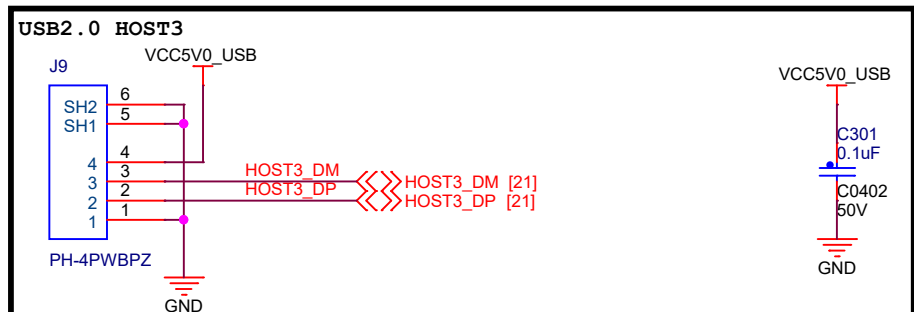
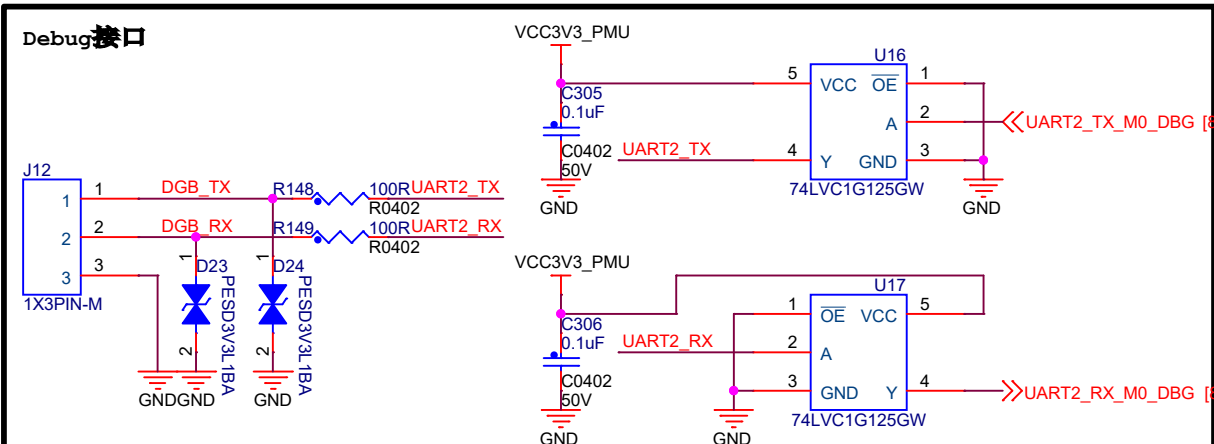
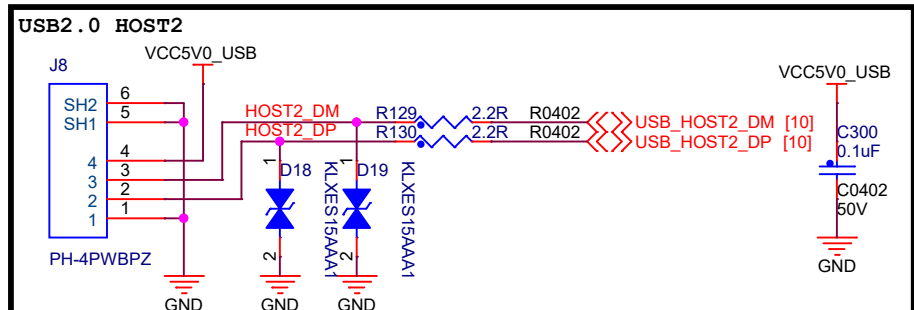
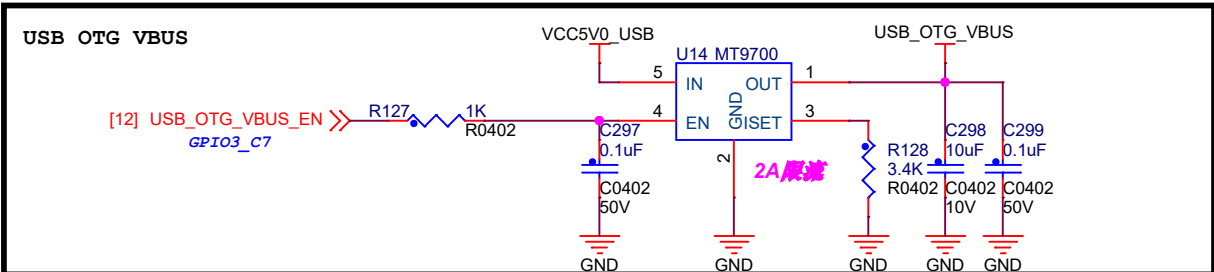
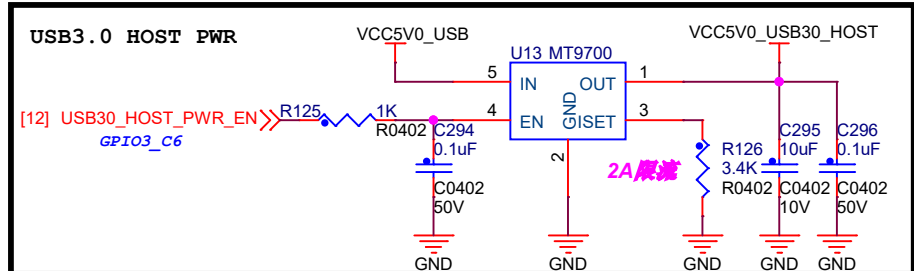
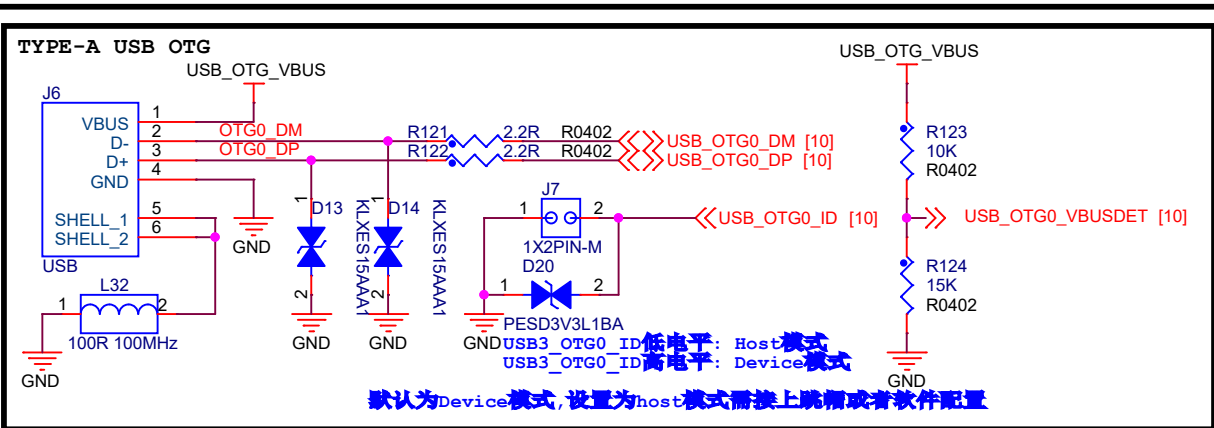
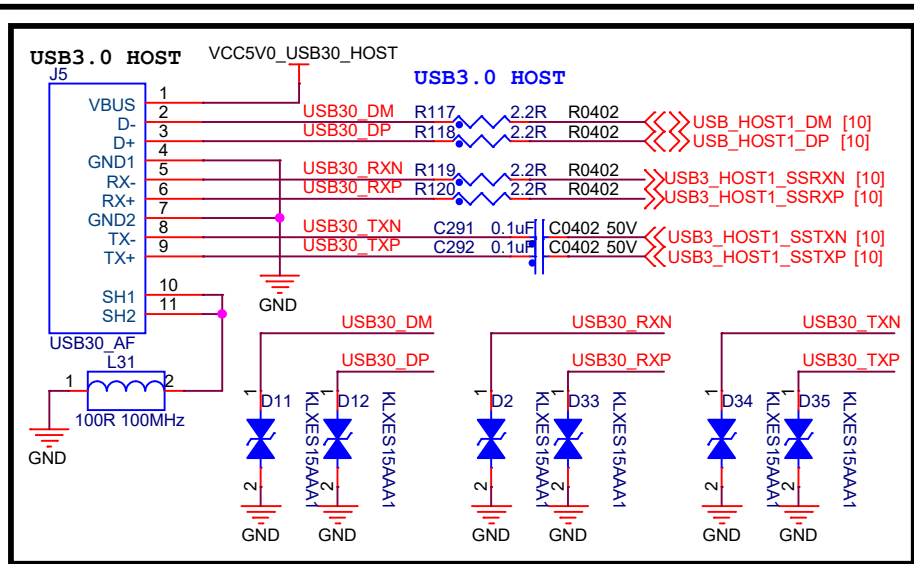
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Title: 野火\_EBF RK3566安卓主控板

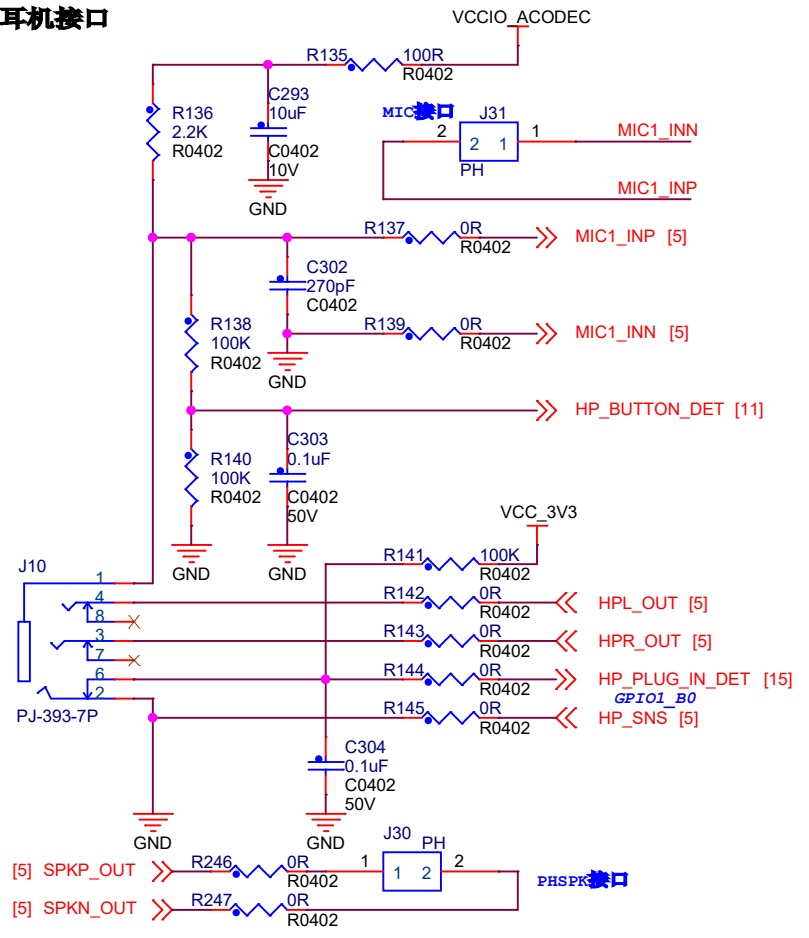
Size A4	Document Number 以太网	Rev V1.0
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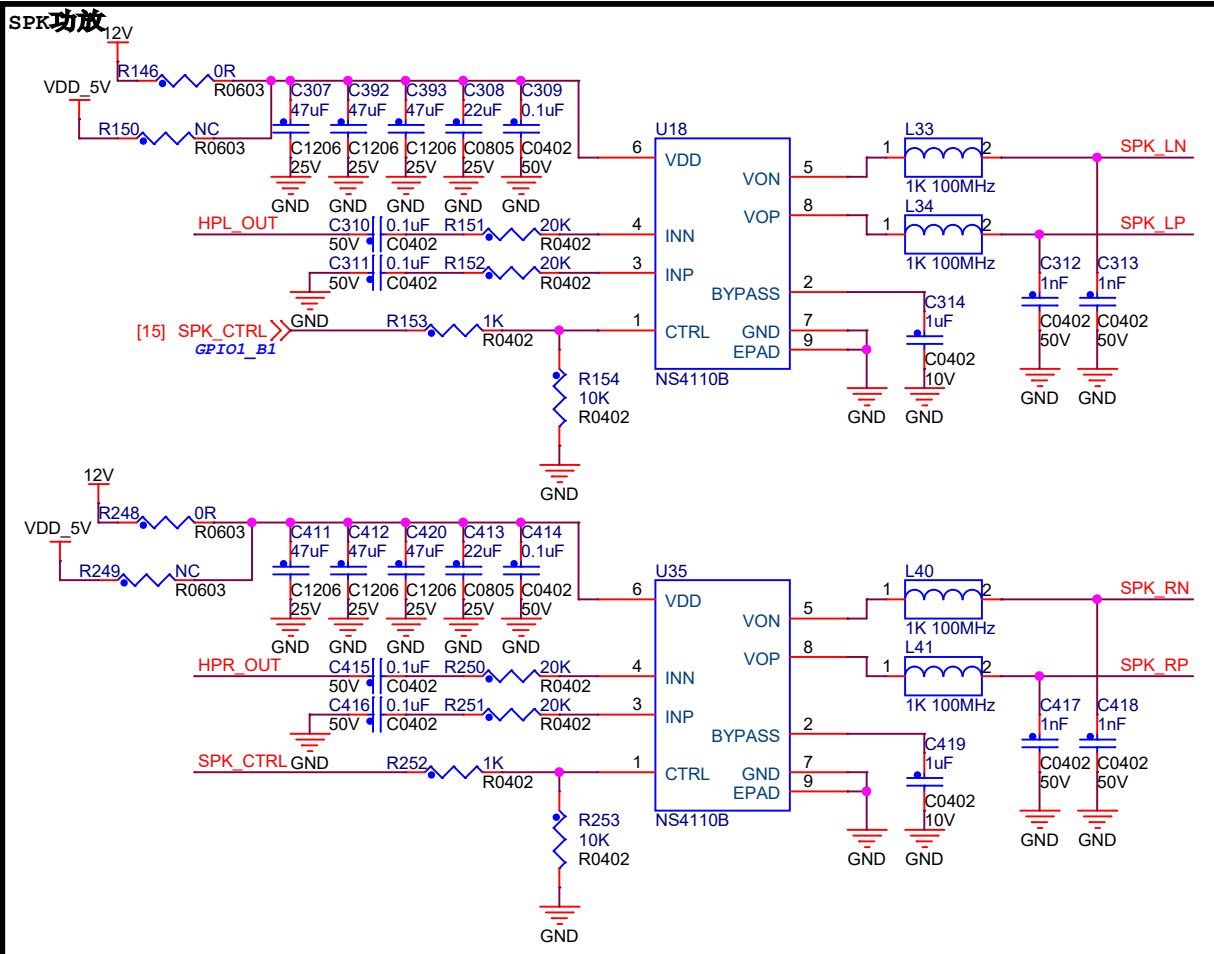
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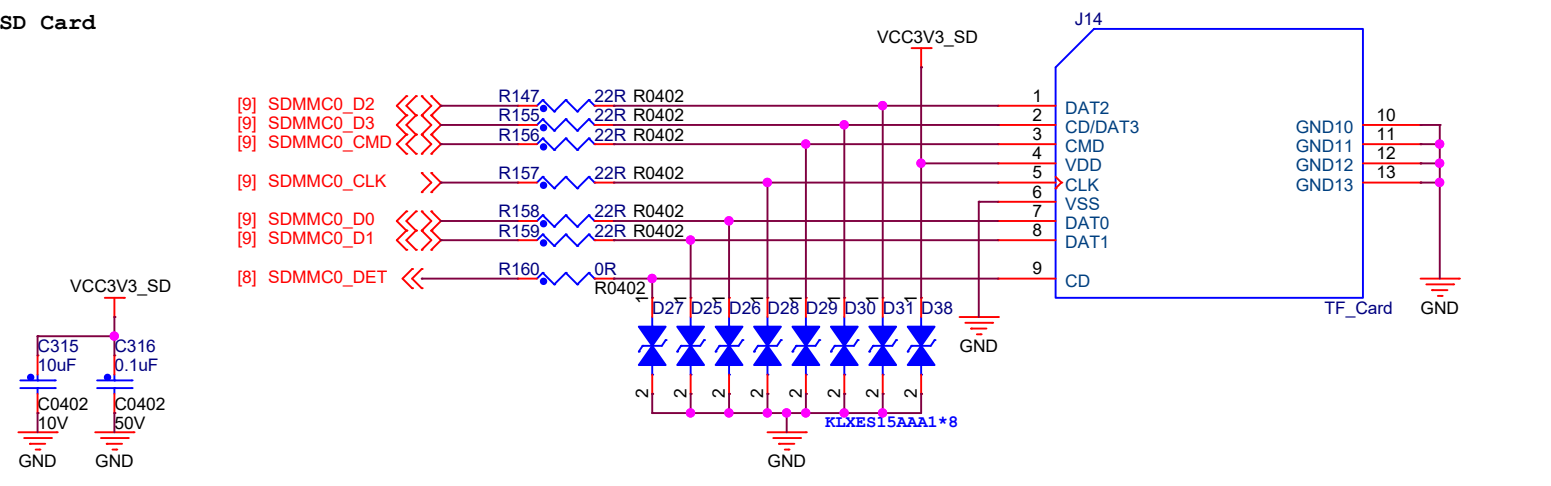
### 耳机接口



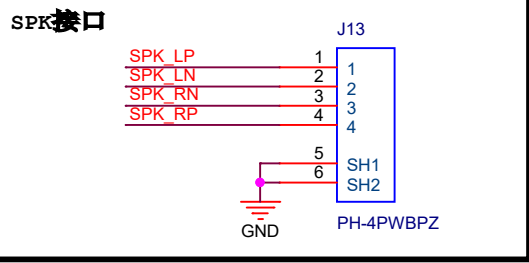
### SPK 功放



### SD Card



### SPK 接口

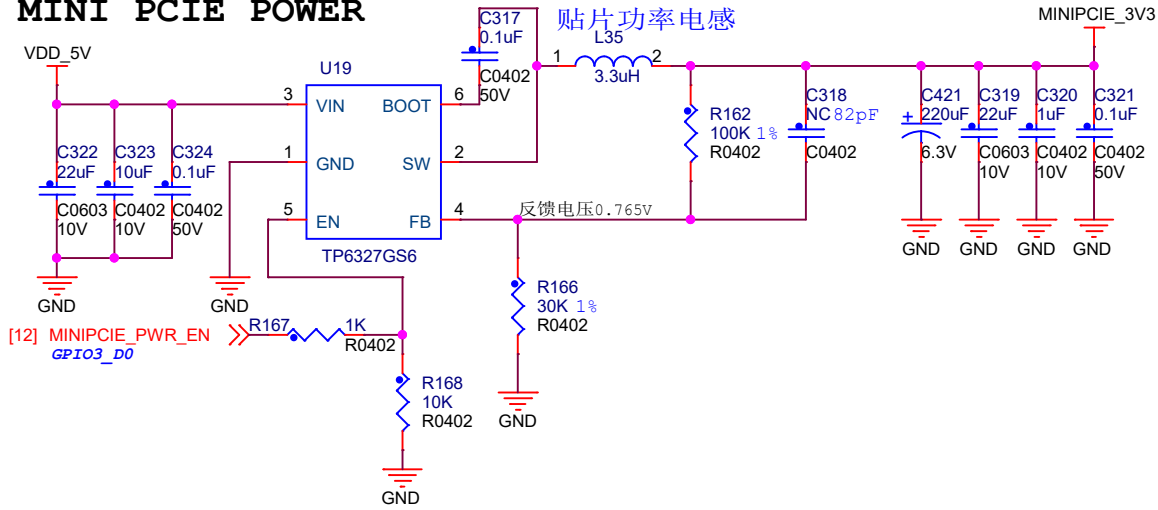


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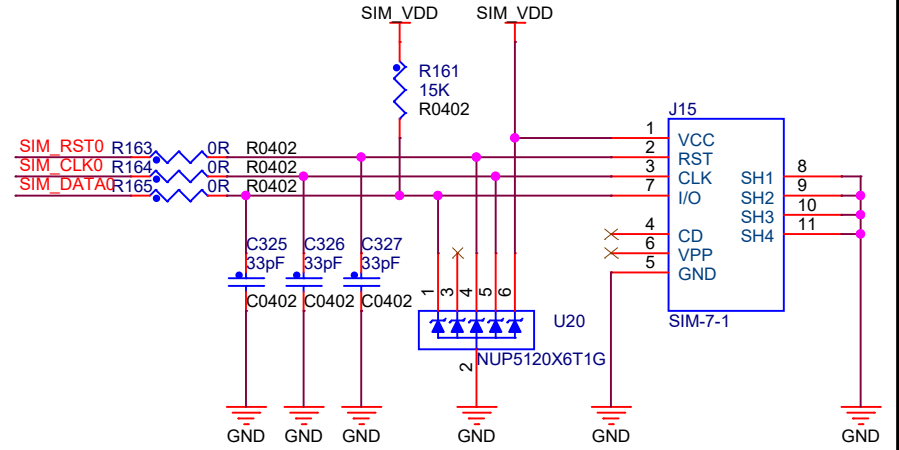
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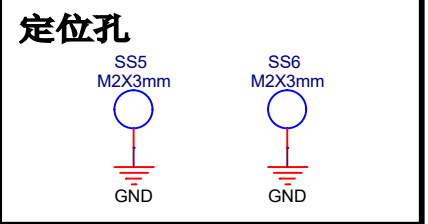
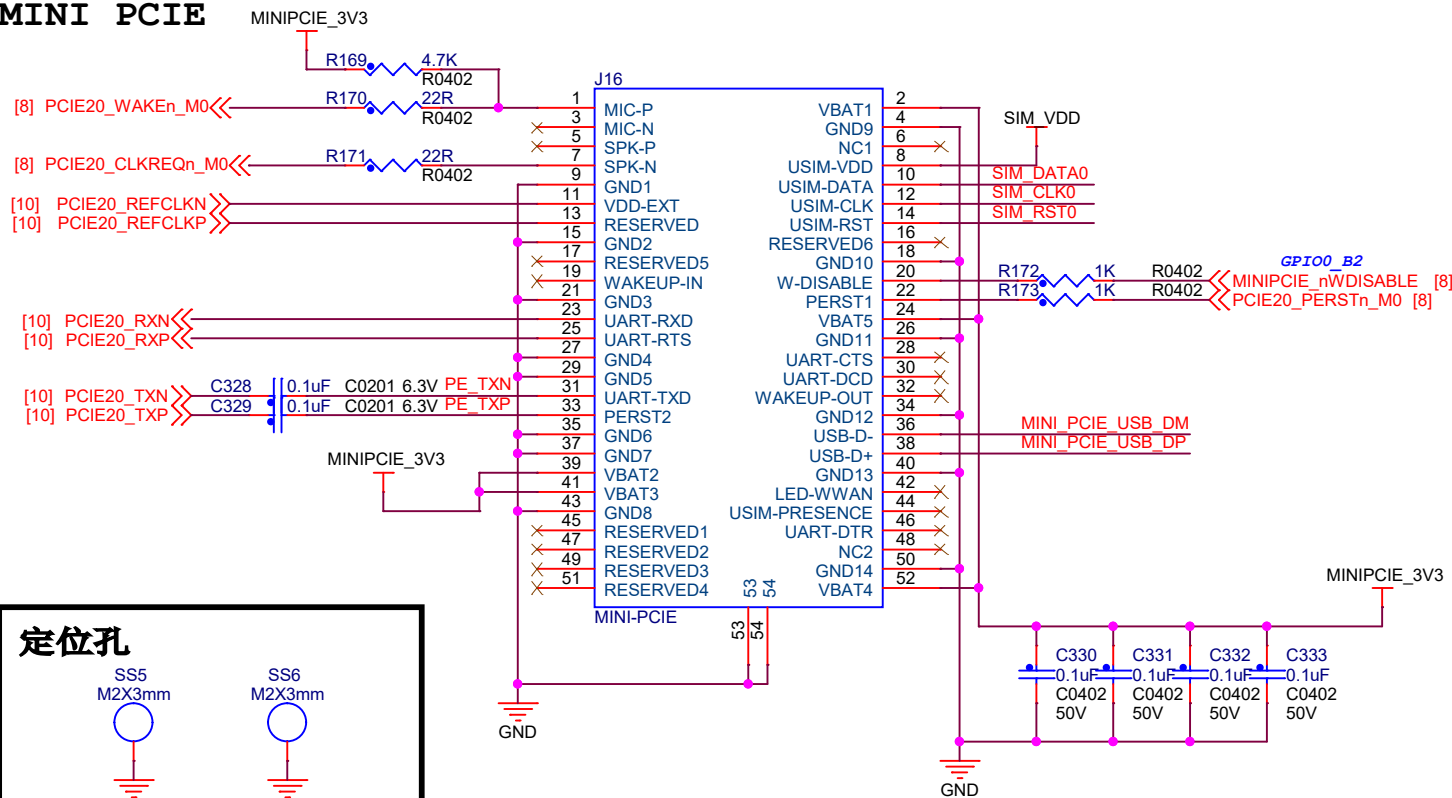
### MINI PCIE POWER



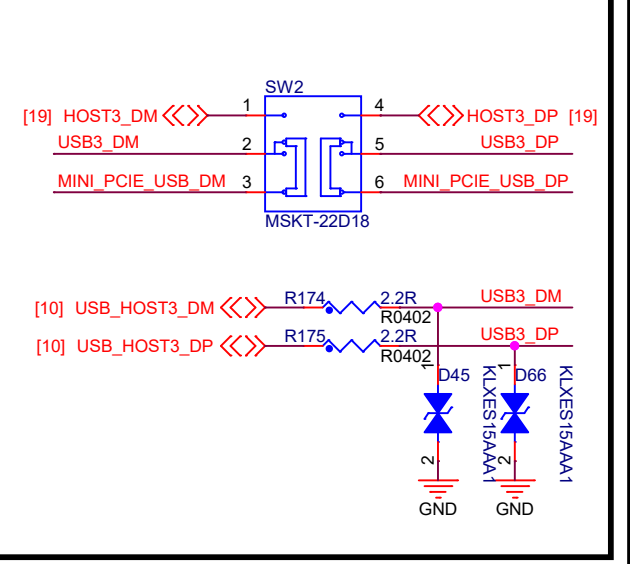
### SIM CARD



### MINI PCIE

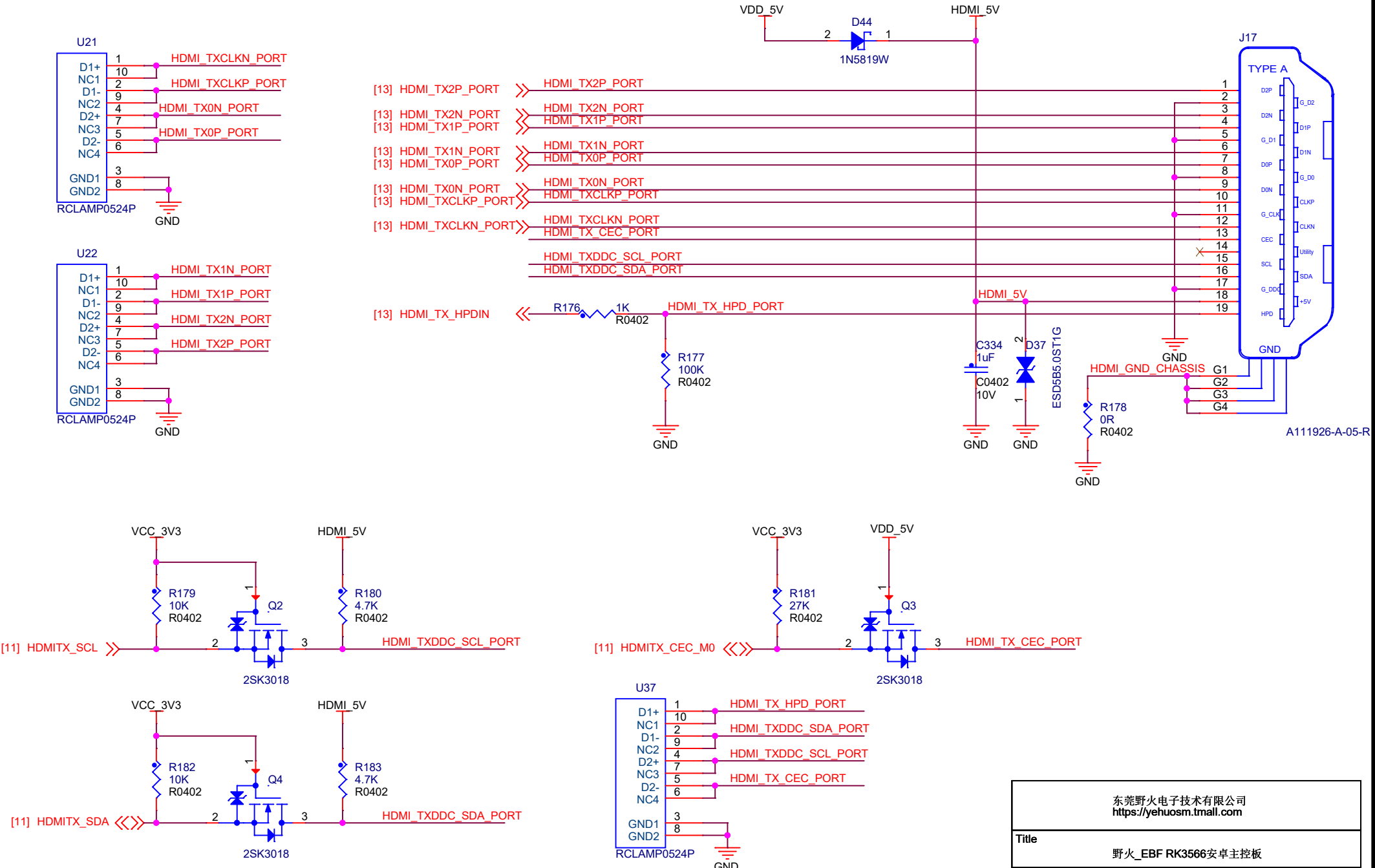


### USB切换开关



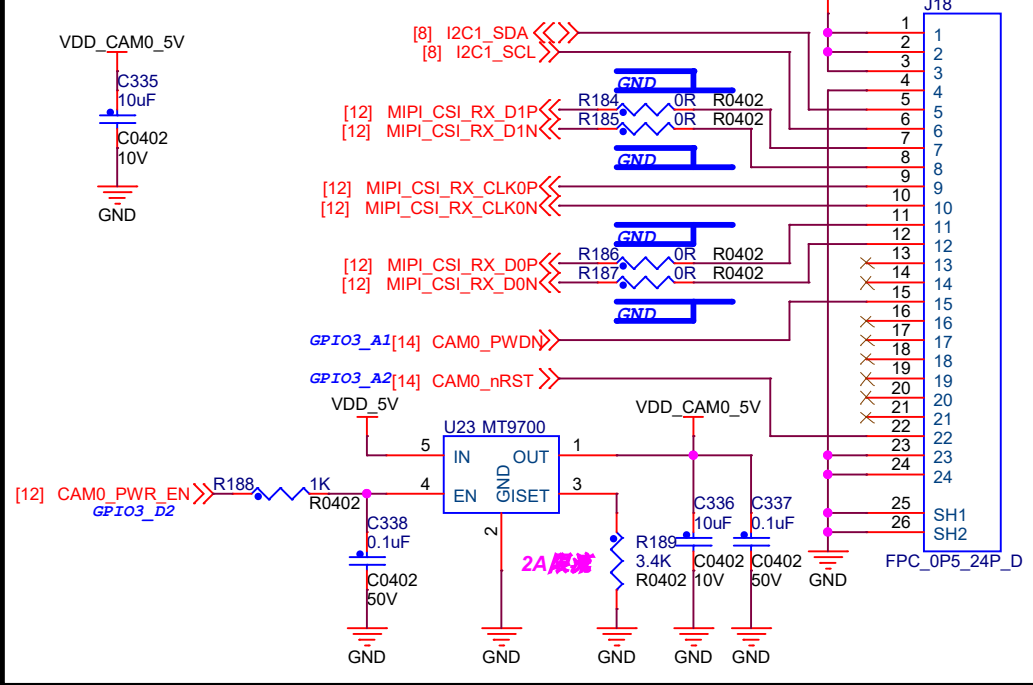
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# HDMI 2.0 接口

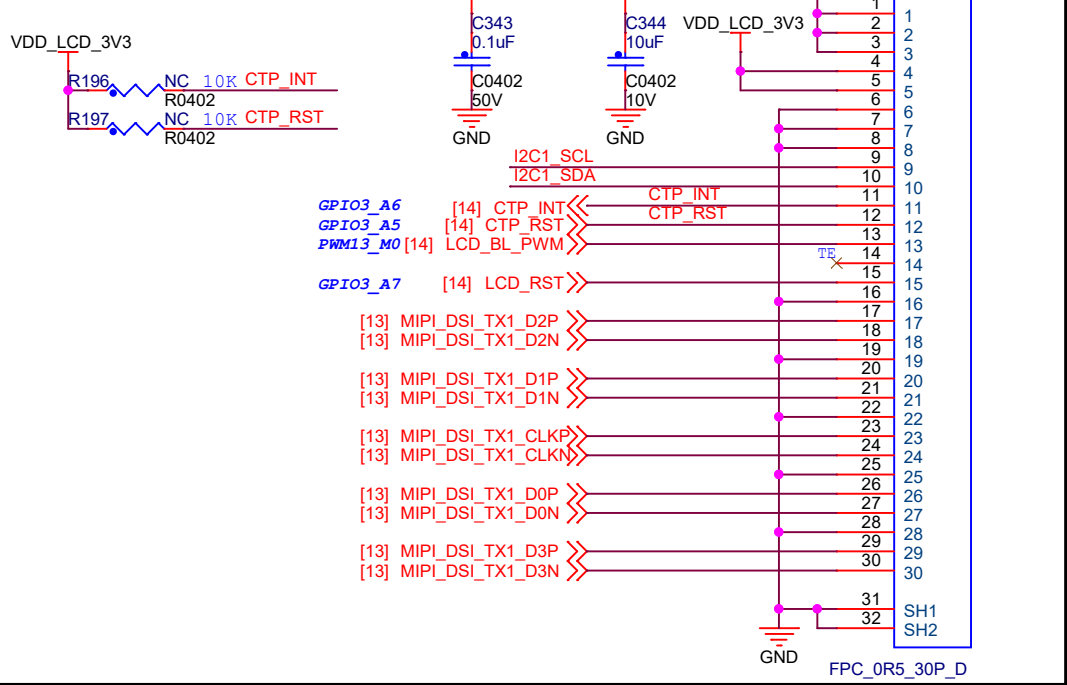


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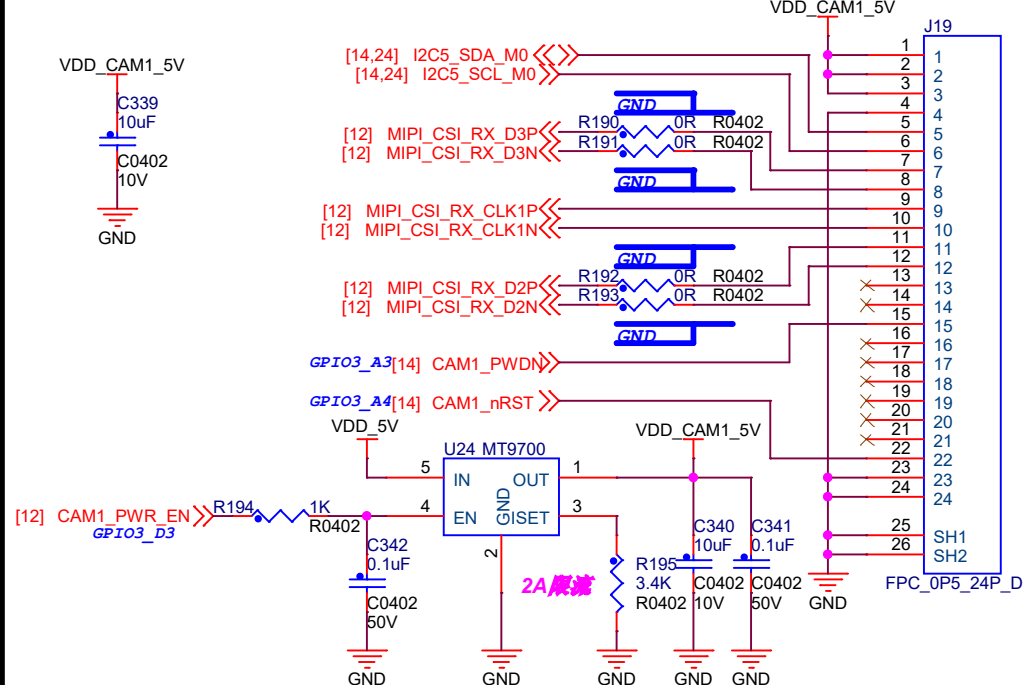
### CAM0 MIPI CSI x2Lane



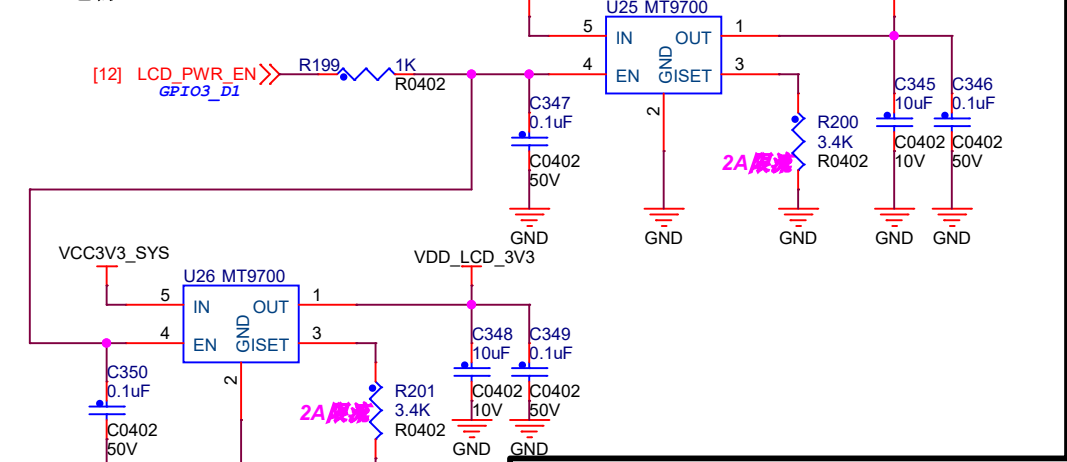
### MIPI DSI LCD接口



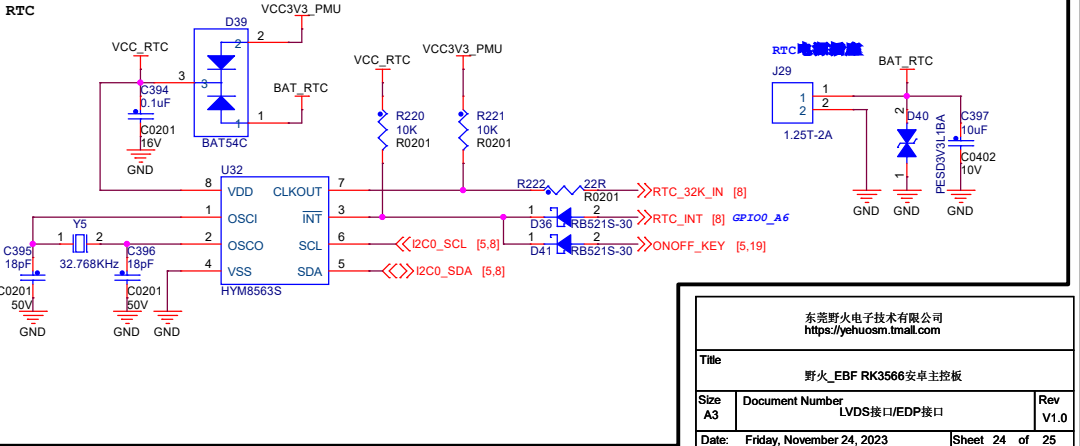
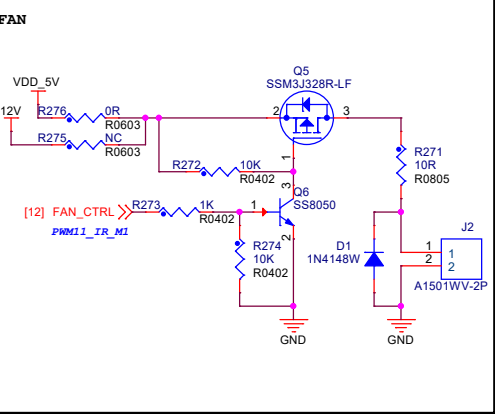
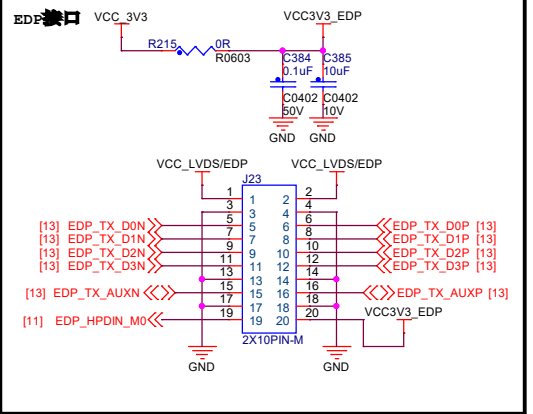
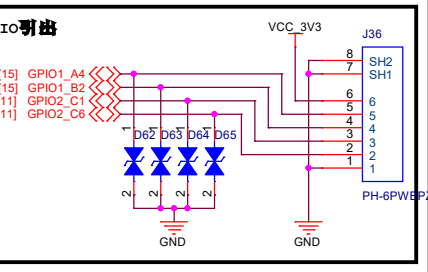
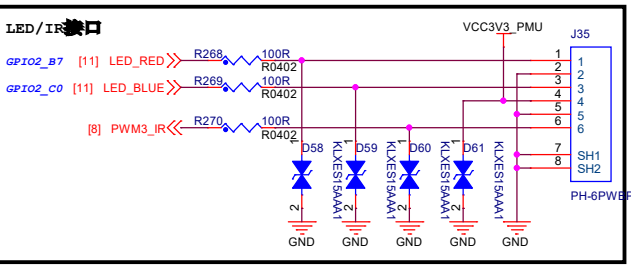
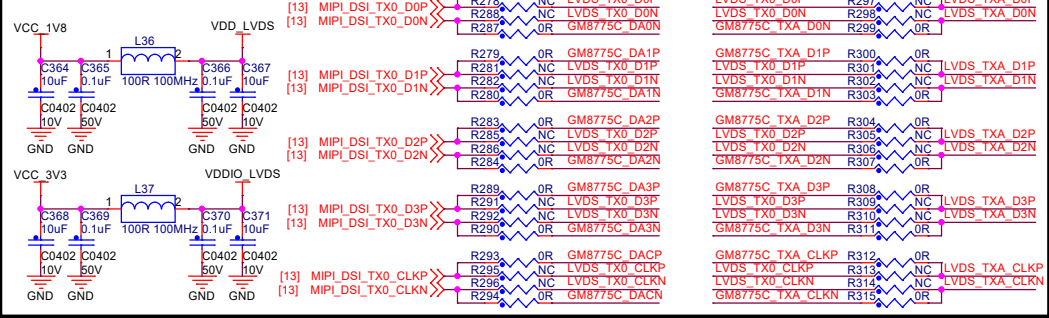
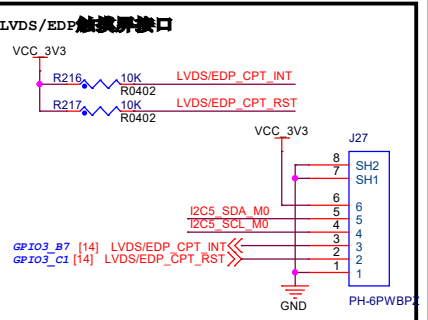
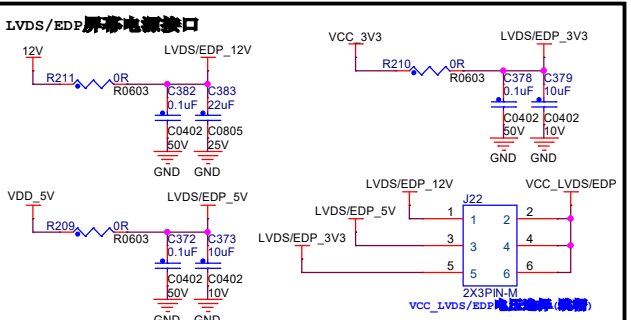
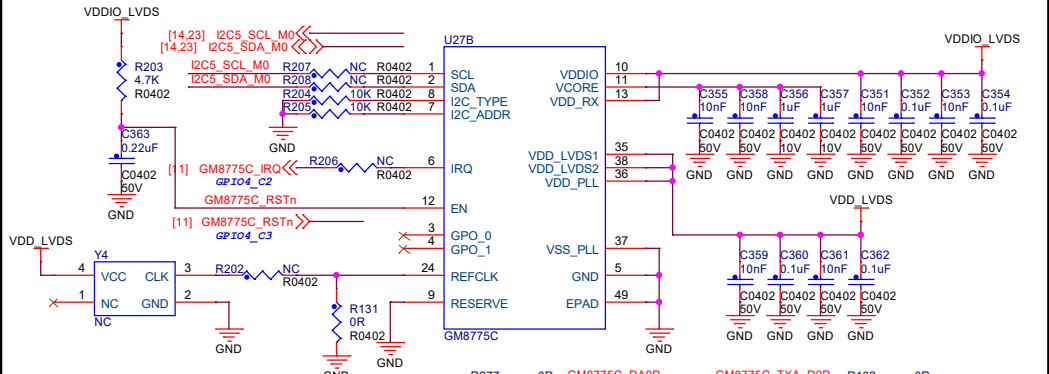
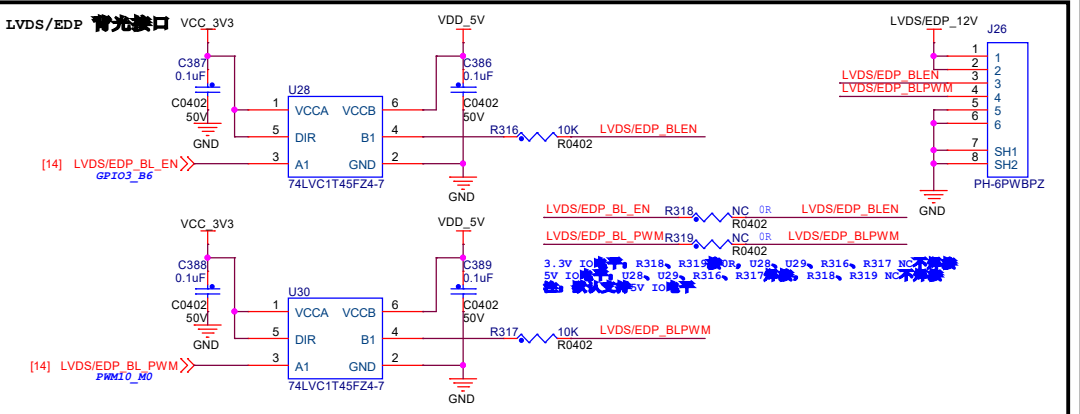
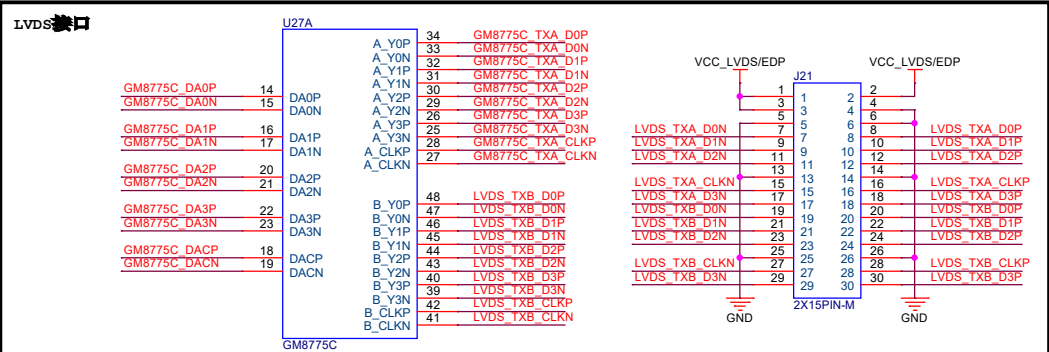
### CAM1 MIPI CSI x2Lane



### LCD 电源



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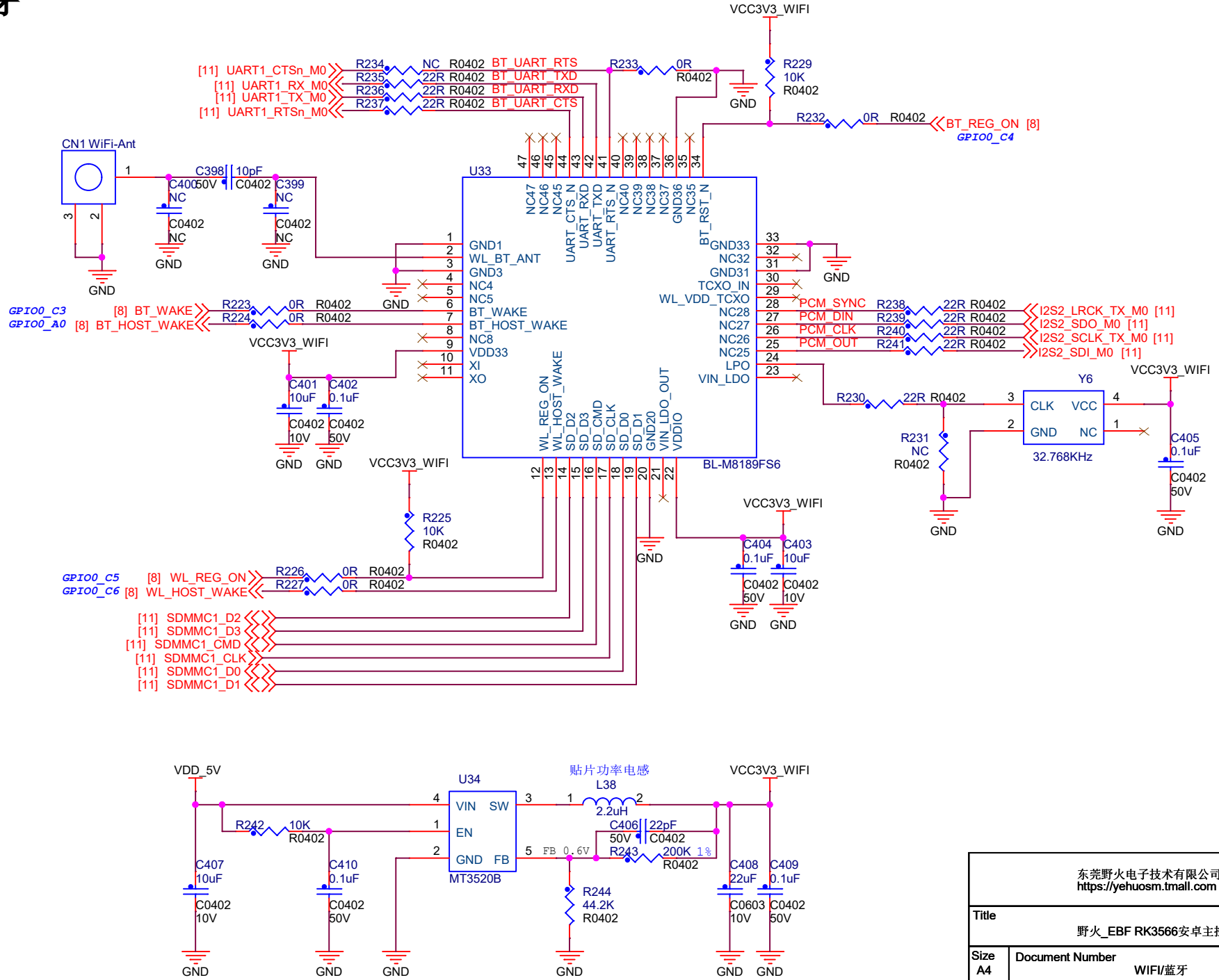


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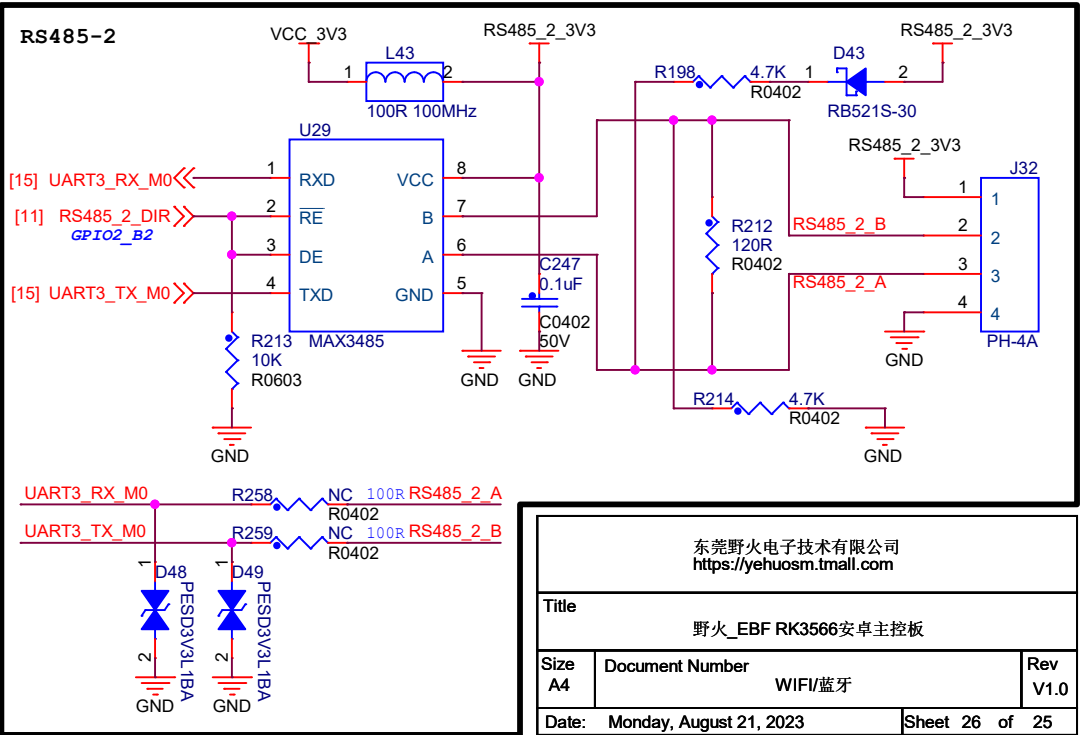
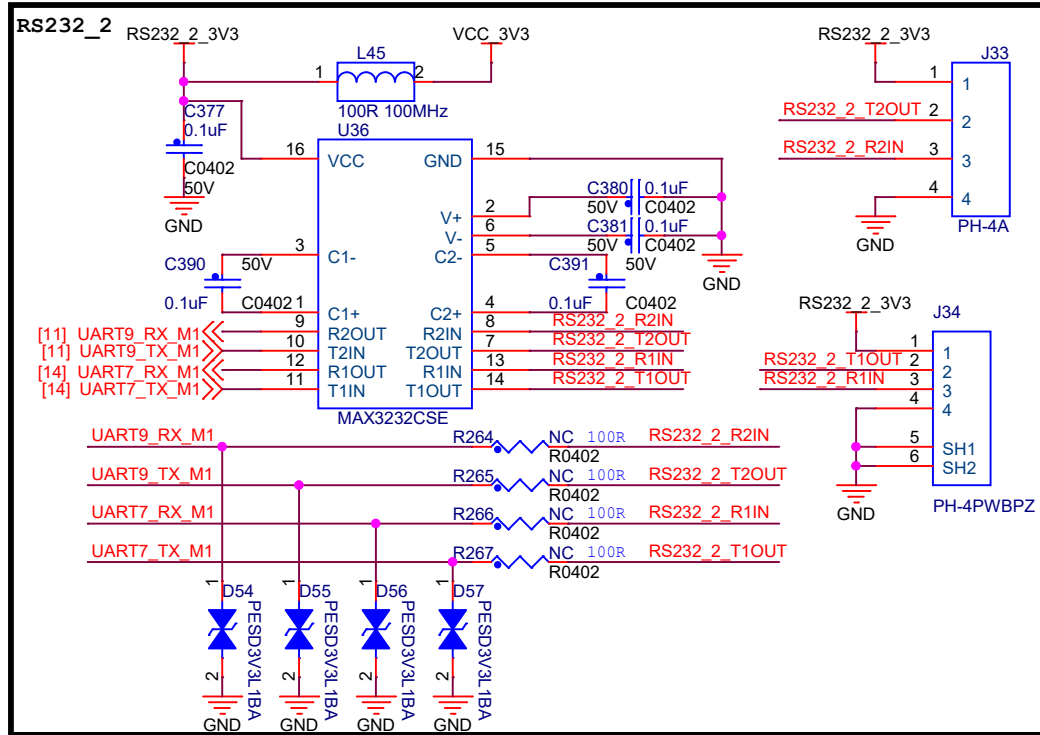
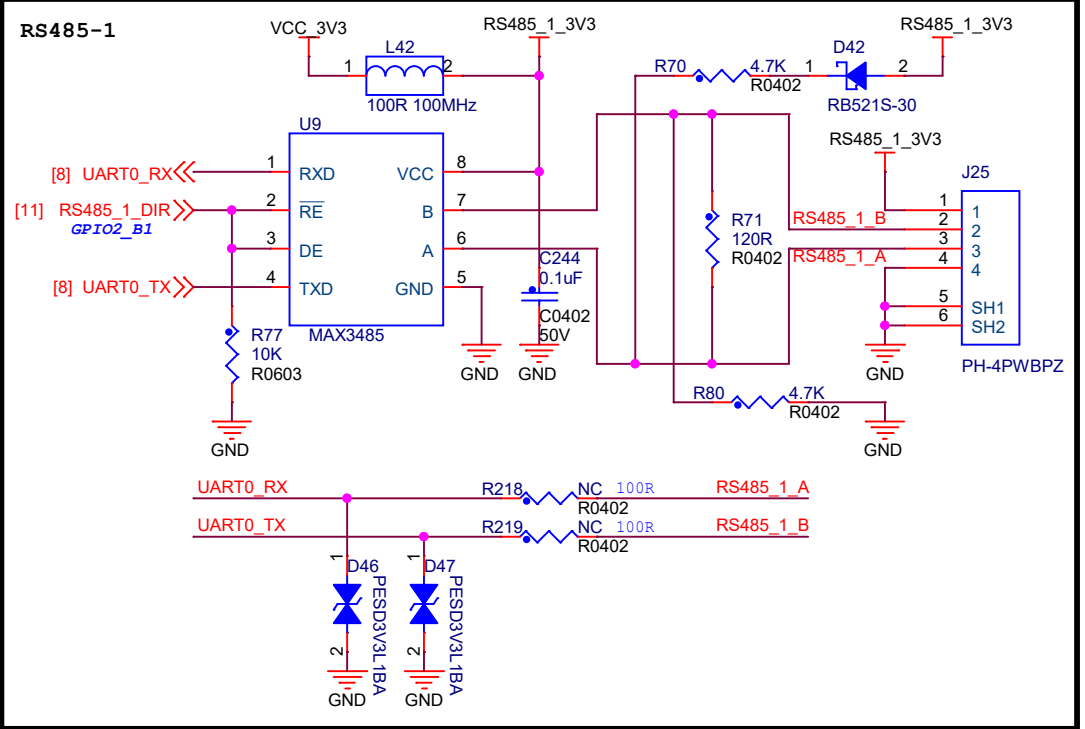
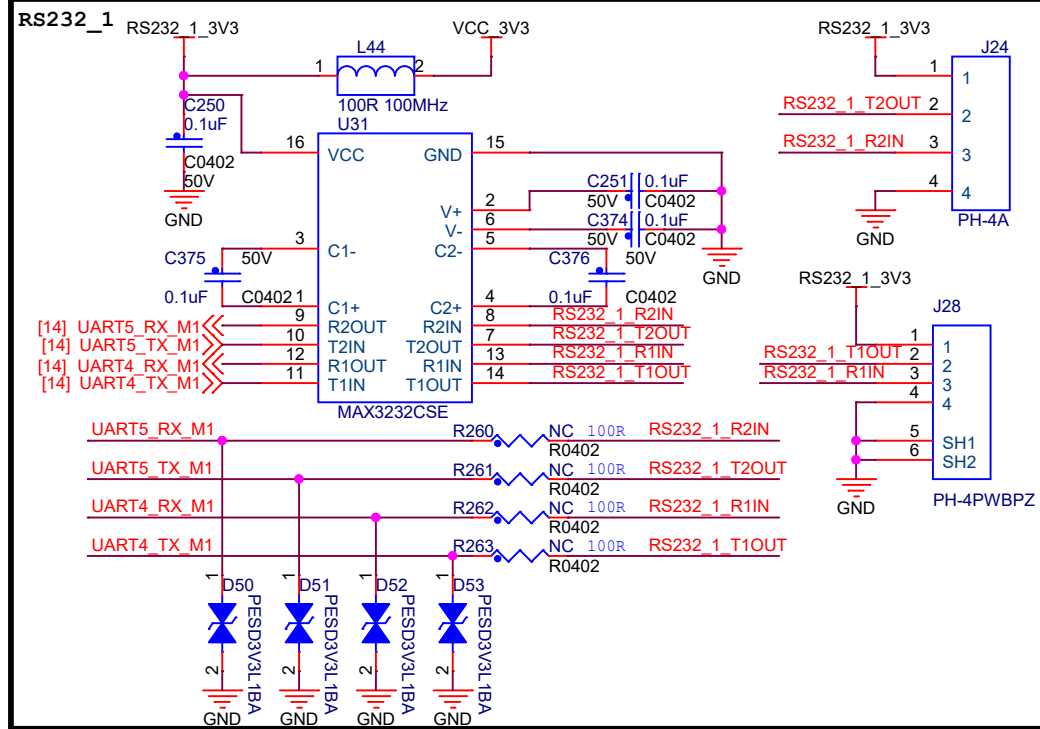
Title	野火_EBF RK3566安卓主控板	
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# WIFI/蓝牙



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