



# Radxa ROCK 3C

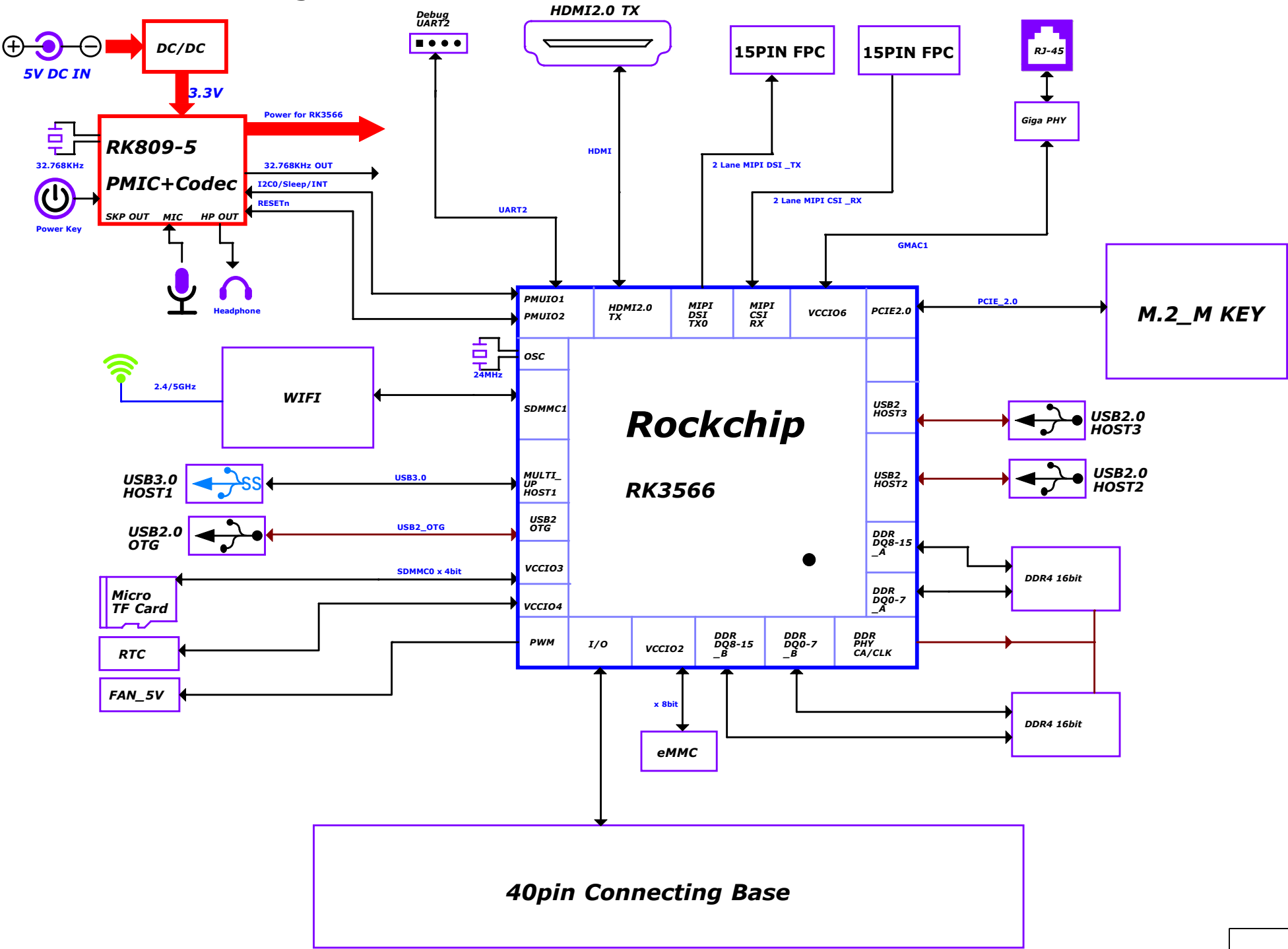
schematic

V1.4

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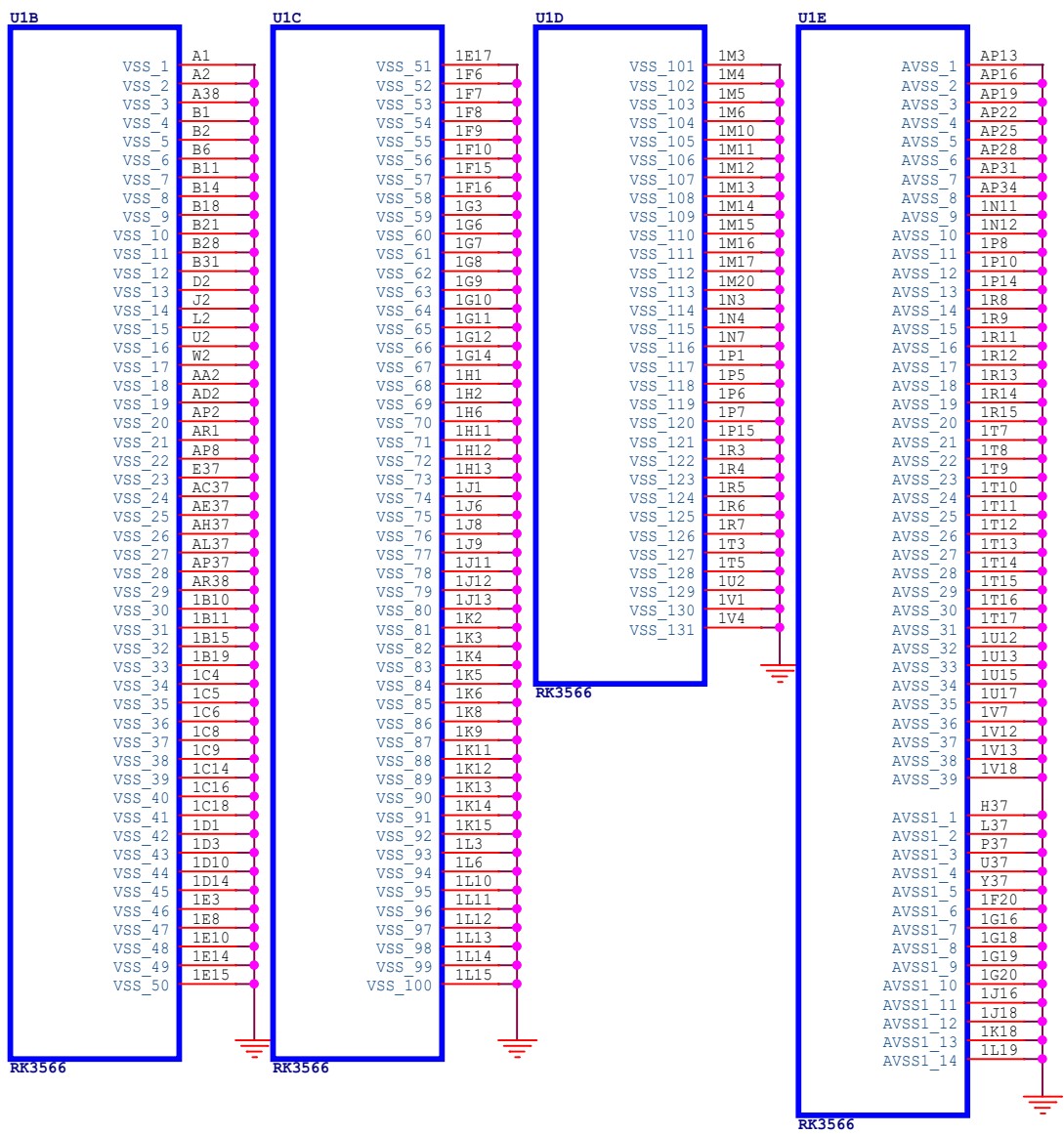
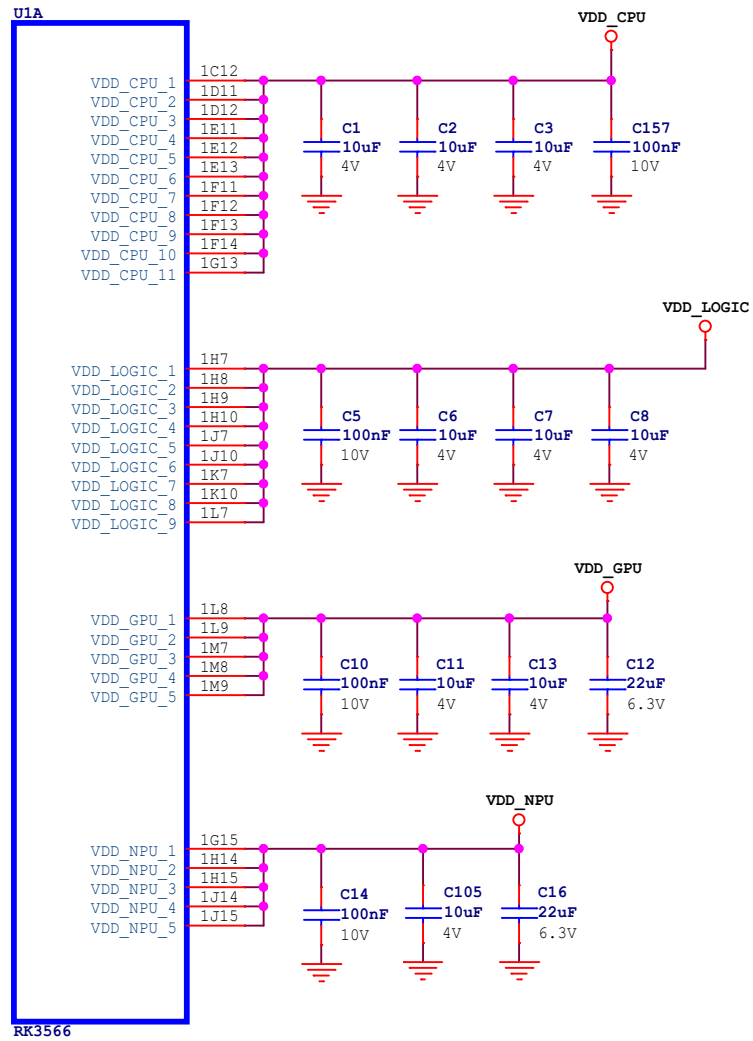
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ROCK 3C Ref Block Diagram

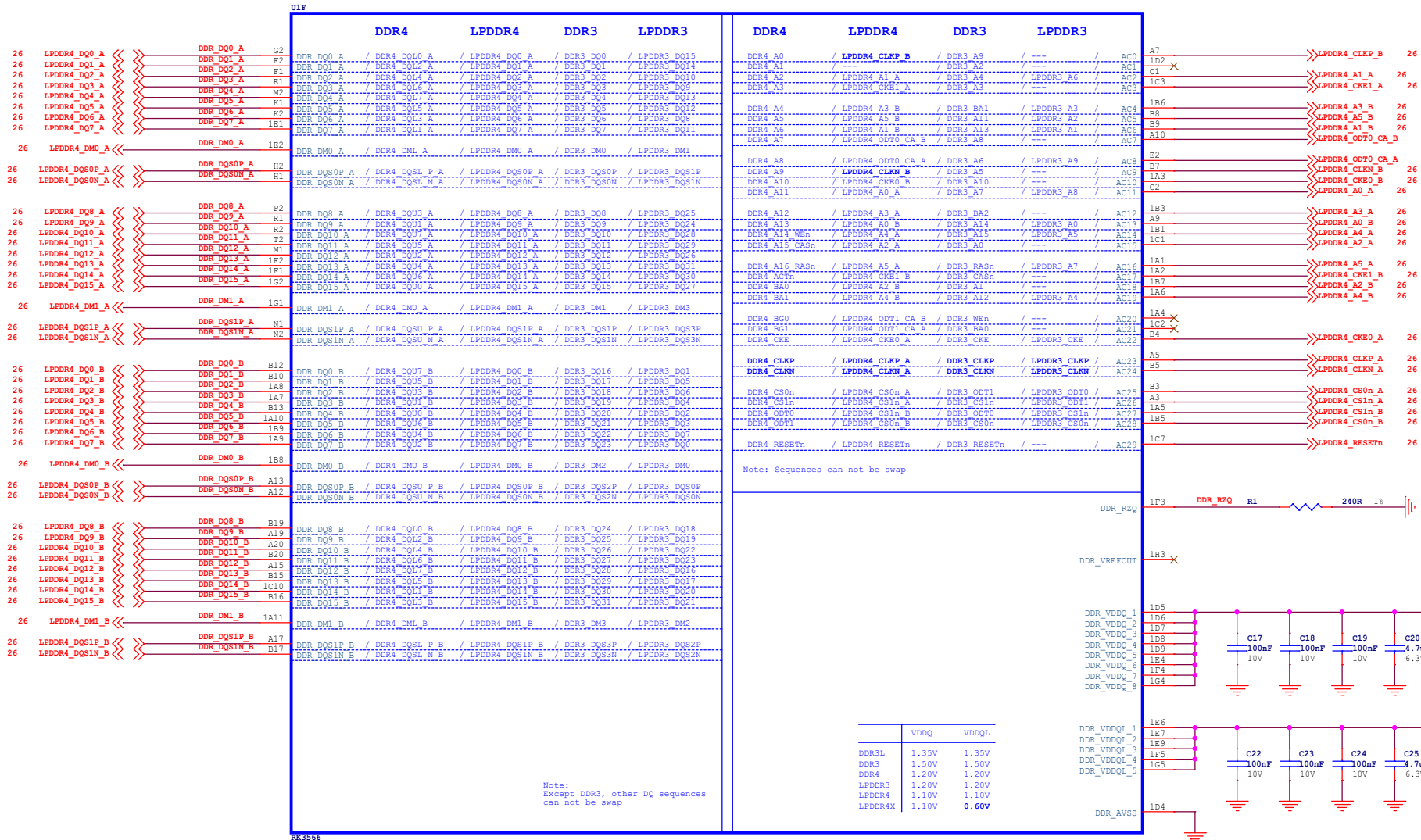


# RK3566\_ABCDE

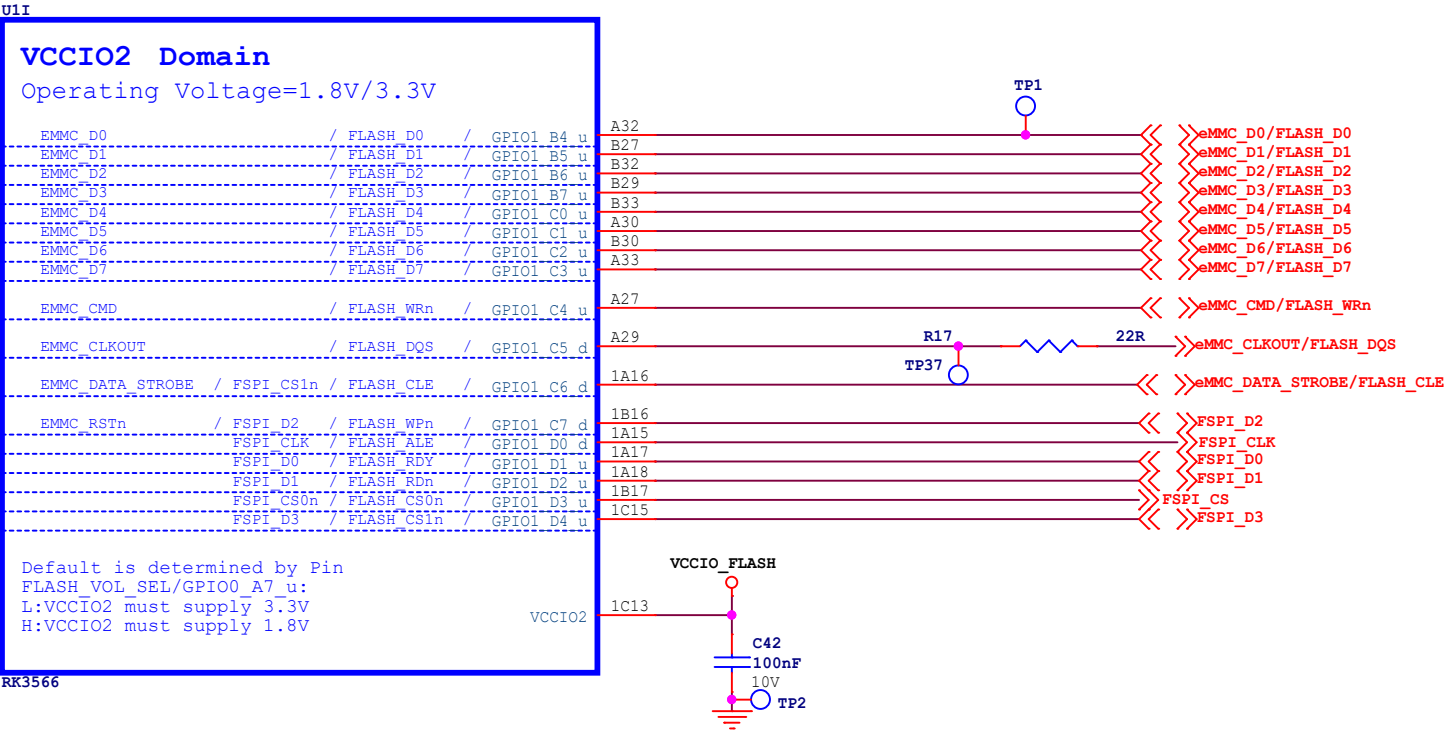
## (Power&GND)



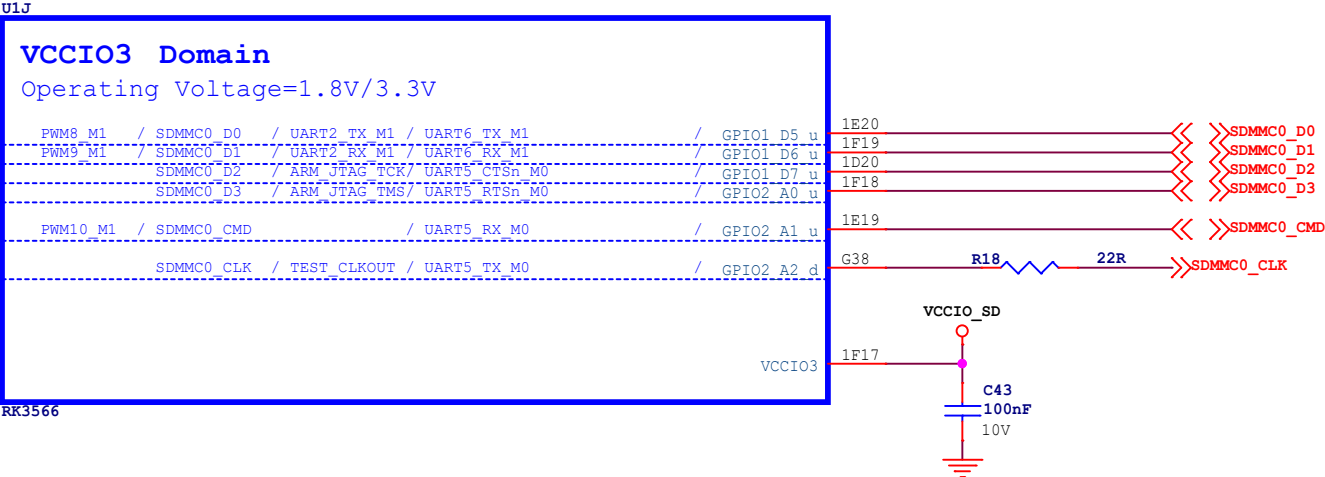
## RK3566 F (DDR PHY)



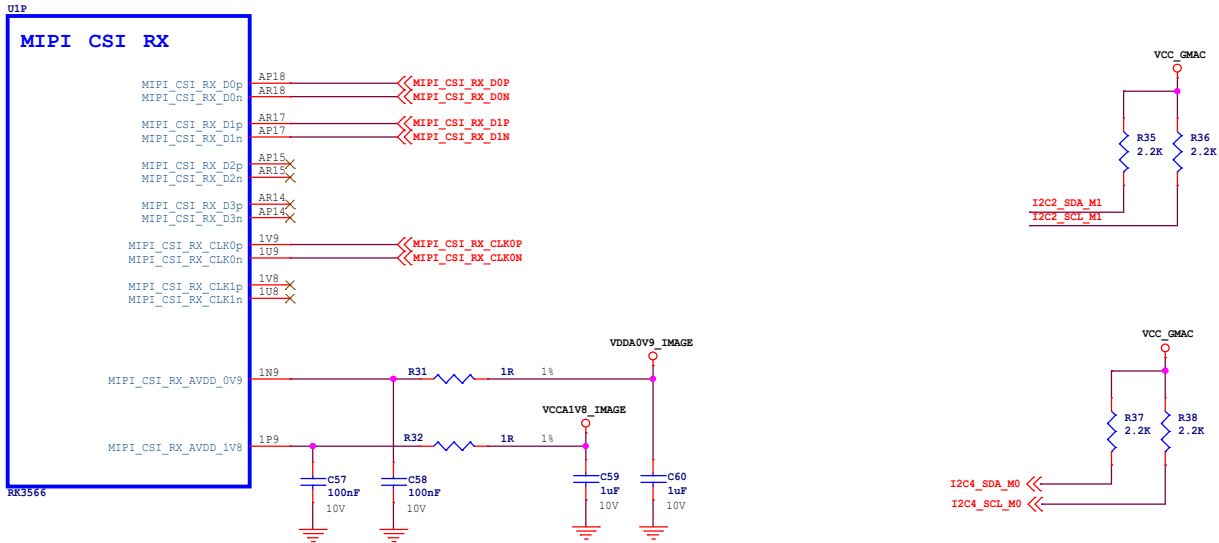
# RK3566\_I (VCCIO2 Domain)



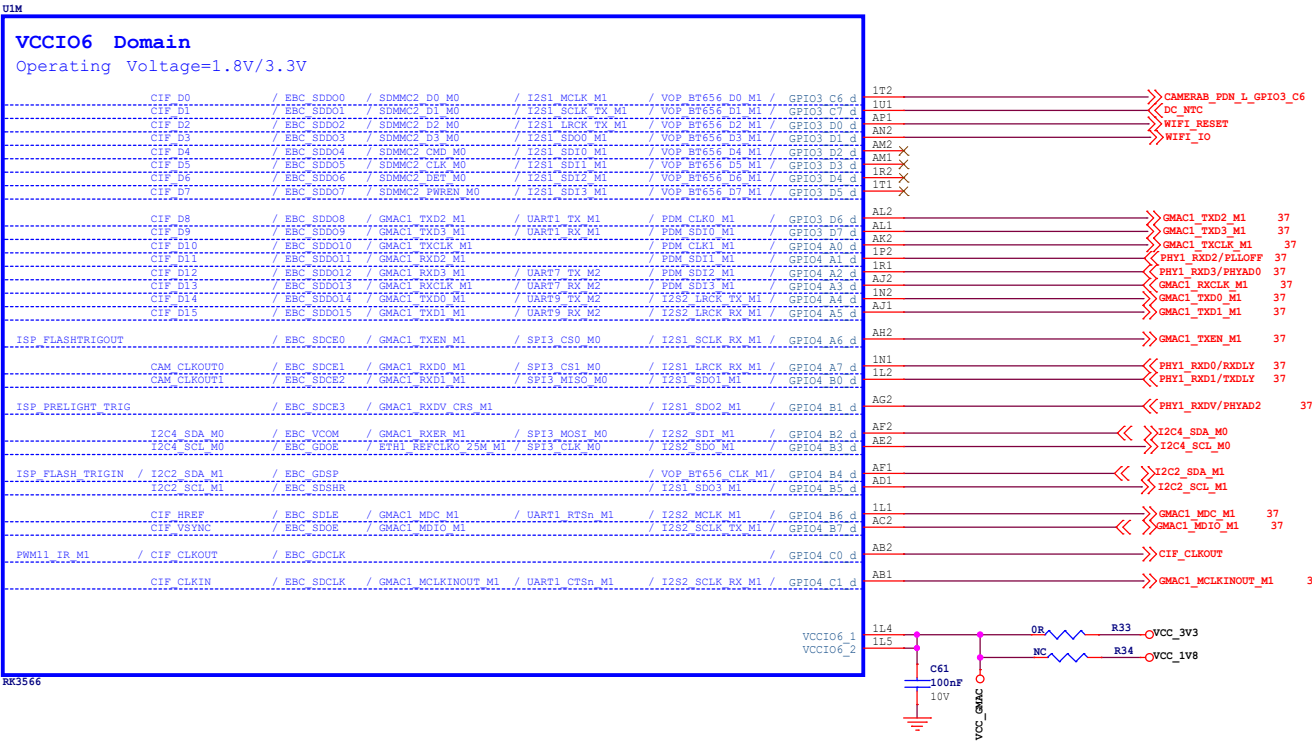
# RK3566\_J (VCCIO3 Domain)



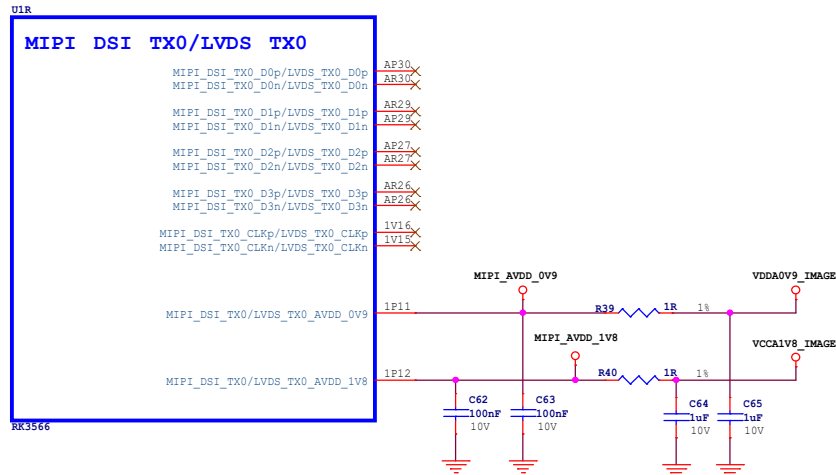
RK3566\_P (MIPI\_CSI\_RX)



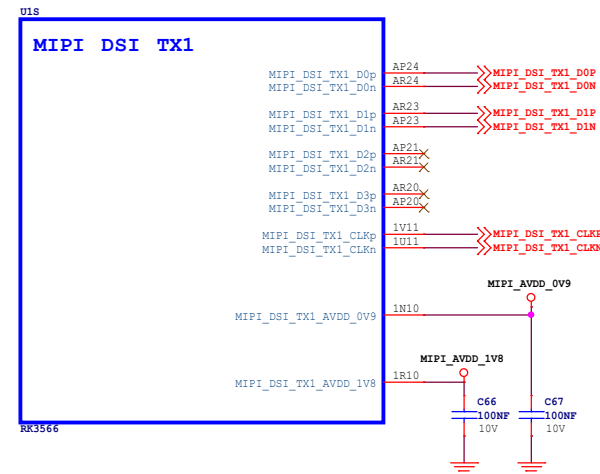
RK3566\_M (VCCIO6 Domain)



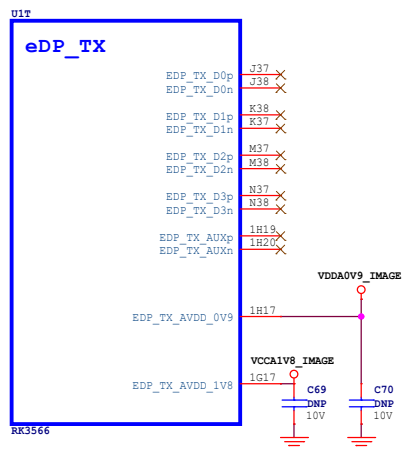
# RK3566\_R (MIPI\_DSI\_TX0/LVDS\_TX0)



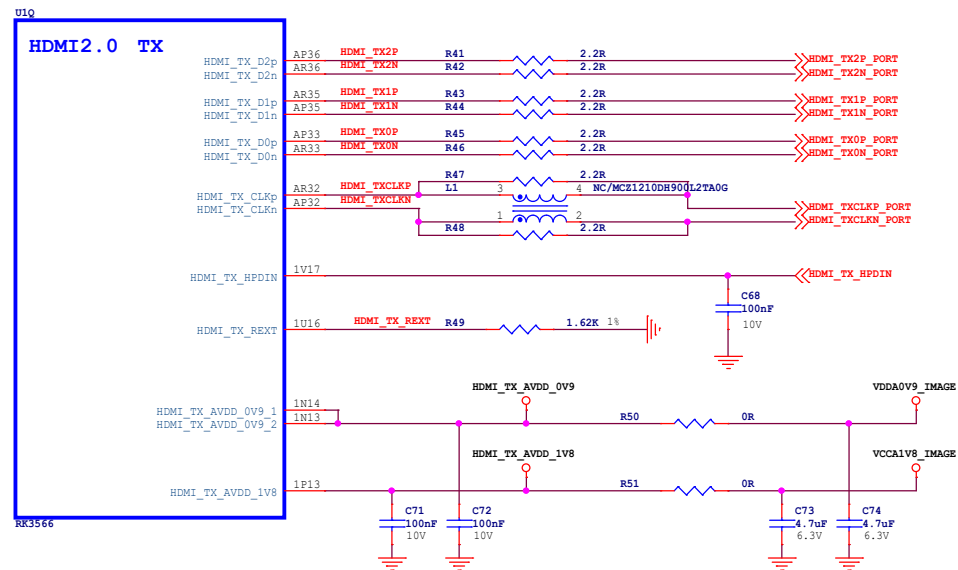
# RK3566\_S (MIPI\_DSI\_TX1/LVDS\_TX1)



# RK3566\_T (eDP/DP TX)



# RK3566\_Q (HDMI2.0 TX)



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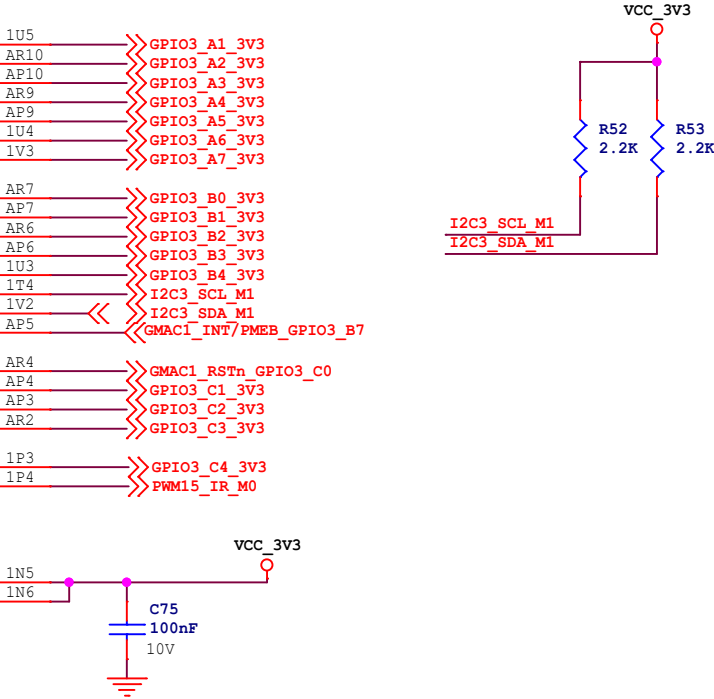
# RK3566\_L (VCCIO5 Domain)

U1L

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 D4 M1    | / GPIO3 A5 d |
| VOP BT1120 CLK |                  | / GMAC1 TXCLK M0      | / I2S3 SDI M0       | / SDMMC2 CLK M1   | / GPIO3 A6 d |
| VOP BT1120 D5  |                  | / 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 D9    | / 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 M0ST 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 D15   | / 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 |

RK3566



|                                              |                                  |     |
|----------------------------------------------|----------------------------------|-----|
| Size                                         | Title: ROCK 3C                   | REV |
| A4                                           | Page Name: RK3566_VO Interface_2 | 1.4 |
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# RK3566\_H (VCCIO1 Domain)

U1H

## VCCIO1 Domain

Operating Voltage=1.8V/3.3V

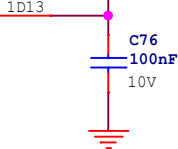
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|----------------------------------------------------------------------------|--|--|--|
| / I2C3 SDA M0 / UART3 RX M0 / AUDIOPWM LOUT p / GPIO1 A0 u                 |  |  |  |
| / I2C3 SCL M0 / UART3 TX M0 / AUDIOPWM LOUT n / GPIO1 A1 u                 |  |  |  |
| SCR CLK / I2S1 MCLK M0 / UART3 RTSn M0 / GPIO1 A2 d                        |  |  |  |
| SCR IO / I2S1 SCLK TX M0 / UART3 CTSn M0 / GPIO1 A3 d                      |  |  |  |
| I2S1 SCLK RX M0 / UART4 RX M0 / PDM CLK1 M0 / SPDIF TX M0 / GPIO1 A4 d     |  |  |  |
| SCR RST / I2S1 LRCK TX M0 / UART4 RTSn M0 / GPIO1 A5 d                     |  |  |  |
| I2S1 LRCK RX M0 / UART4 TX M0 / PDM CLK0 M0 / AUDIOPWM ROUT p / GPIO1 A6 d |  |  |  |
| SCR DET / I2S1 SDO0 M0 / UART4 CTSn M0 / AUDIOPWM ROUT n / GPIO1 A7 d      |  |  |  |
| I2S1 SDO1 M0 / I2S1 SDI3 M0 / PDM SDI3 M0 / PCIE20 CLKREQn M2 / GPIO1 B0 d |  |  |  |
| I2S1 SDO2 M0 / I2S1 SDI2 M0 / PDM SDI2 M0 / PCIE20 WAKEn M2 / GPIO1 B1 d   |  |  |  |
| I2S1 SDO3 M0 / I2S1 SDI1 M0 / PDM SDI1 M0 / PCIE20 PERSTn M2 / GPIO1 B2 d  |  |  |  |
| I2S1 SDI0 M0 / PDM SDI0 M0 / GPIO1 B3 d                                    |  |  |  |

RK3566

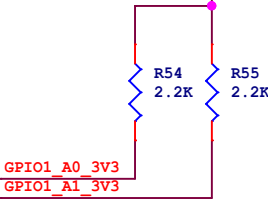
VCCIO1

|      |                                   |
|------|-----------------------------------|
| A22  | >> GPIO1_A0_3V3                   |
| B22  | >> GPIO1_A1_3V3                   |
| A23  | >> I2S1_MCLK_M0_RK809             |
| B23  | >> I2S1_SCLK_TX_M0_RK809          |
| 1A13 | >> GPIO1_A4                       |
| B24  | >> I2S1_LRCK_TX_M0_RK809          |
| 1A14 | >> PDM_CLK0_M0_RK809              |
| B25  | >> I2S1_SDO0_M0_RK809             |
| 1B13 | >> PCIE20_CLKREQn_M2              |
| A26  | >> PCIE20_WAKEn_M2                |
| B26  | >> PCIE20_PERSTn_M2               |
| 1B14 | >> I2S1_SDIO_M0/PDM_SDIO_M0_RK809 |

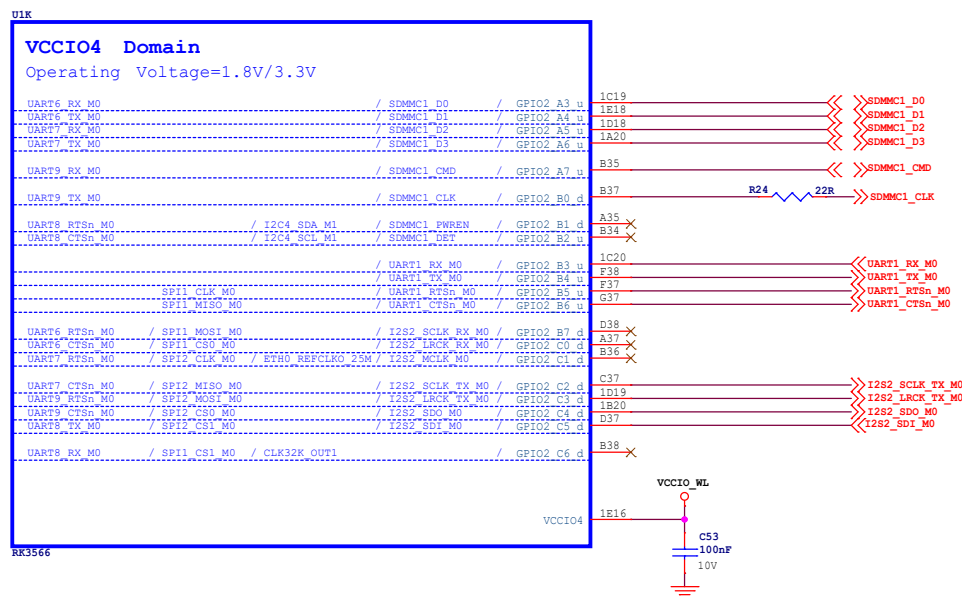
VCCIO\_ACODEC



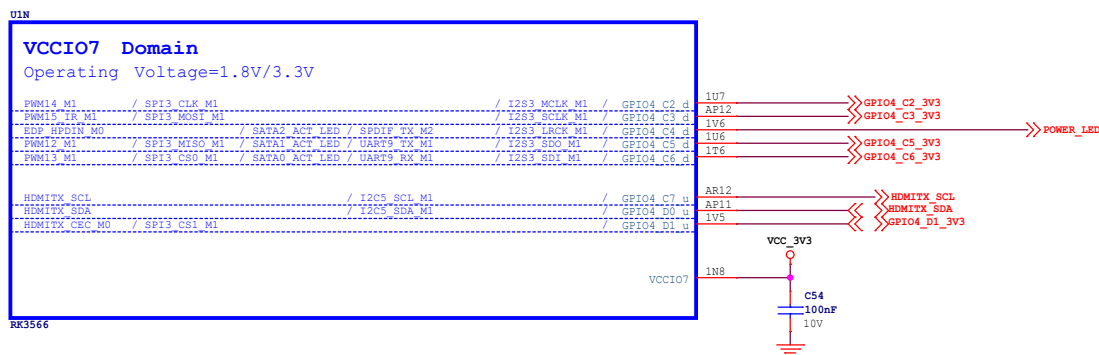
VCCIO\_ACODEC



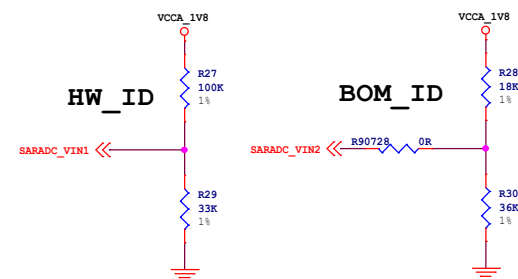
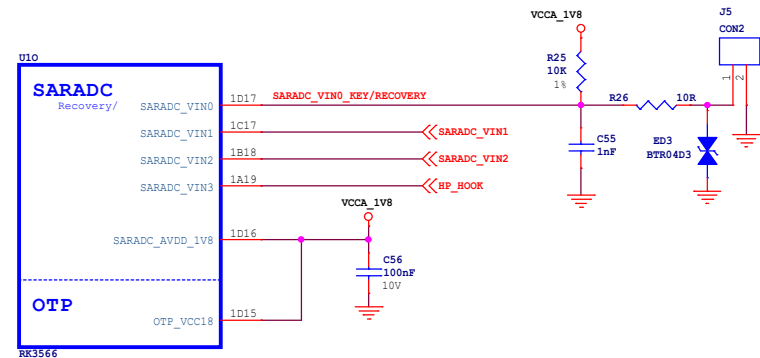
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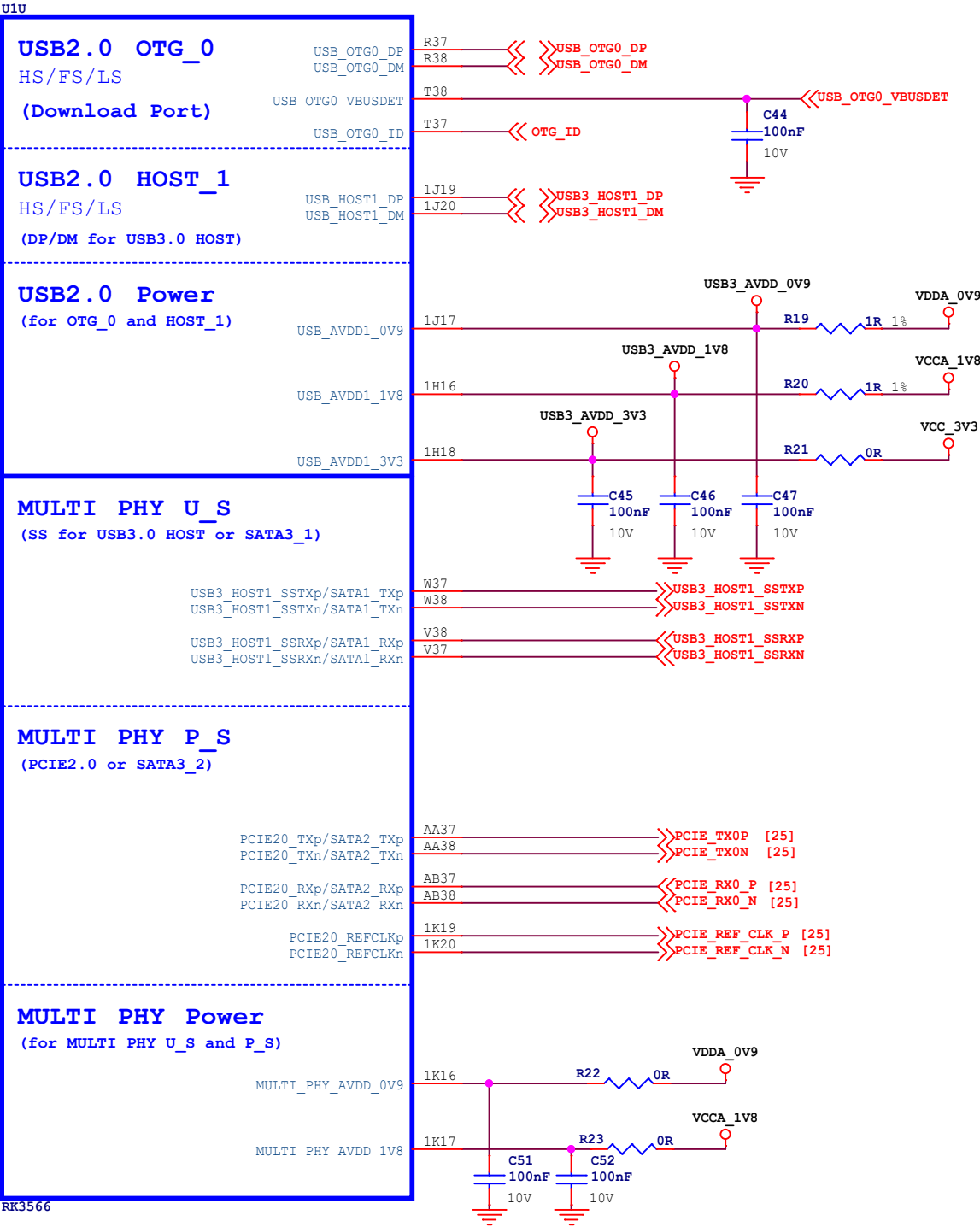
## RK3566 N (VCCI07 Domain)



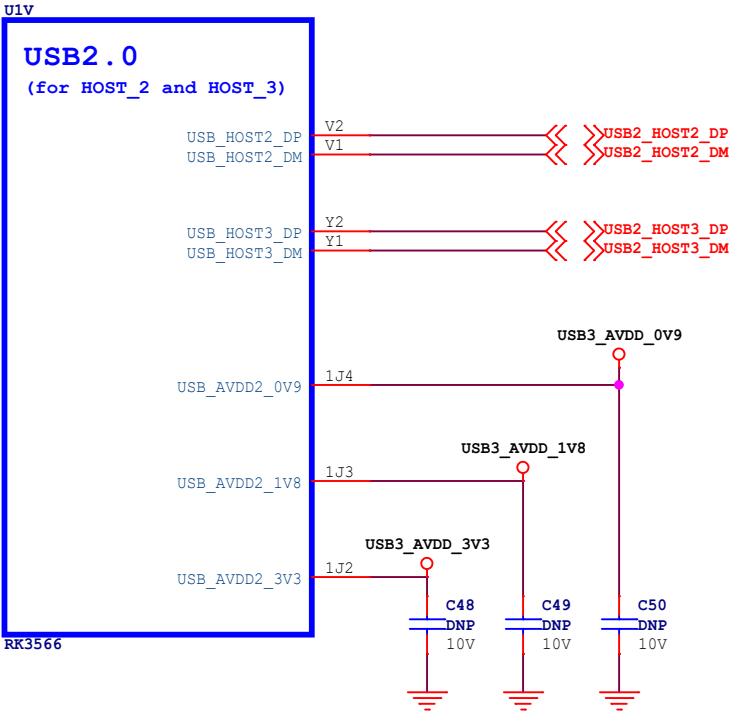
**RK3566 O (SARADC/OTP)**



# RK3566\_U (USB3.0/SATA/QSGMII/PCIE2.0 x1)

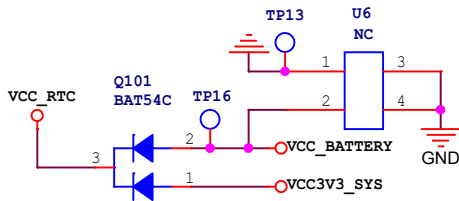


# RK3566\_V (USB2.0 HOST)

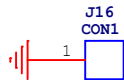
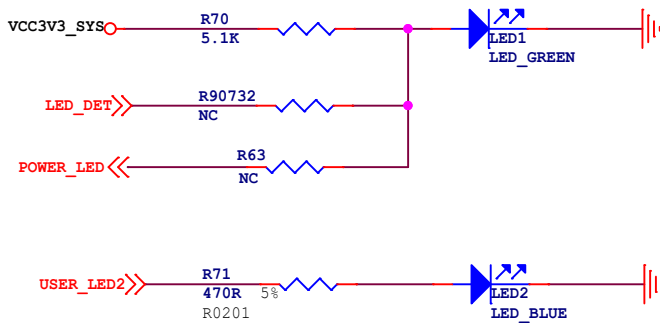




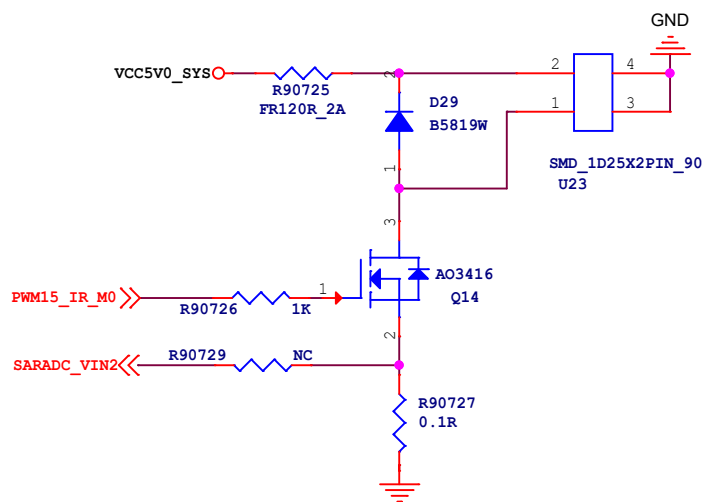
# RTC



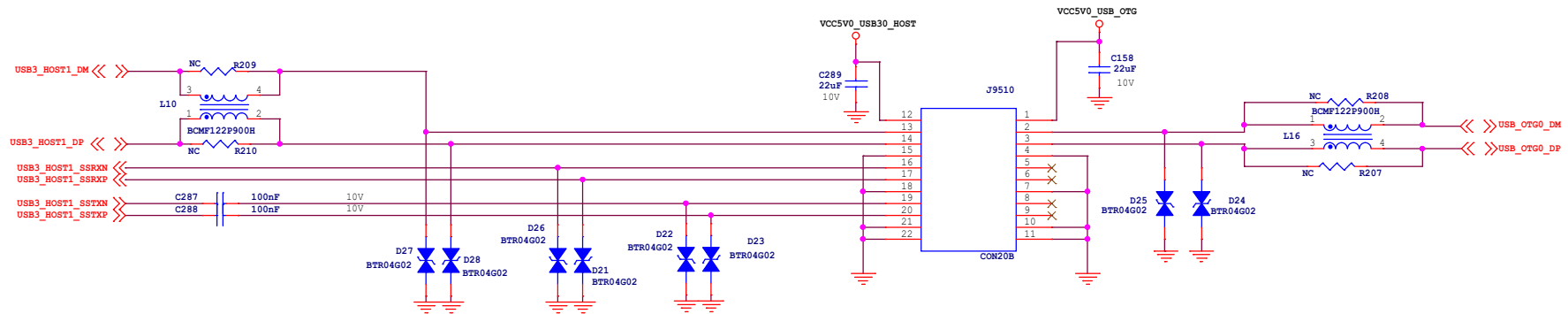
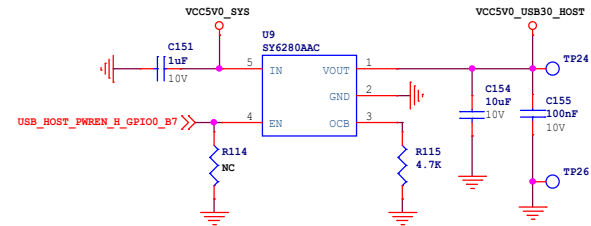
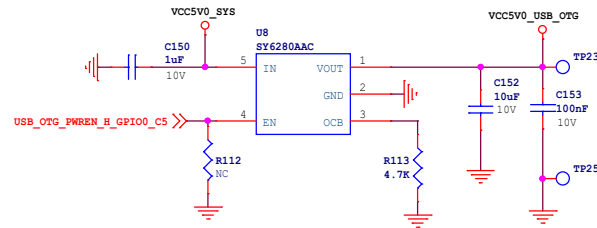
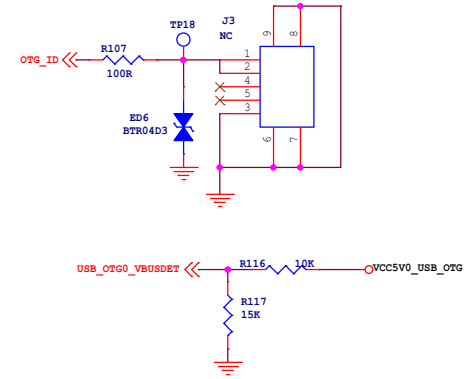
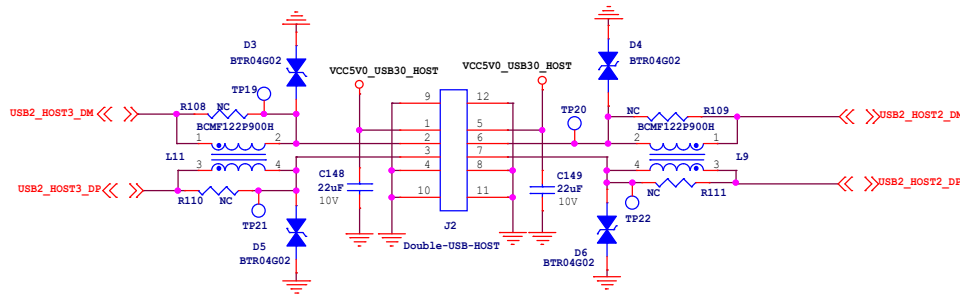
# LED



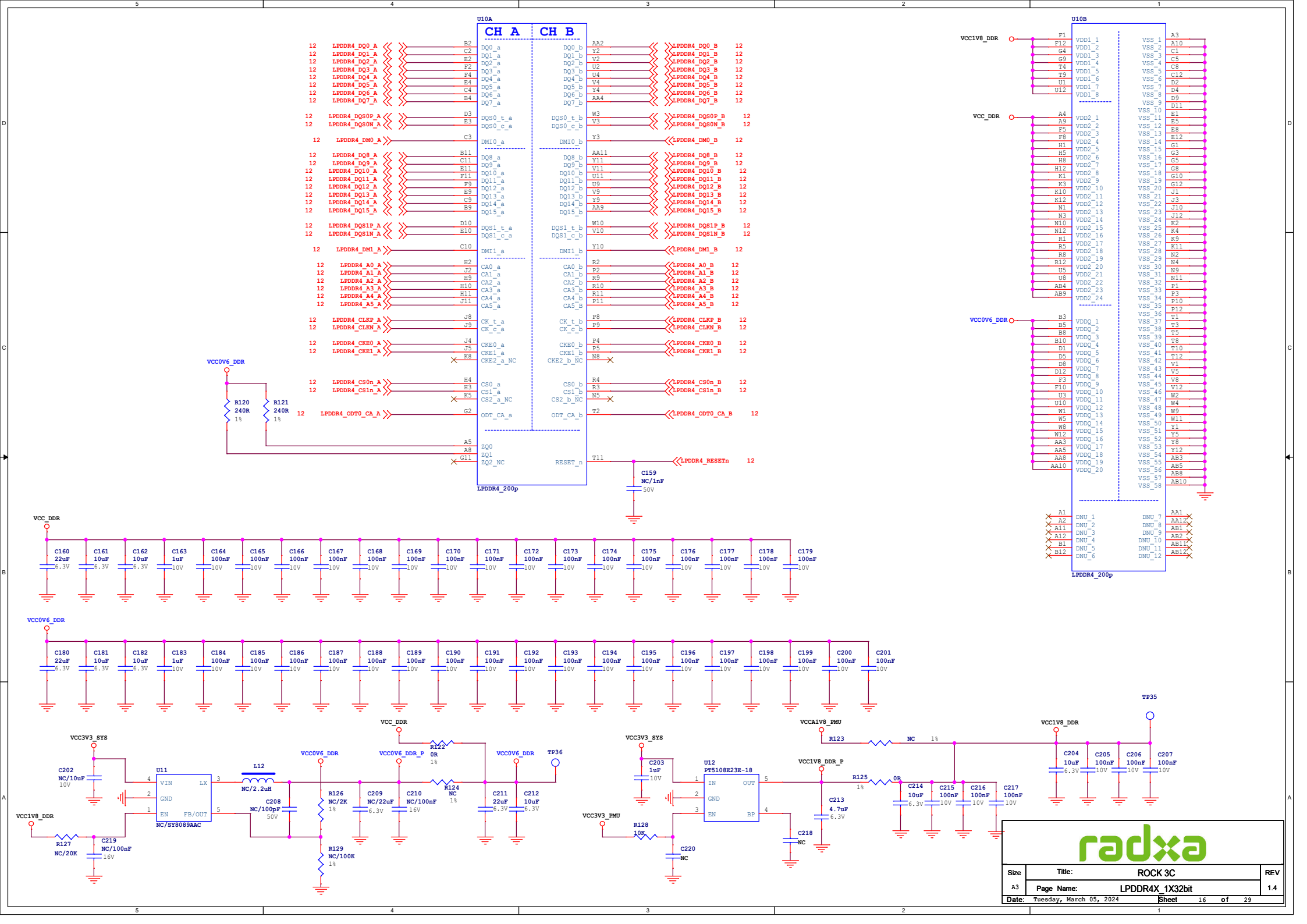
# FAN



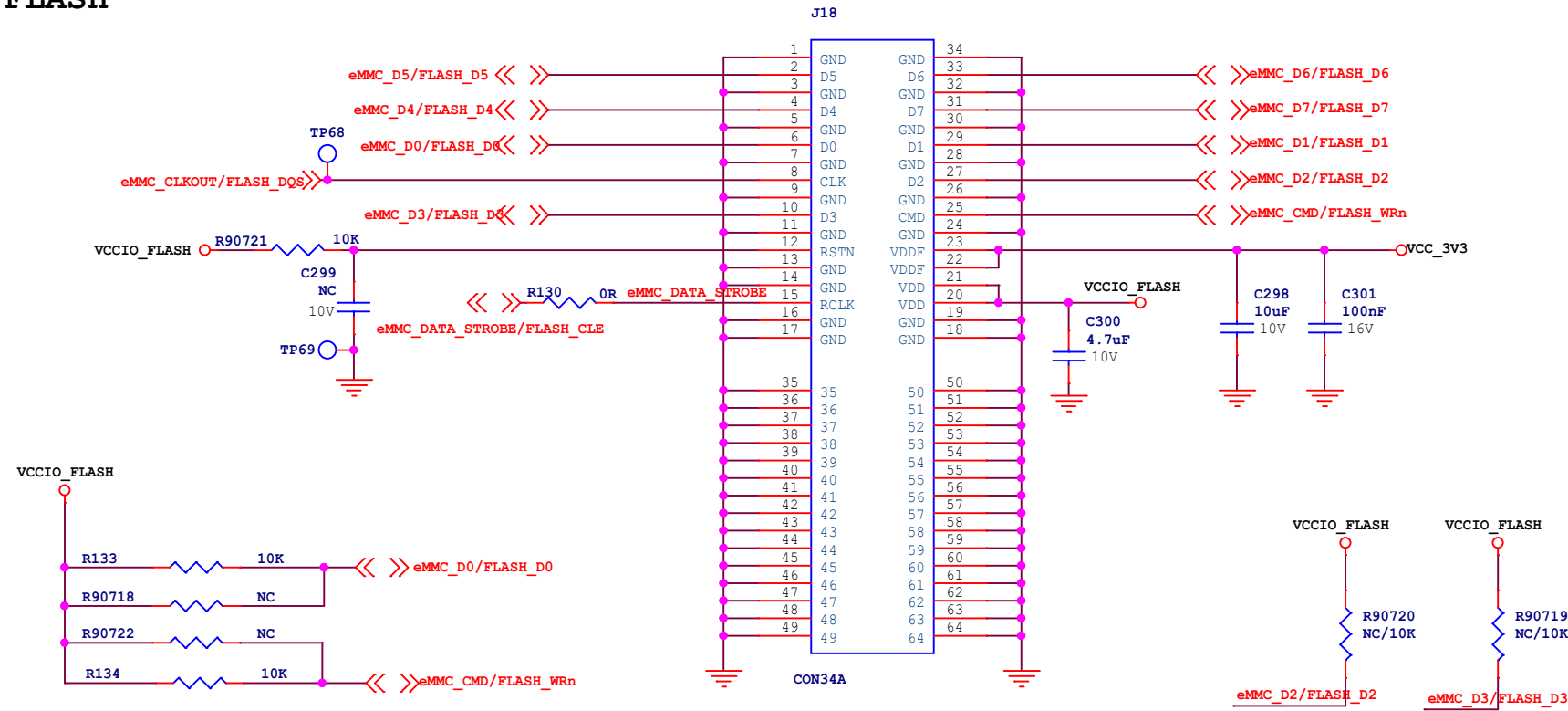
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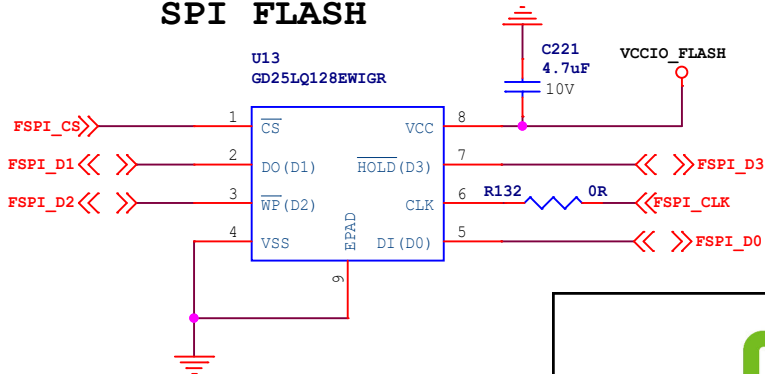
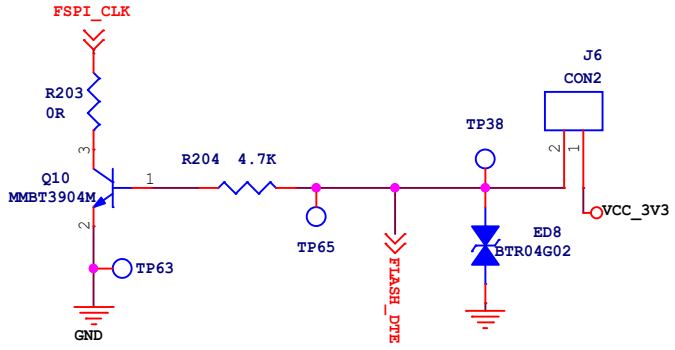
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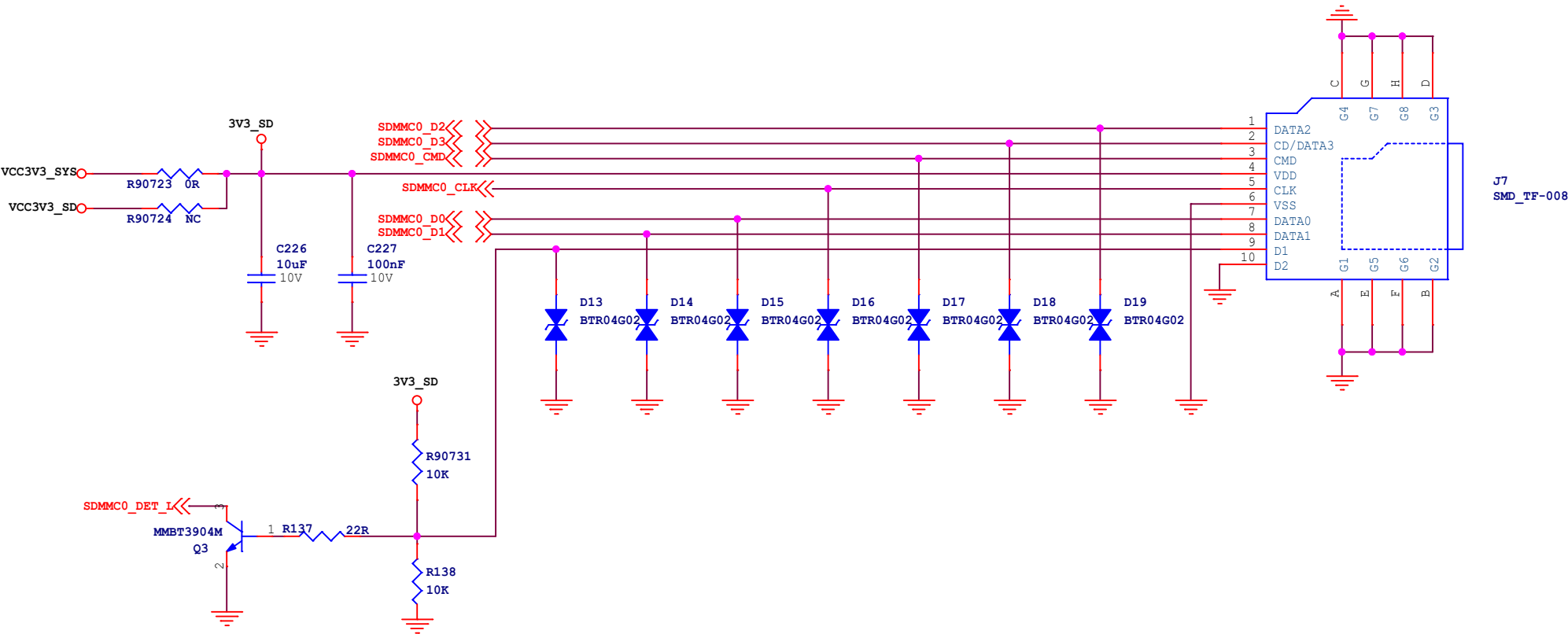
EMMC FLASH



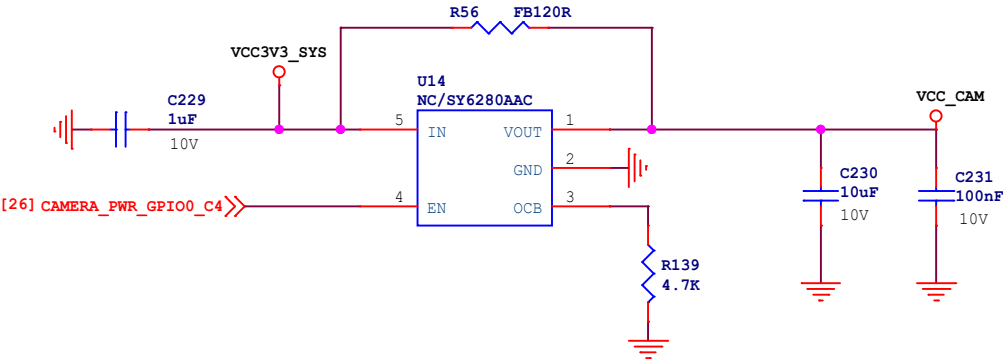
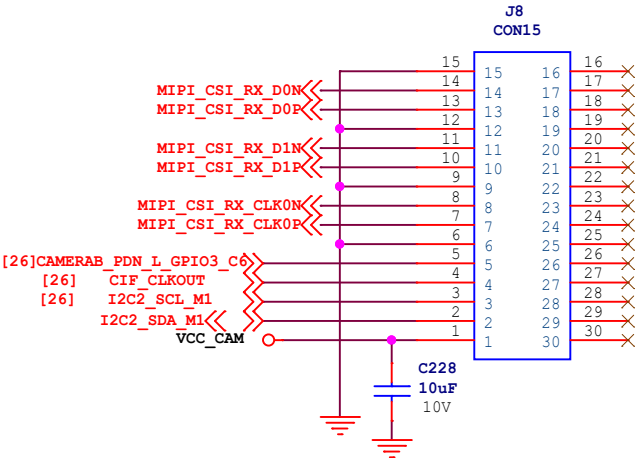
SPI FLASH

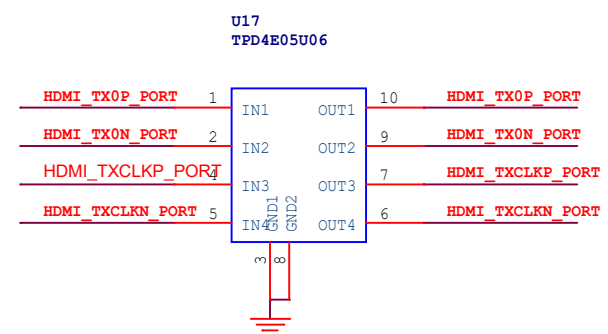
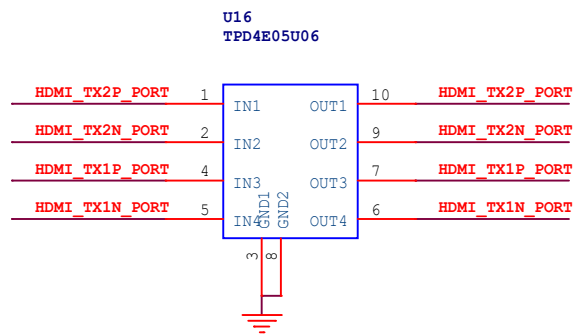
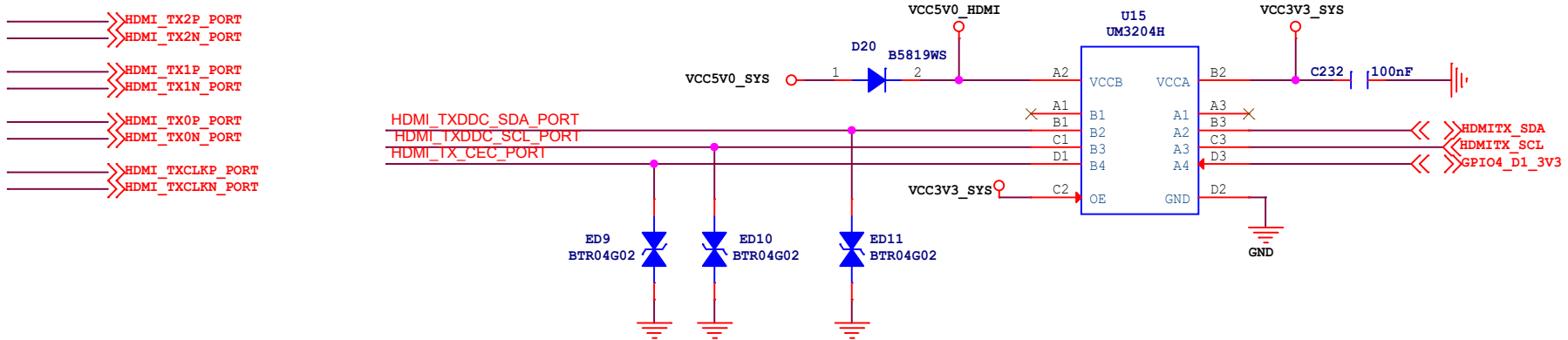


MicroSD Card

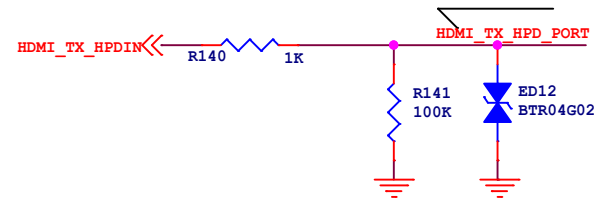
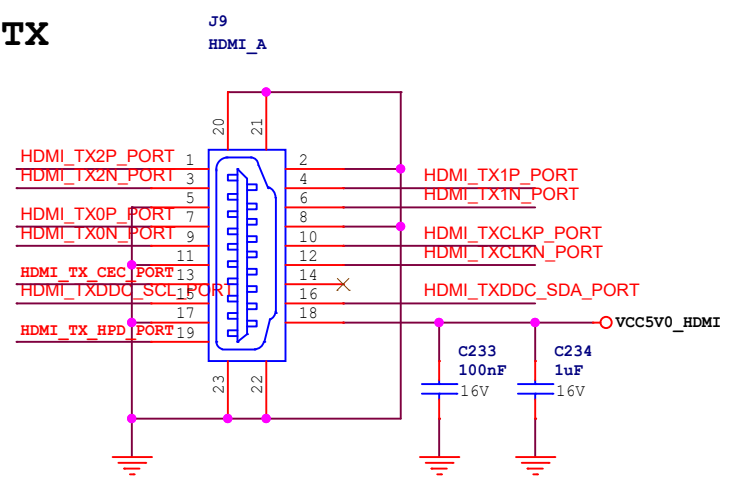


MIPI CSI



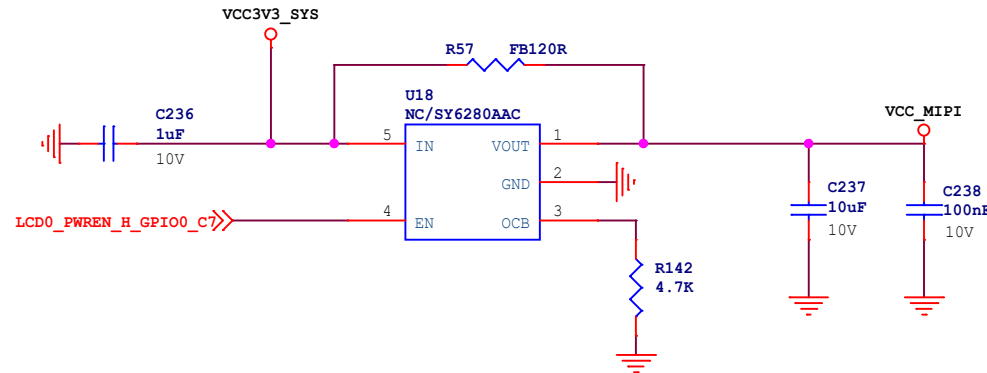
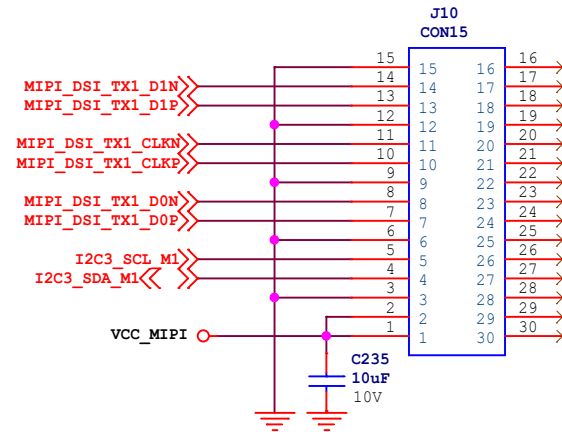


HDMI TX



|       |  |  |                         |            |          |
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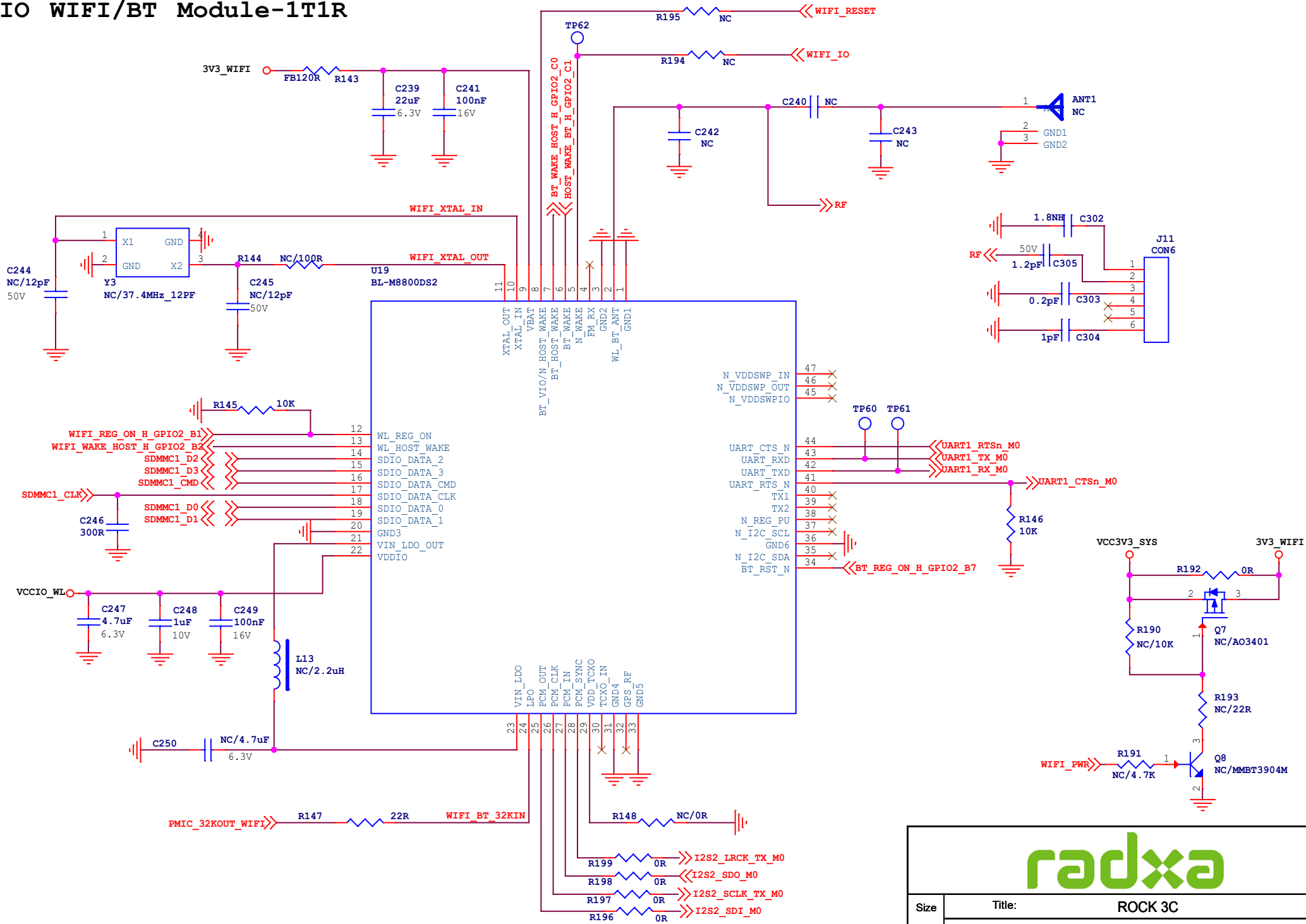
# MIPI DSI



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| A4                                           | Page Name: MIPI-DSI | 1.4 |
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SDIO WIFI/BT Module-1T1R



|                               |                         |     |
|-------------------------------|-------------------------|-----|
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| A4                            | Page Name: WIFI/BT-SDIO | 1.4 |
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5 4 3 2 1

# Headphone

D

C

B

A

J14

PJ322

1

5

4

3

2

R90709  
0R

R90706  
0R

HP\_SNS

ED17  
BTR04D3

C292  
10nF/25V

MIC1P

0.1uF/10V C291

2K2 R221

VCCA\_1V8

10K R219

R218  
10K

C293  
10nF/25V

HP\_HOOK

10K R222

FB120R R62

HPL

FB120R R61

HPR

ED18  
BTR04D3

C83  
82PF

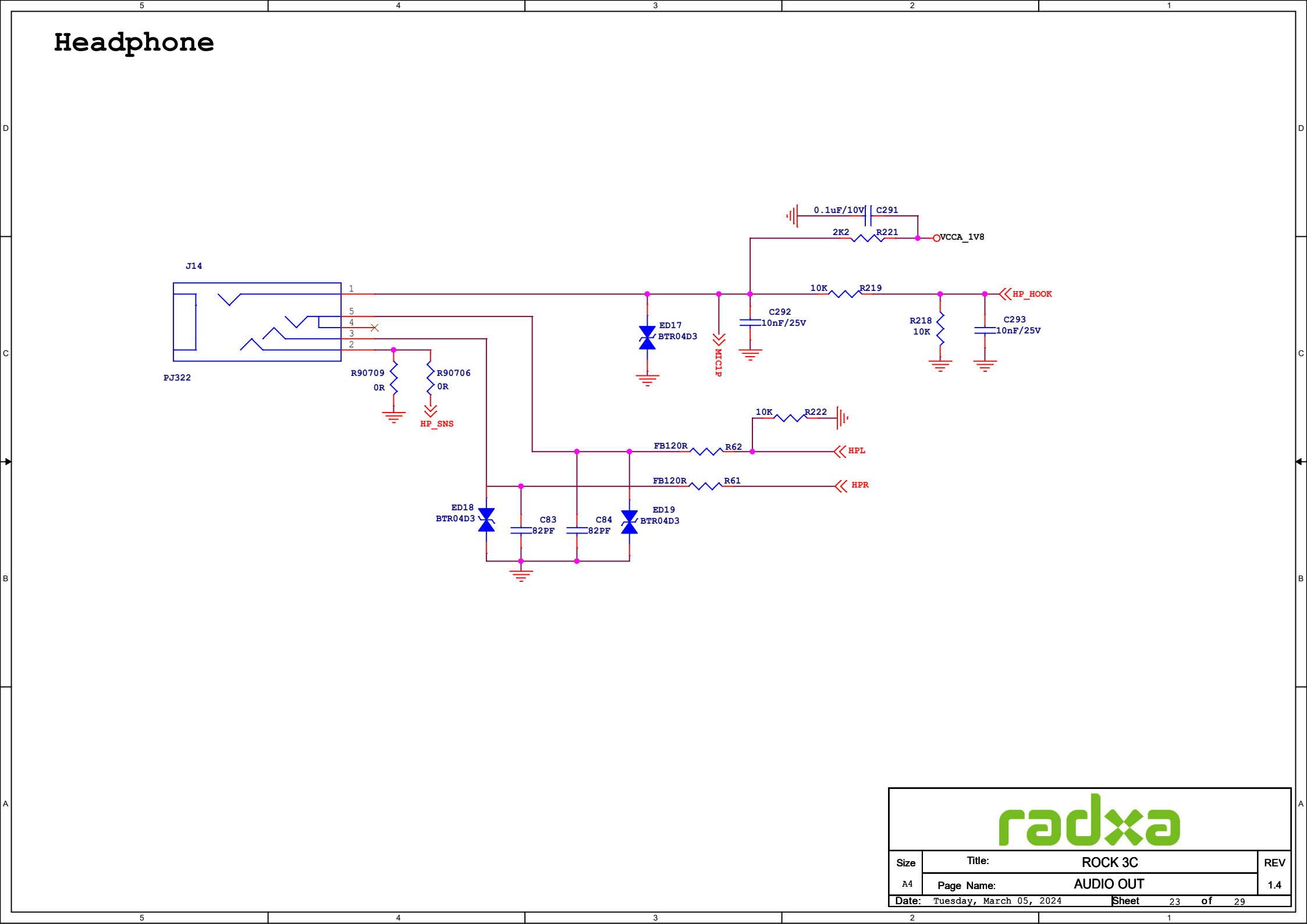
C84  
82PF

ED19  
BTR04D3



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|----------------------------------------------|----------------------|-----|
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| A4                                           | Page Name: AUDIO OUT | 1.4 |
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5 4 3 2 1



5 4 3 2 1

# Headphone

D

C

B

A

J14

PJ322

1

5

4

3

2

R90709  
0R

R90706  
0R

HP\_SNS

ED17  
BTR04D3

C292  
10nF/25V

MIC1P

0.1uF/10V C291

2K2 R221

VCCA\_1V8

10K R219

R218  
10K

C293  
10nF/25V

HP\_HOOK

10K R222

FB120R R62

HPL

FB120R R61

HPR

ED18  
BTR04D3

C83  
82PF

C84  
82PF

ED19  
BTR04D3



|                                              |                      |     |
|----------------------------------------------|----------------------|-----|
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5 4 3 2 1

5 4 3 2 1

# Headphone

D

C

B

A

J14

PJ322

1 5 4 3 2

R90709 0R

R90706 0R

HP\_SNS

ED17 BTR04D3

MIC1P

C292 10nF/25V

0.1uF/10V C291

2K2 R221

VCCA\_1V8

10K R219

R218 10K

C293 10nF/25V

HP\_HOOK

FB120R R62

10K R222

HPL

FB120R R61

HPR

ED18 BTR04D3

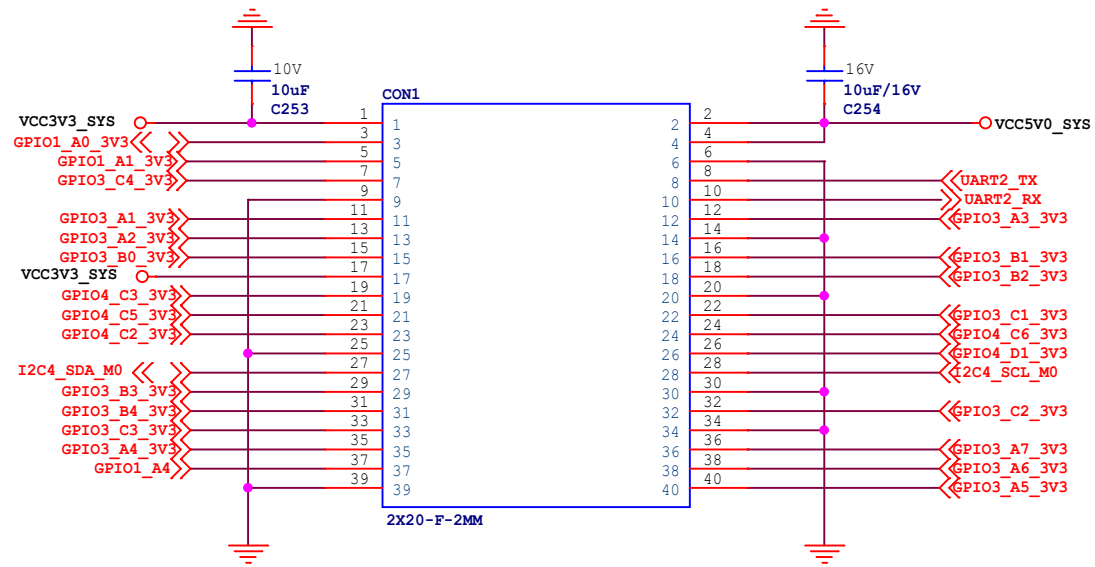
C83 82PF

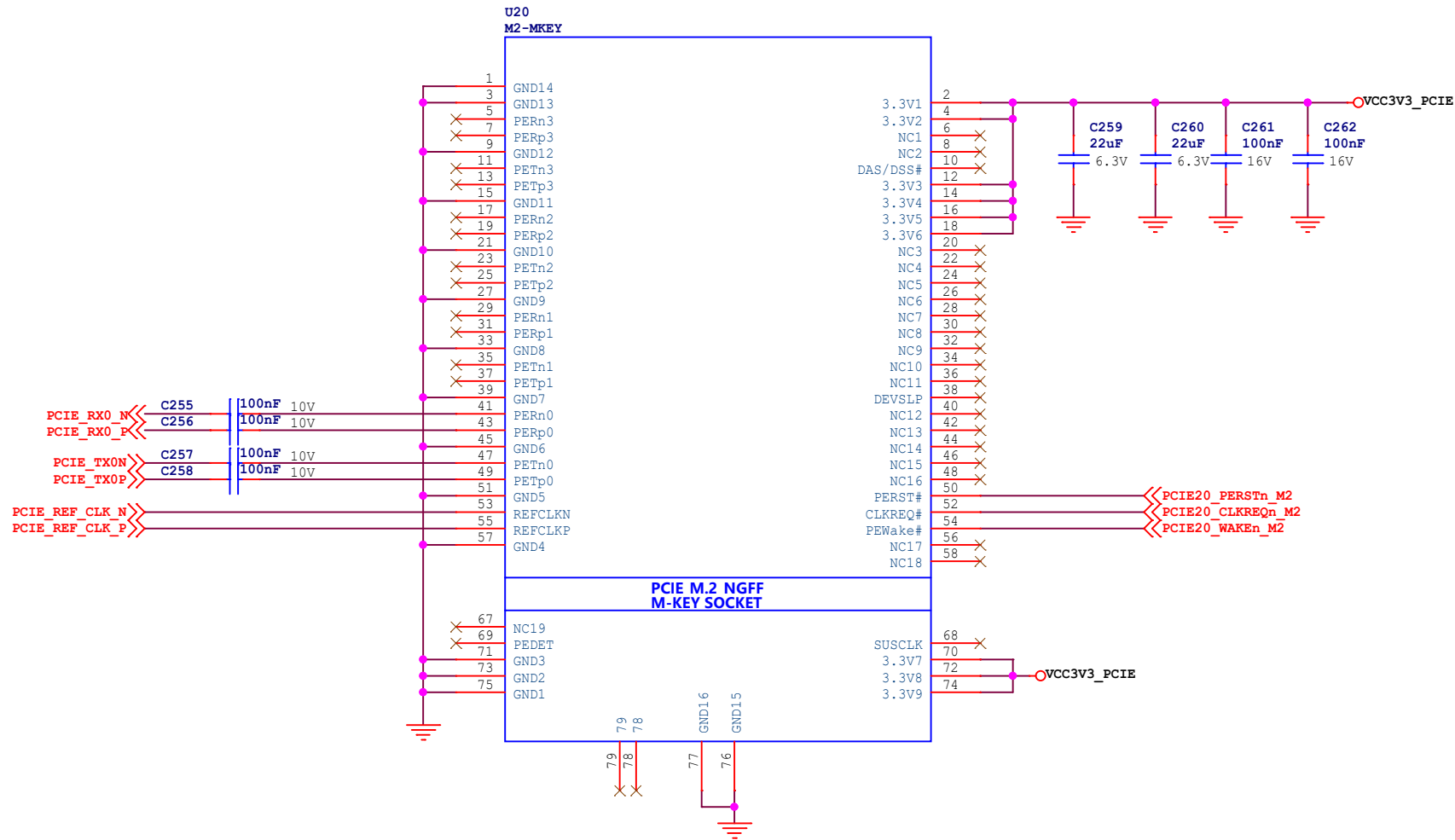
C84 82PF

ED19 BTR04D3

|                               |                      |     |
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5 4 3 2 1



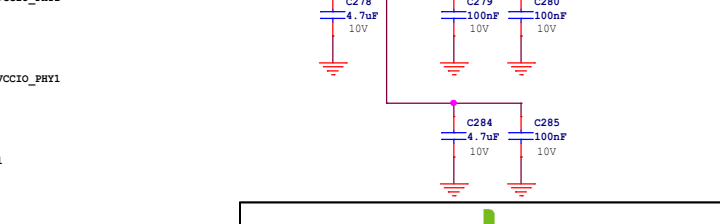
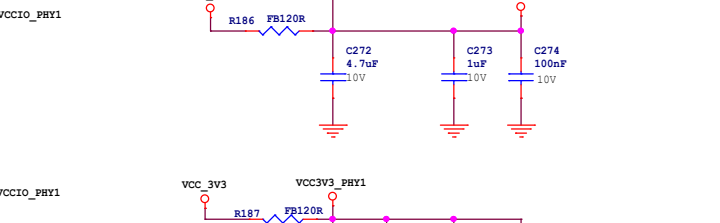
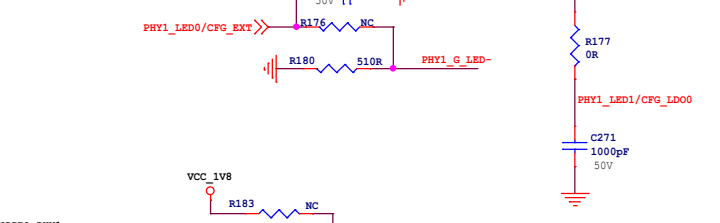
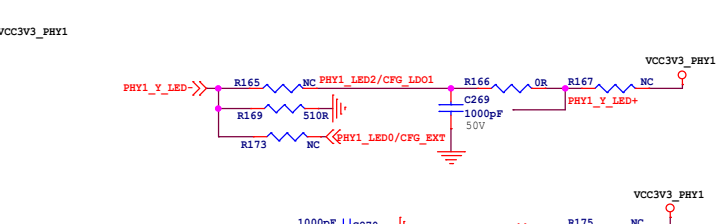
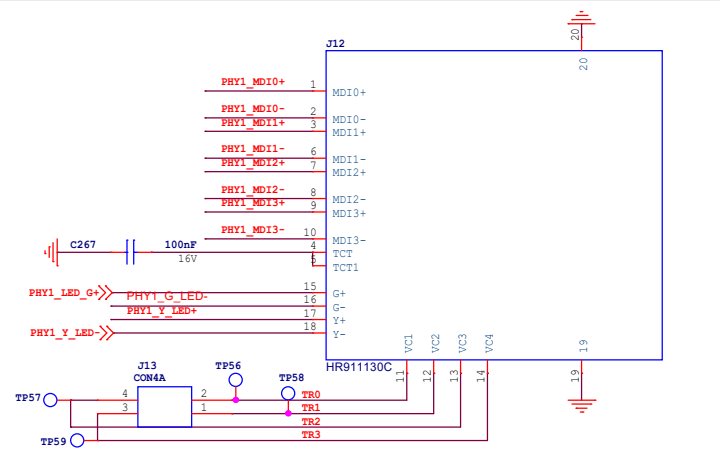
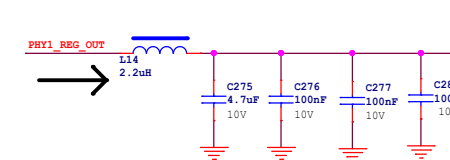
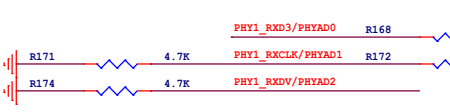
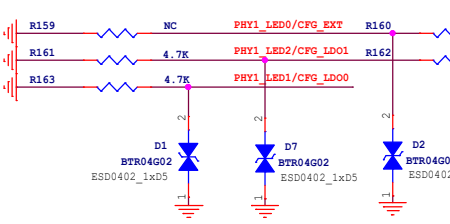
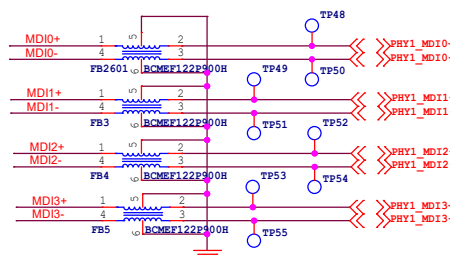
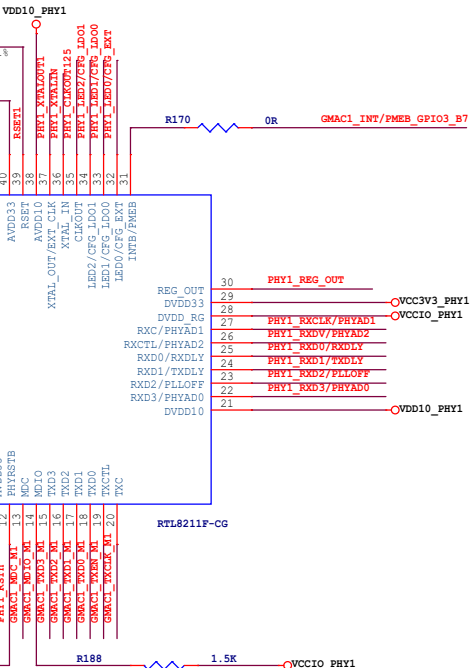
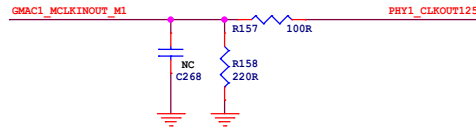
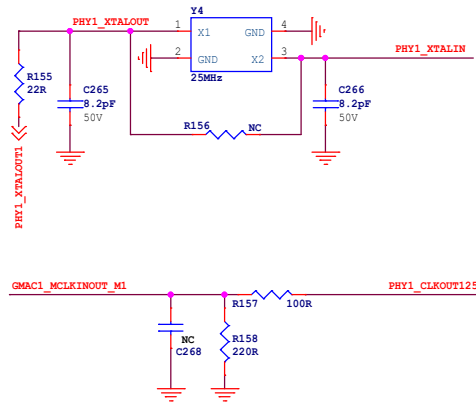


# RGMII

GMAC1\_RXCLK\_M1  
PHY1\_RXD0/RXDLY  
PHY1\_RXD0/RXDLY  
PHY1\_RXD0/PLLOFF  
PHY1\_RXD3/PHYAD0  
PHY1\_RXD0/PHYAD2  
GMAC1\_MCLKINOUT\_M1

GMAC1\_TXD0\_M1  
GMAC1\_TXD1\_M1  
GMAC1\_TXD2\_M1  
GMAC1\_TXD3\_M1  
GMAC1\_TXEN\_M1  
GMAC1\_TXCLK\_M1  
GMAC1\_MDC\_M1

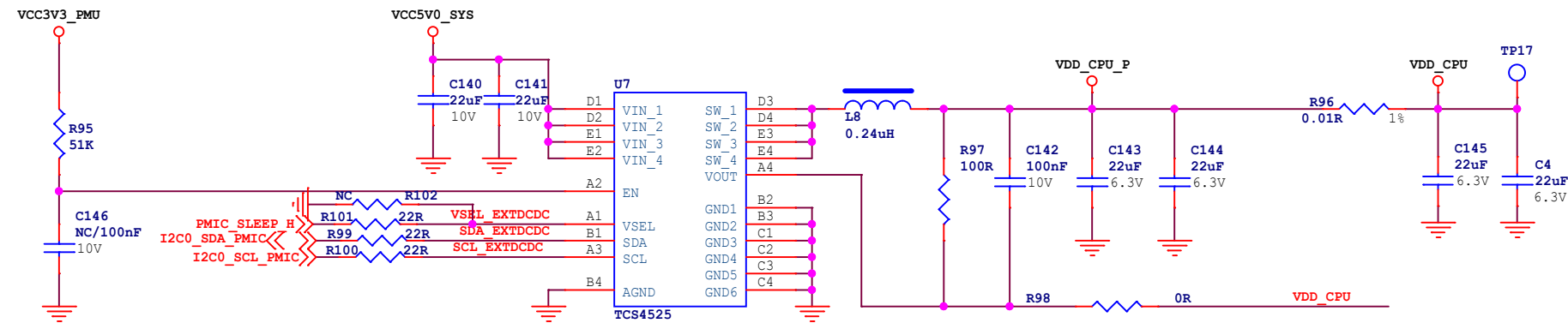
GMAC1\_MDIO\_M1  
GMAC1\_RSTn\_GPIO3\_C0  
GMAC1\_INT/PMEB\_GPIO3\_B7



radxa

| Size  | Title:                  | ROCK 3C | REV      |
|-------|-------------------------|---------|----------|
| A3    | Page Name:              | RGMII   | 1.4      |
| Date: | Tuesday, March 05, 2024 | Sheet   | 26 of 29 |

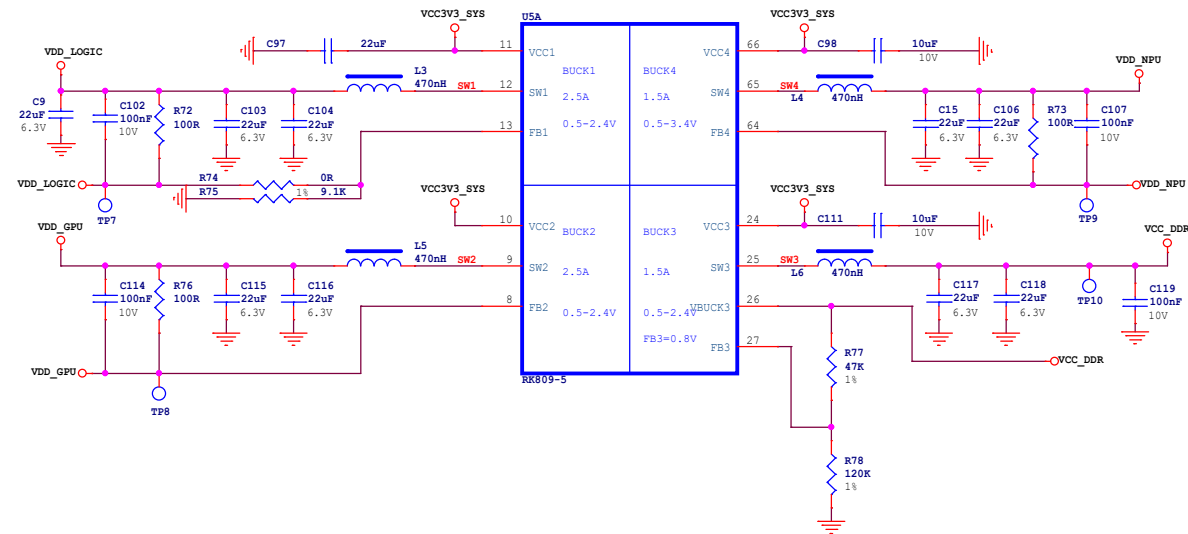
# VDD\_CPU\_EXT



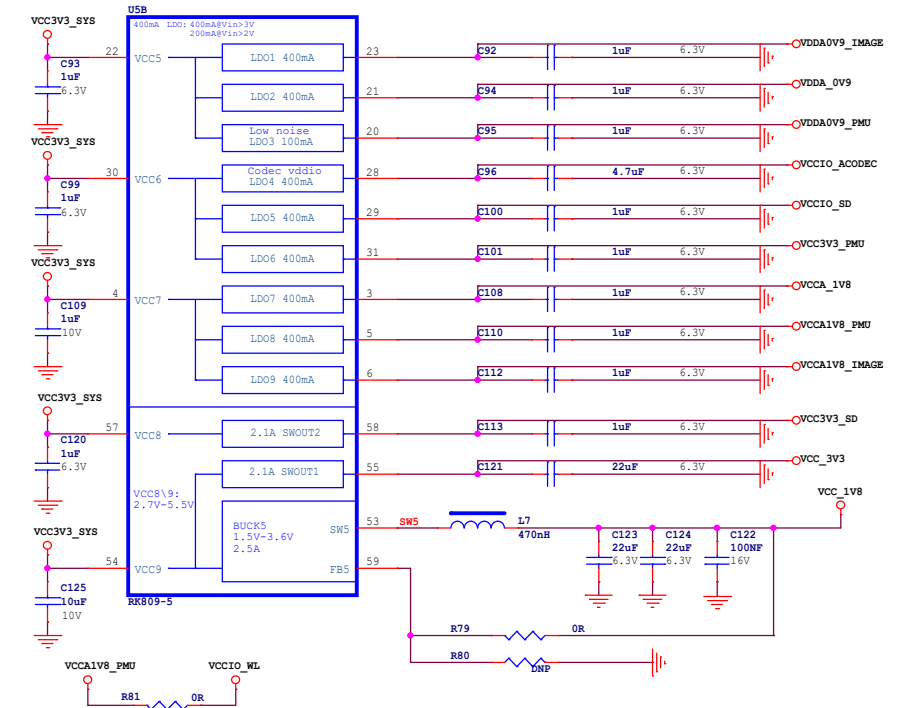
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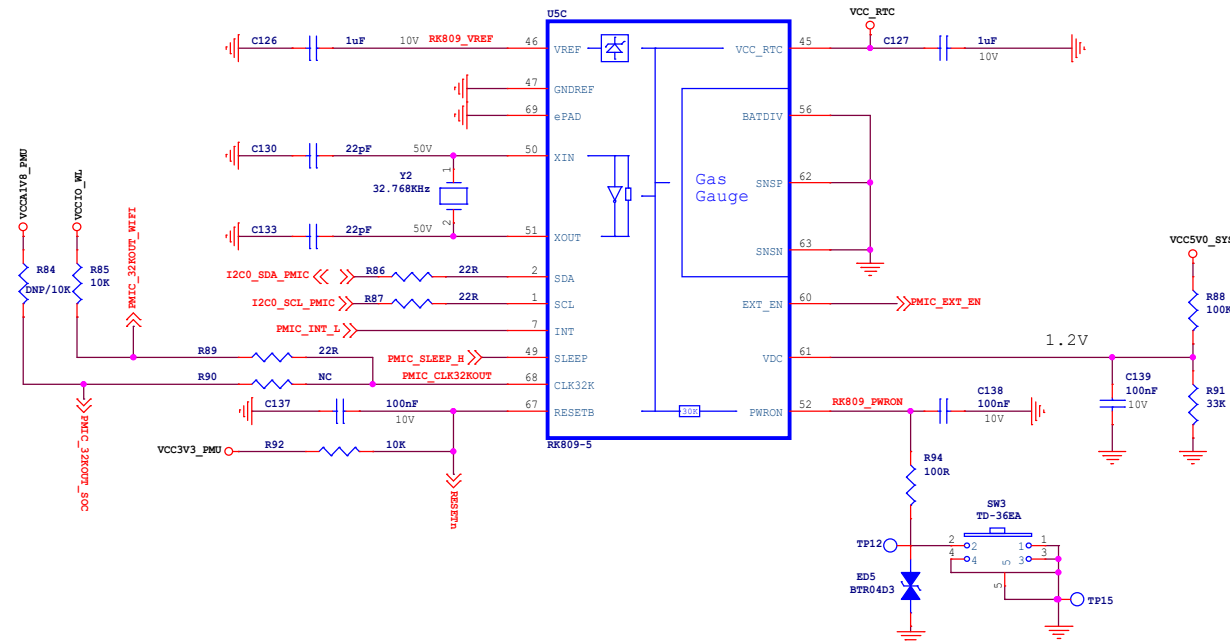
## PMIC RK809 DCDC



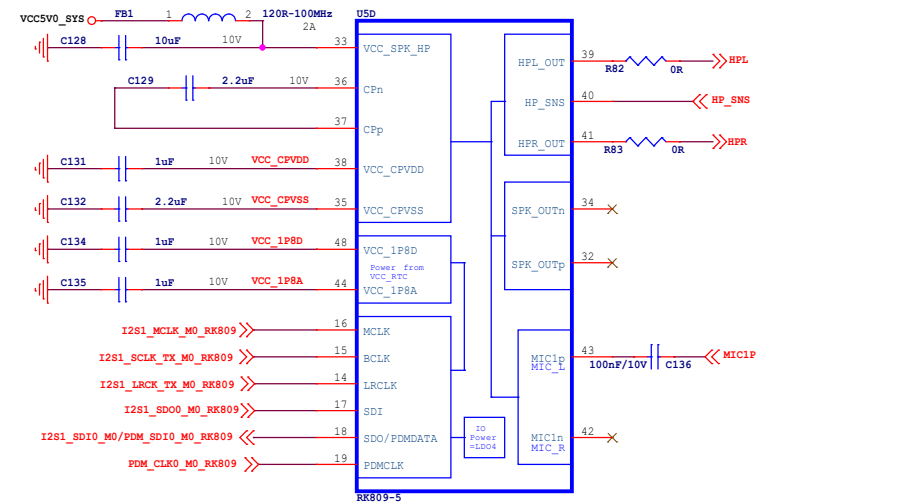
## PMIC RK809 LDO



## PMIC RK809 Managerment



## PMIC RK809 CODEC



radxa

| Size                    | Title:     | REV      |
|-------------------------|------------|----------|
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| Date:                   | Page Name: | Sheet    |
| Tuesday, March 05, 2024 | Power PMIC | 28 of 29 |

## 1



**A**