



# Radxa ZERO 3W

Schematic

V1.12

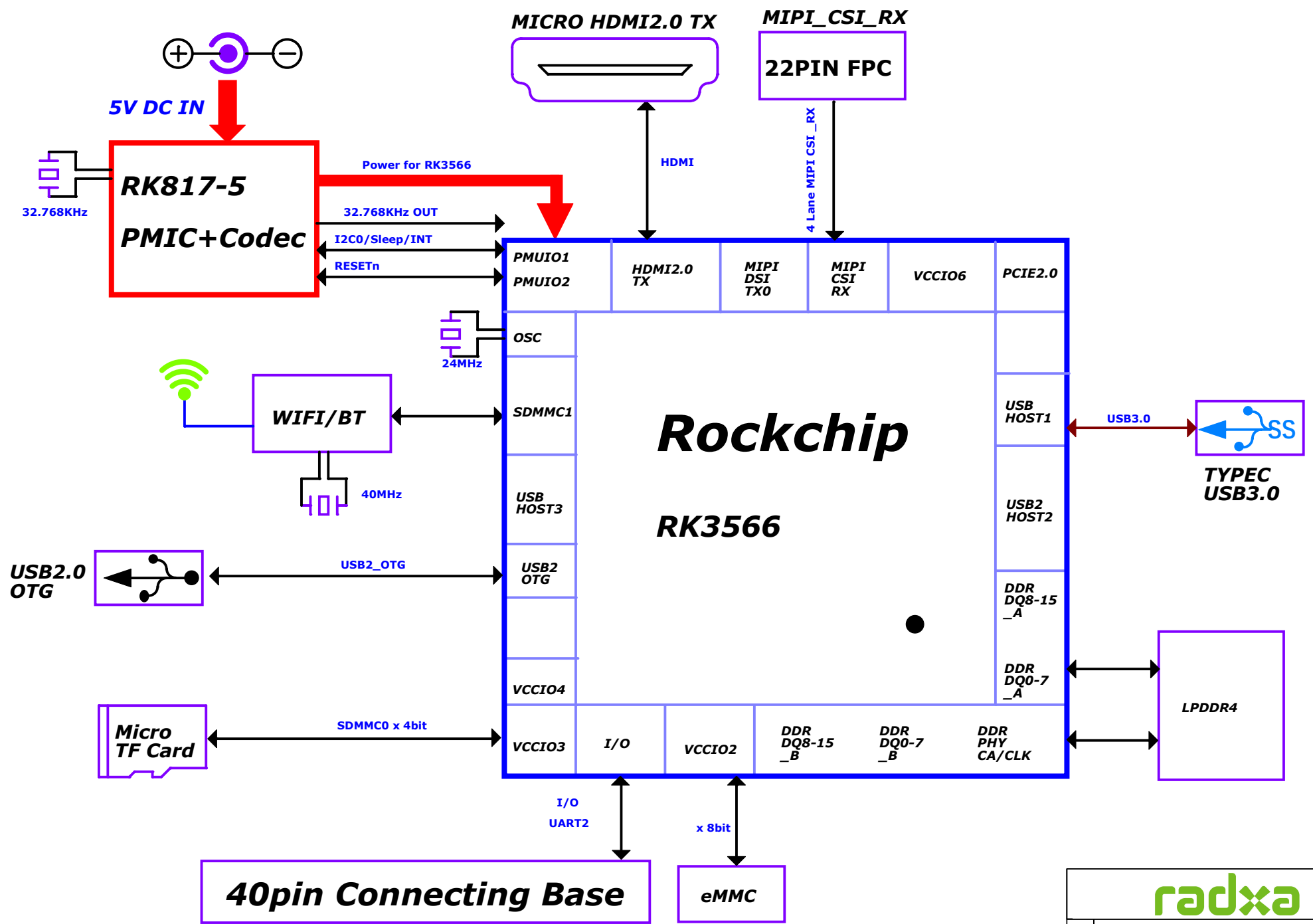
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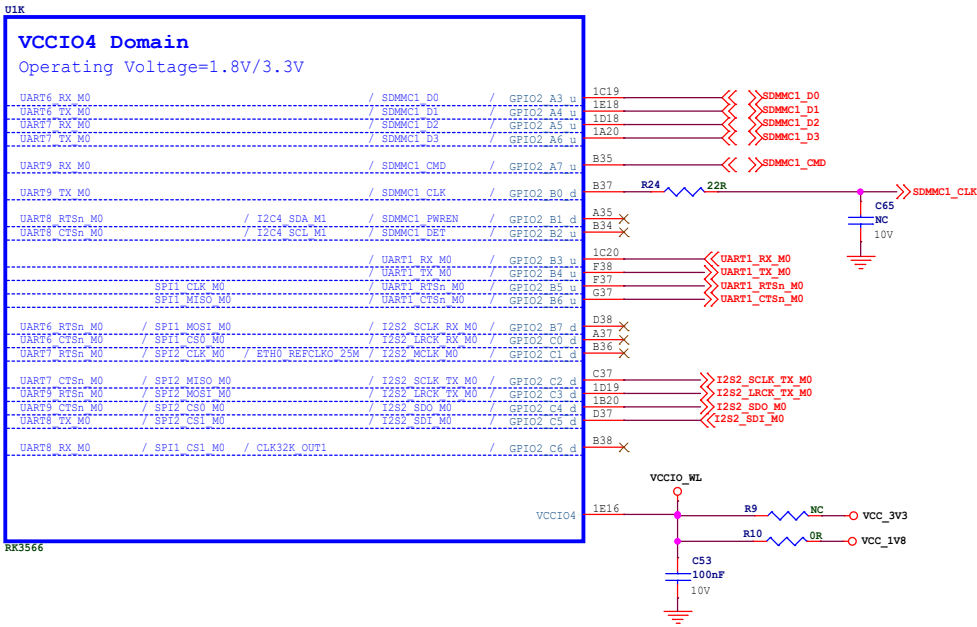


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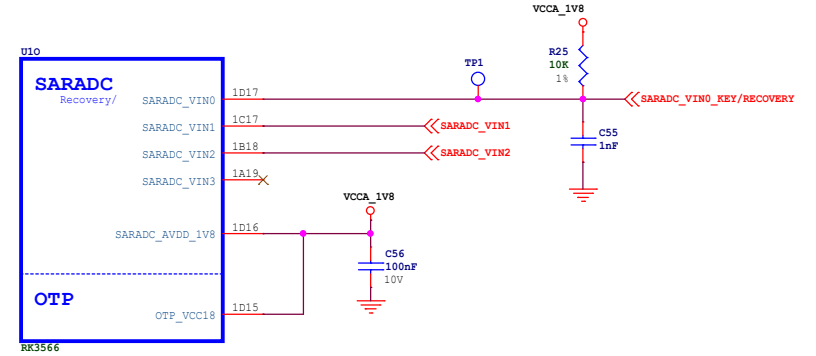
# ROCK 3 Zero W Ref Block Diagram



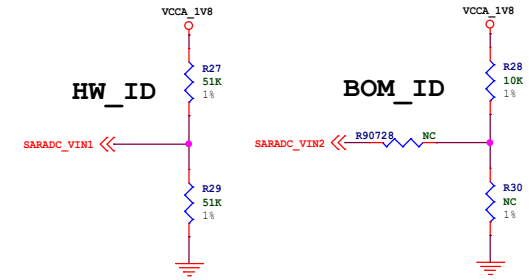
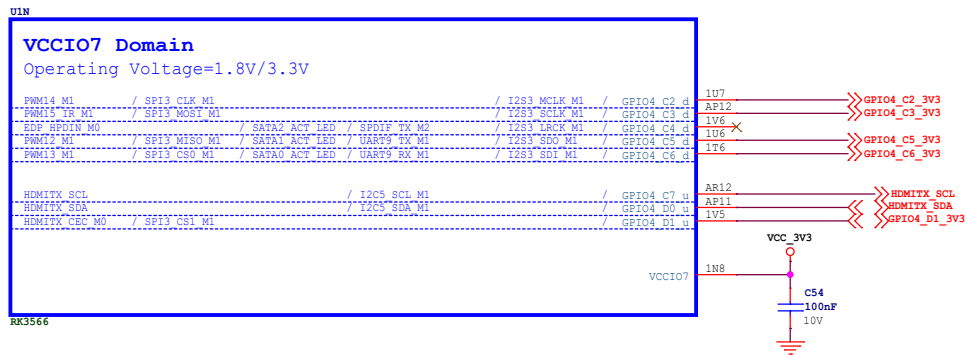
# RK3566\_K (VCCIO4 Domain)



# RK3566\_O (SARADC/OTP)



# RK3566\_N (VCCIO7 Domain)



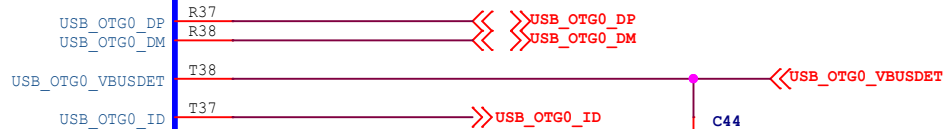
# RK3566\_U

U1U

## USB2.0 OTG\_0

HS/FS/LS

(Download Port)



## USB2.0 HOST\_1

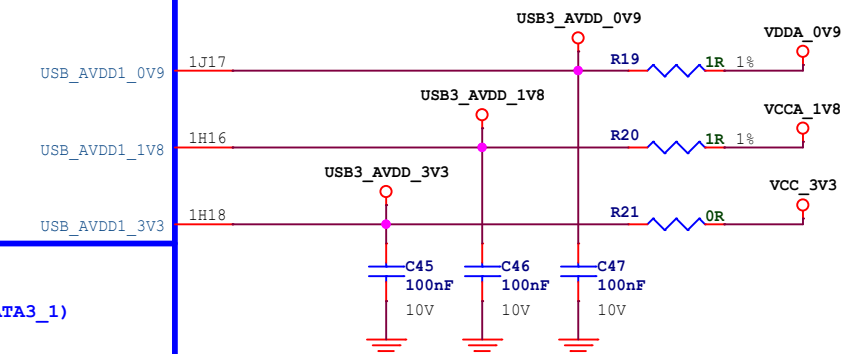
HS/FS/LS

(DP/DM for USB3.0 HOST)



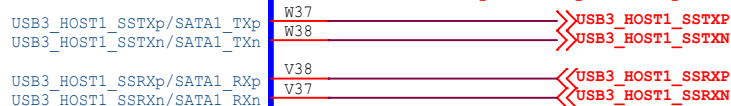
## USB2.0 Power

(for OTG\_0 and HOST\_1)



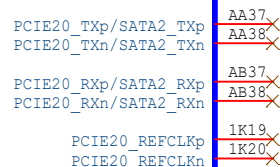
## MULTI PHY U\_S

(SS for USB3.0 HOST or SATA3\_1)



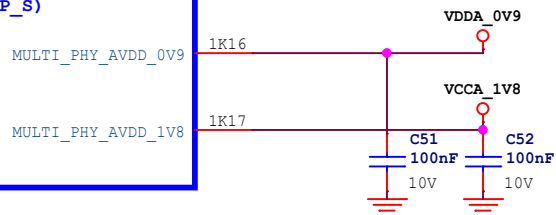
## MULTI PHY P\_S

(PCIe2.0 or SATA3\_2)



## MULTI PHY Power

(for MULTI PHY U\_S and P\_S)



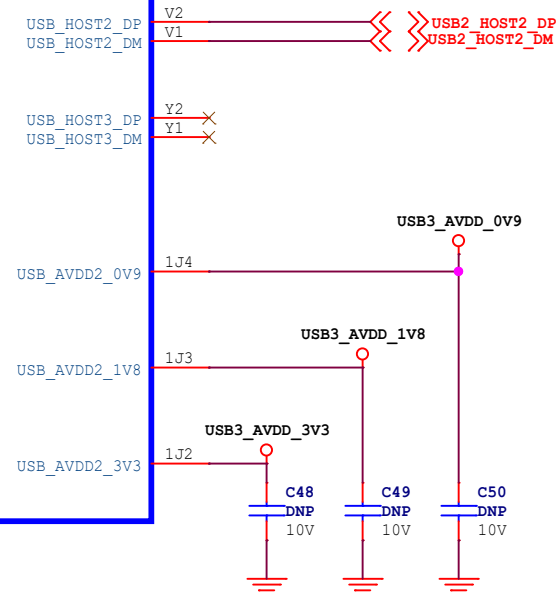
RK3566

# RK3566\_V

U1V

## USB2.0

(for HOST\_2 and HOST\_3)

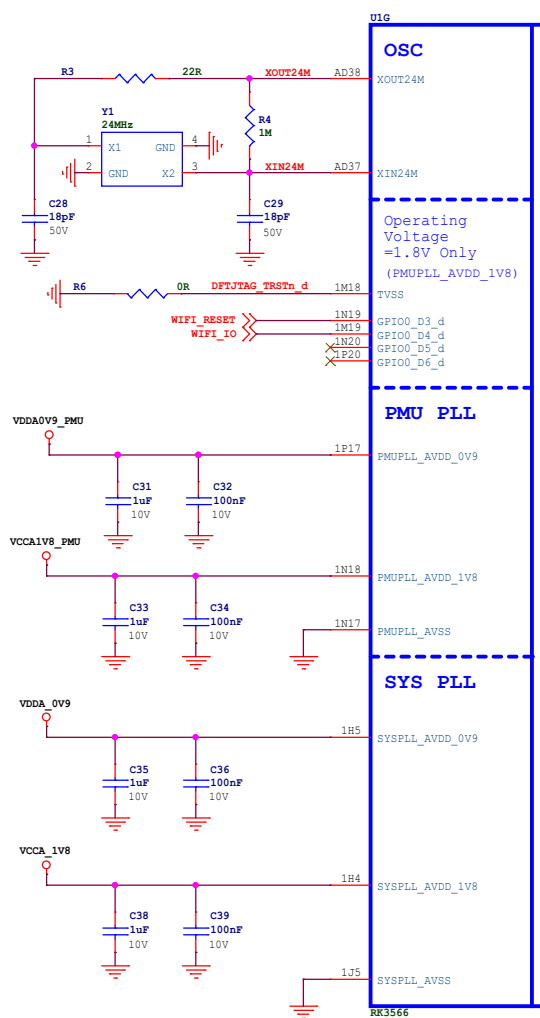


RK3566



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# RK3566 (OSC/PLL/PMUIO1/2)



**PMUIO1 Domain**  
 Operating Voltage=3.3V Only

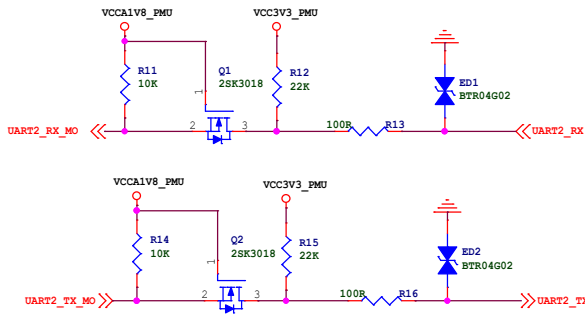
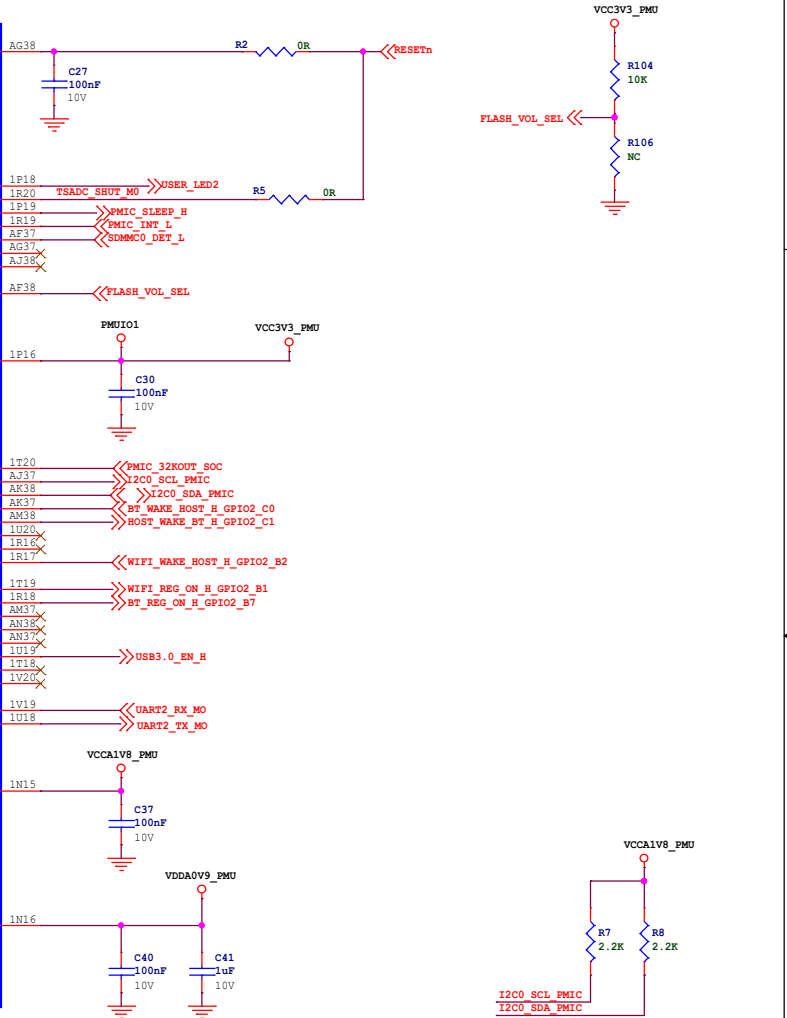
REFCLK_OUT	/	GPIO0_A0_H
TSADC_SHUT_OG0	/	GPIO0_A1_Z
TSADC_SHUT_M0	/	GPIO0_A2_H
PMIC_SLEEP	/	GPIO0_A3_H
SDMMC0_DET	/	GPIO0_A4_H
SDMMC0_PWREN	/	GPIO0_A5_H
GPU_PWREN	/	GPIO0_A6_H
FLASH_VOL_SEL	/	GPIO0_A7_H

**PMUIO2 Domain**  
 Operating Voltage=1.8V/3.3V

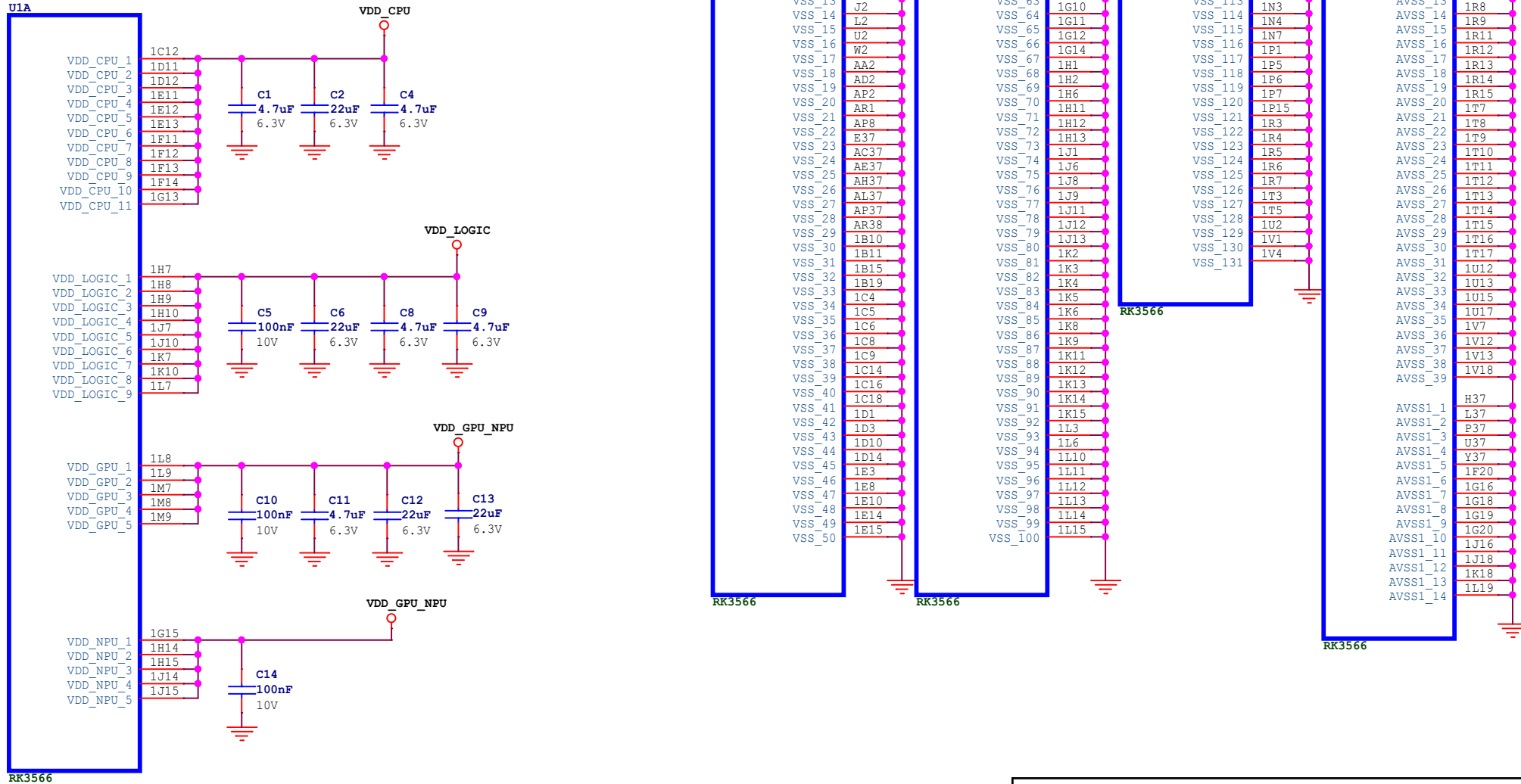
CLK32K_IN	/	GPIO0_B0_H
I2C0_SCL	/	GPIO0_B1_H
I2C0_SDA	/	GPIO0_B2_H
I2C1_SCL	/	GPIO0_B3_H
I2C1_SDA	/	GPIO0_B4_H
PMU1_MI	/	GPIO0_B5_H
PMU2_MI	/	GPIO0_B6_H
PMU0_MI / GPUAVS	/	GPIO0_B7_Z
PMU1_MO / GPUAVS	/	GPIO0_C0_H
PMU2_MO / NGUAVS	/	GPIO0_C1_H
PMU3_IR	/	GPIO0_C2_H
PMU4 / VOP_PWM_MO	/	GPIO0_C3_H
PMU5	/	GPIO0_C4_H
PMU6	/	GPIO0_C5_H
PMU7_IR	/	GPIO0_C6_H
PMU0_MI	/	GPIO0_C7_H
UART2_RX_MO	/	GPIO0_D0_H
UART2_TX_MO	/	GPIO0_D1_H

**PMUIO1/2/OSC Domain Logic Power**  
 Operating Voltage=0.9V

PMU\_VDD\_LOGIC\_0V9

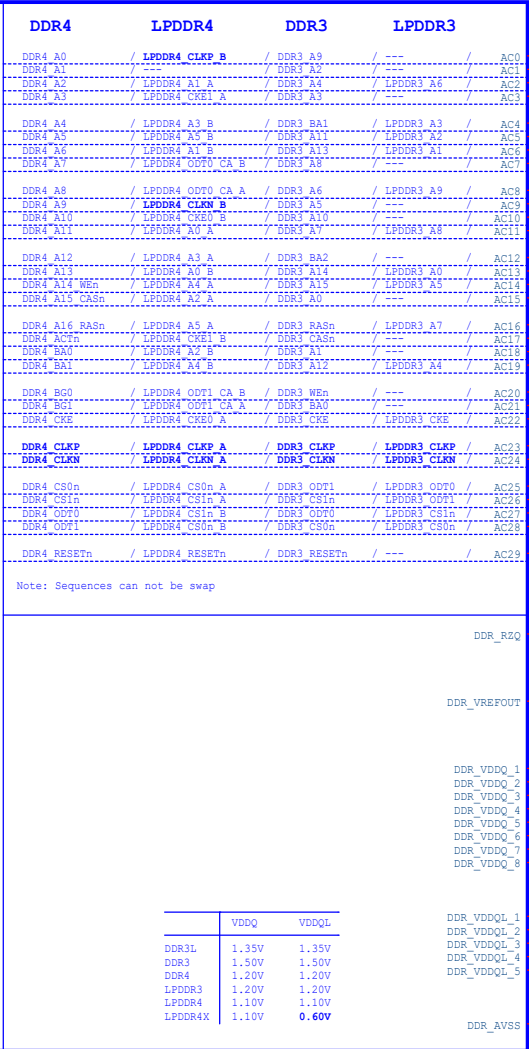
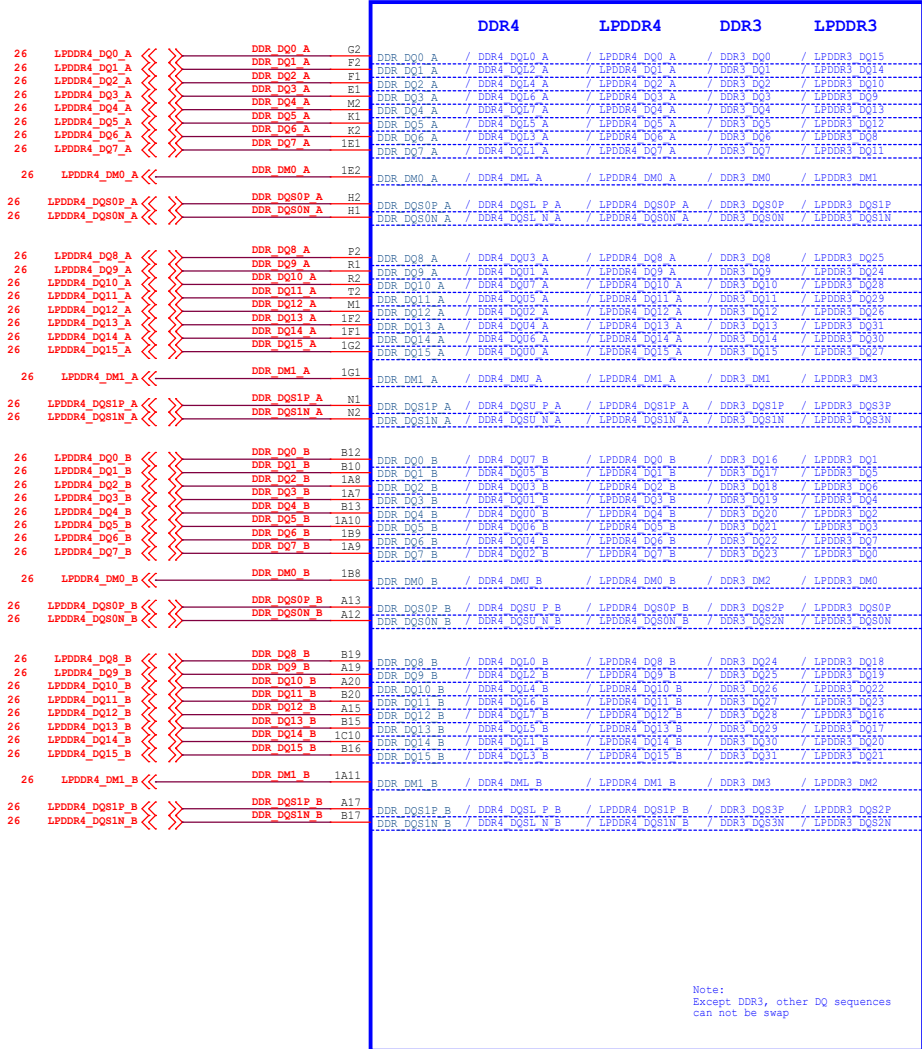


# RK3566\_ABCDE (Power&GND)



# RK3566\_F (DDR PHY)

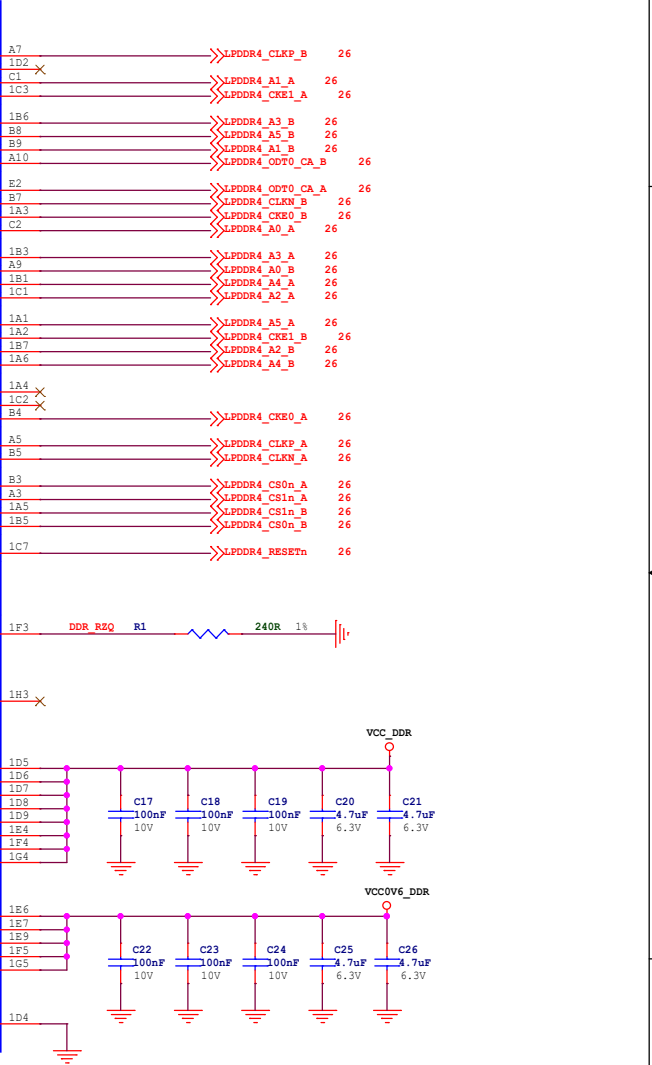
UIF



Note: Sequences can not be swap

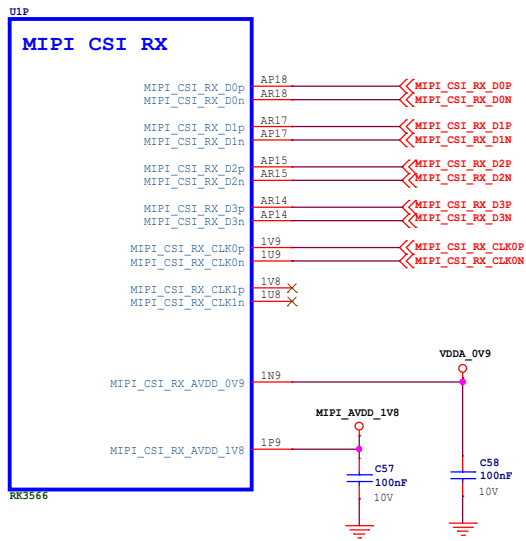
Note:  
Except DDR3, other DQ sequences  
can not be swap

	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

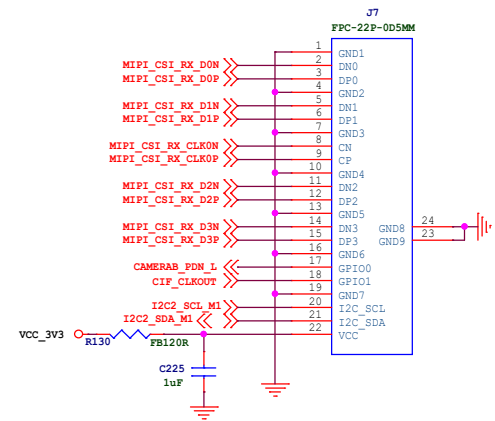




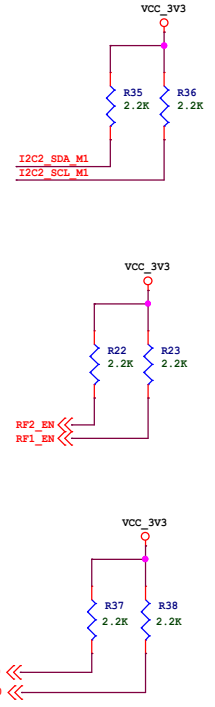
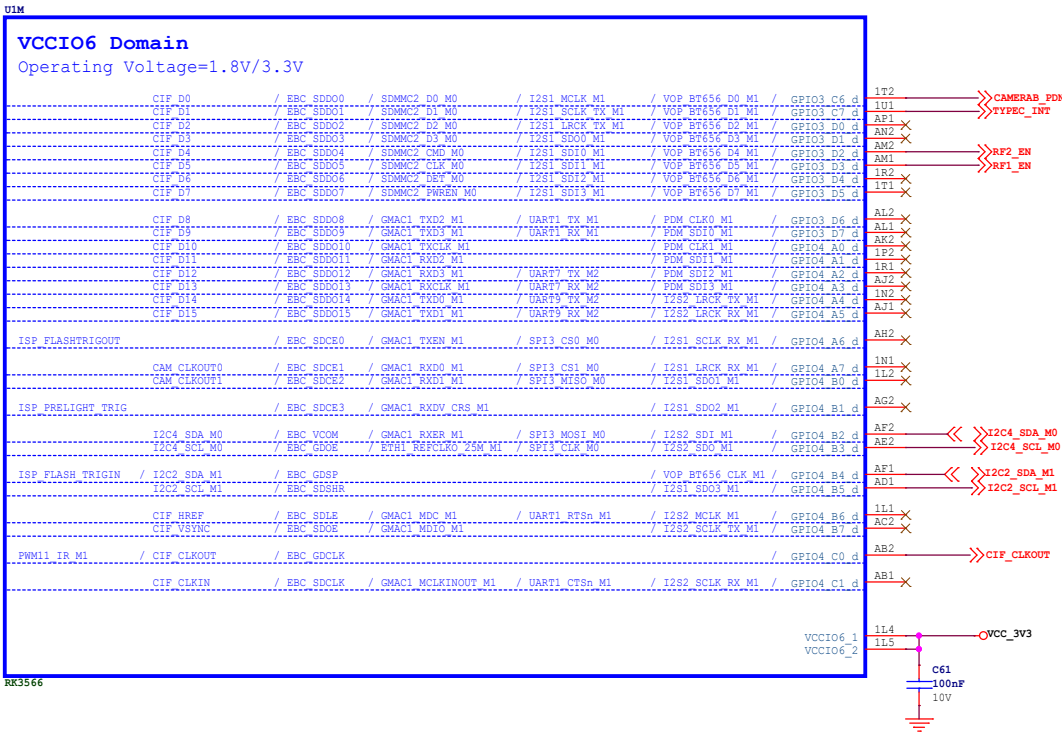
# RK3566\_P (MIPI\_CSI\_RX)



# MIPI\_CSI\_RX 4Lanes

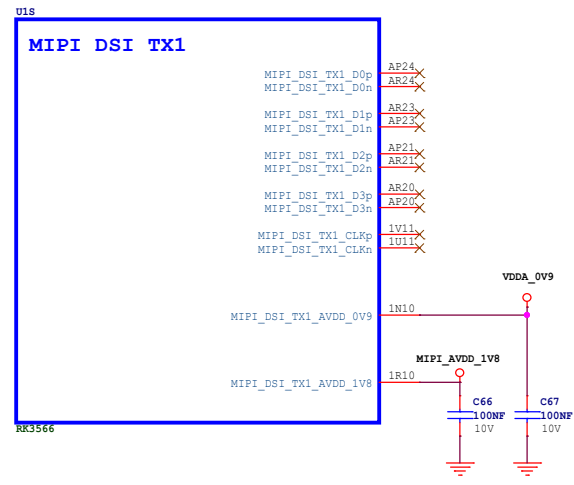
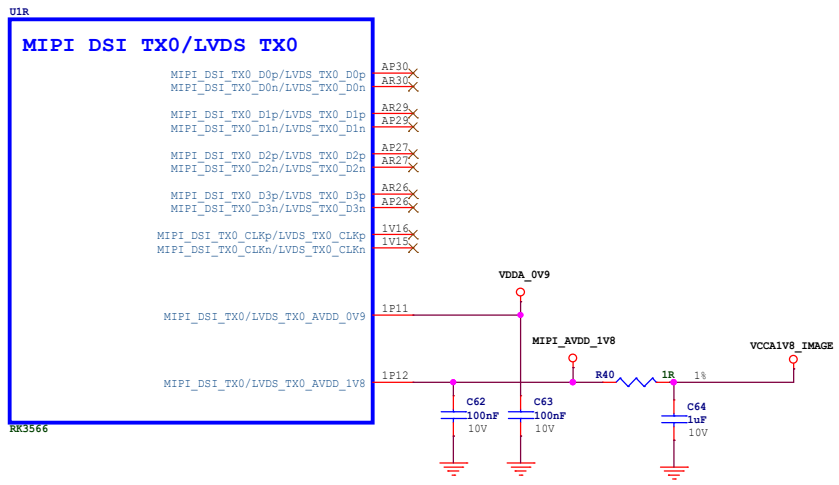


# RK3566\_M (VCCIO6 Domain)



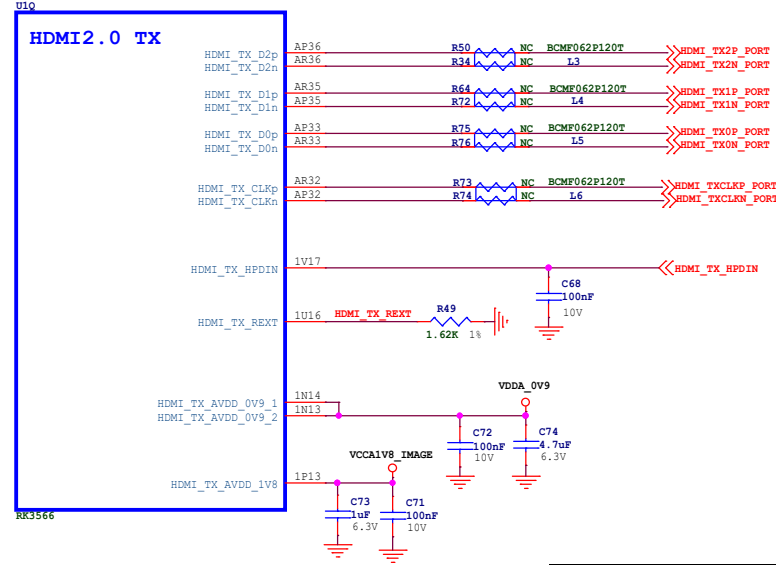
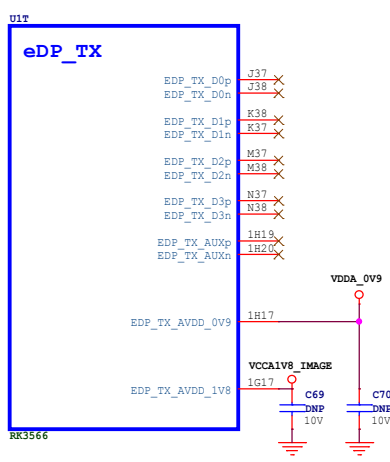
# RK3566\_R (MIPI\_DSI\_TX0/LVDS\_TX0)

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



# RK3566\_T (eDP/DP TX)

# RK3566\_Q (HDMI2.0 TX)



# RK3566\_L (VCCIO5 Domain)

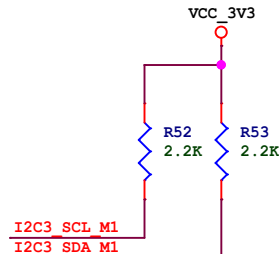
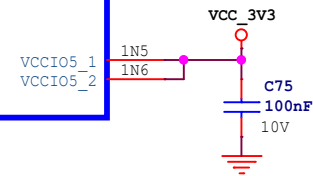
ULL

## VCCIO5 Domain

Operating Voltage=1.8V/3.3V

VOP BT1120 D0	/ SPI1 CS0 M1		/ SDMMC2 D0 M1	/ GPIO3 A1 d	1U5	>>> GPIO3_A1_3V3
VOP BT1120 D1		/ GMAC1 TXD2 M0	/ I2S3 MCLK M0	/ SDMMC2 D1 M1	AR10	>>> GPIO3_A2_3V3
VOP BT1120 D2		/ GMAC1 TXD3 M0	/ I2S3 SCLK M0	/ SDMMC2 D2 M1	AP10	>>> GPIO3_A3_3V3
VOP BT1120 D3		/ GMAC1 RXD2 M0	/ I2S3 LRCK M0	/ SDMMC2 D3 M1	AR9	>>> GPIO3_A4_3V3
VOP BT1120 D4		/ GMAC1 RXD3 M0	/ I2S3 SDO M0	/ SDMMC2 CMD M1	AP9	>>> GPIO3_A5_3V3
VOP BT1120 CLK		/ GMAC1 TXCLK M0	/ I2S3 SDI M0	/ SDMMC2 CLK M1	1U4	>>> GPIO3_A6_3V3
VOP BT1120 D5		/ GMAC1 RXCLK M0	/ SDMMC2 DET M1	/ GPIO3 A7 d	1V3	>>> GPIO3_A7_3V3
VOP BT1120 D6		/ ETH1 REFCLK0 25M M0	/ SDMMC2 PWREN M1	/ GPIO3 B0 d	AR7	>>> GPIO3_B0_3V3
PWM8 M0	/ VOP BT1120 D7	/ GMAC1 RXD0 M0	/ UART4 RX M1	/ GPIO3 B1 d	AP7	>>> GPIO3_B1_3V3
PWM9 M0	/ VOP BT1120 D8	/ GMAC1 RXD1 M0	/ UART4 TX M1	/ GPIO3 B2 d	AR6	>>> GPIO3_B2_3V3
VOP BT1120 D9	/ I2C5 SCL M0	/ GMAC1 RXDV CRS M0	/ PDM SDI0 M2	/ GPIO3 B3 d	AP6	>>> GPIO3_B3_3V3
VOP BT1120 D10	/ I2C5 SDA M0	/ GMAC1 RXER M0	/ PDM SDI1 M2	/ GPIO3 B4 d	1U3	>>> GPIO3_B4_3V3
PWM10 M0	/ VOP BT1120 D11	/ I2C3 SCL M1	/ GMAC1 TXD0 M0	/ GPIO3 B5 d	1T4	>>> I2C3_SCL_M1
PWM11 IR M0	/ VOP BT1120 D12	/ I2C3 SDA M1	/ GMAC1 TXD1 M0	/ GPIO3 B6 d	1V2	>>> I2C3_SDA_M1
PWM12 M0		/ GMAC1 TXEN M0	/ UART3 TX M1	/ PDM SDI2 M2	AP5	>>> GMAC1_INT/PMEM_GPIO3_B7
PWM13 M0		/ GMAC1 MCLKINOUT M0	/ UART3 RX M1	/ PDM SDI3 M2	AR4	>>> GMAC1_RSTn_GPIO3_C0
VOP BT1120 D13	/ SPI1 MOSI M1		/ PCIE20 PERSTn M1	/ I2S1 SDO2 M2	AP4	>>> GPIO3_C1_3V3
VOP BT1120 D14	/ SPI1 MISO M1		/ UART5 TX M1	/ I2S1 SDO3 M2	AP3	>>> GPIO3_C2_3V3
VOP BT1120 D15	/ SPI1 CLK M1		/ UART5 RX M1	/ I2S1 SCLK RX M2	AR2	>>> GPIO3_C3_3V3
PWM14 M0	/ VOP PWM M1	/ GMAC1 MDC M0	/ UART7 TX M1	/ PDM CLK1 M2	1P3	>>> GPIO3_C4_3V3
PWM15 IR M0	/ SPDIF TX M1	/ GMAC1 MDIO M0	/ UART7 RX M1	/ I2S1 LRCK RX M2	1P4	>>> GPIO3_C5_3V3

RK3566

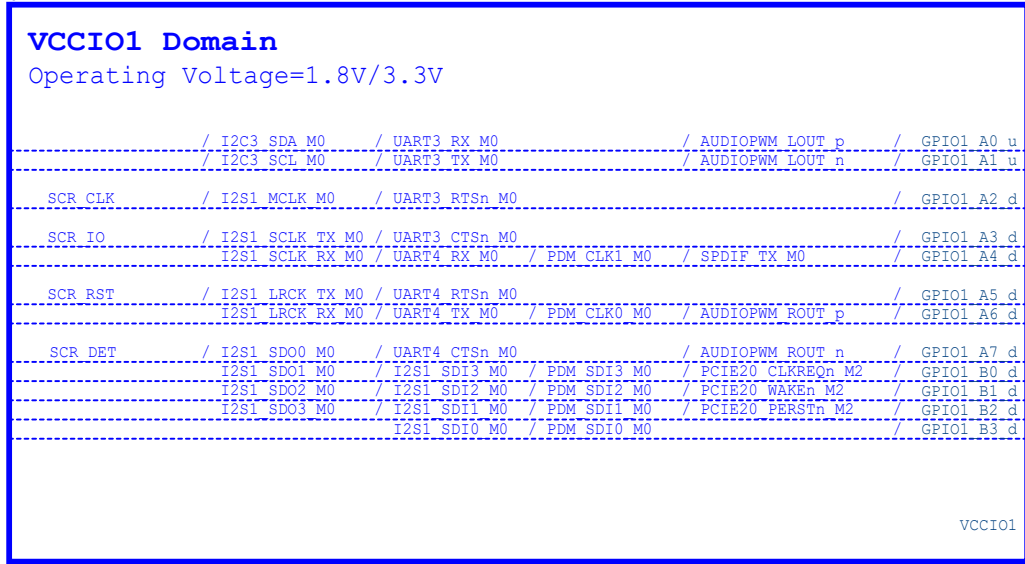


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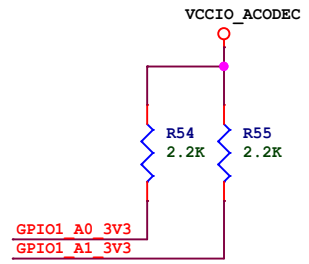
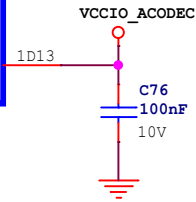
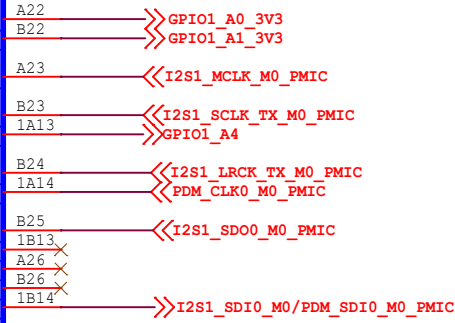
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# RK3566\_H (VCCIO1 Domain)

U1H

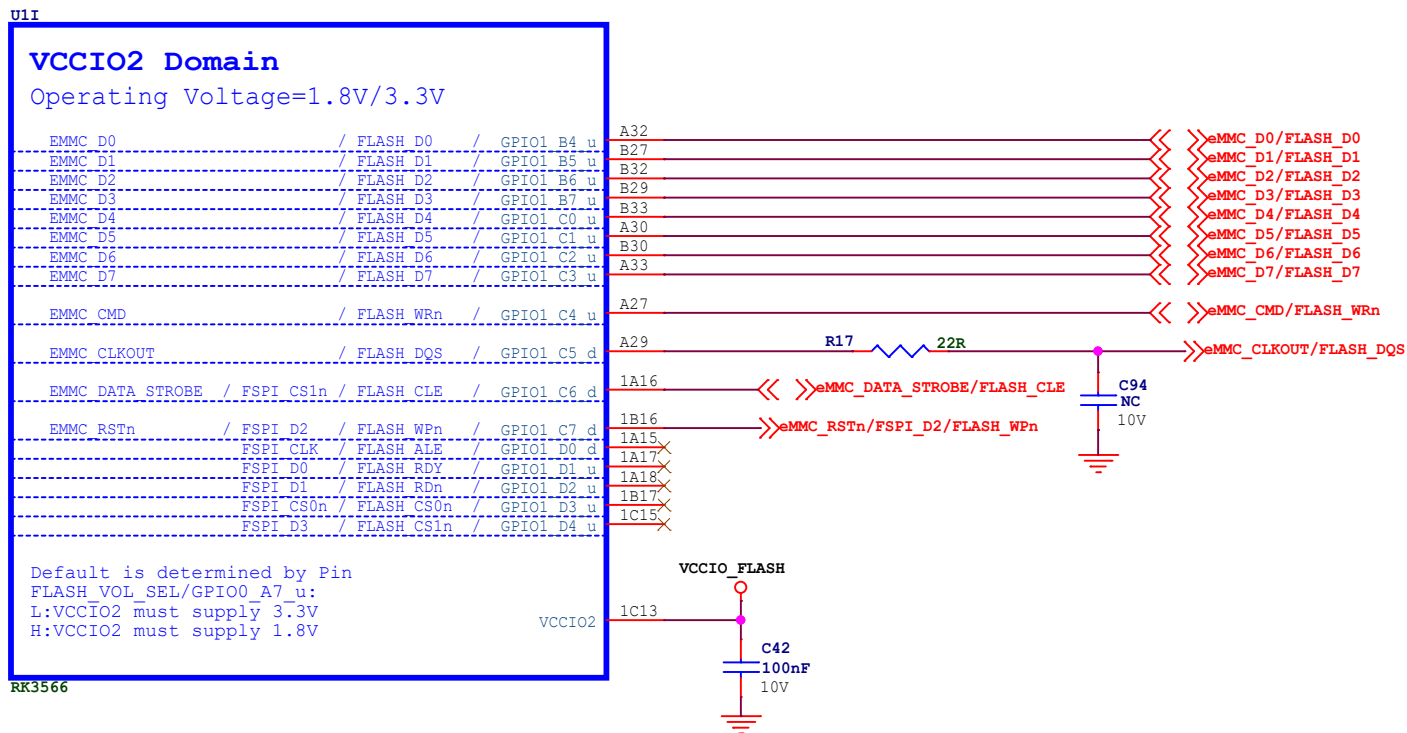


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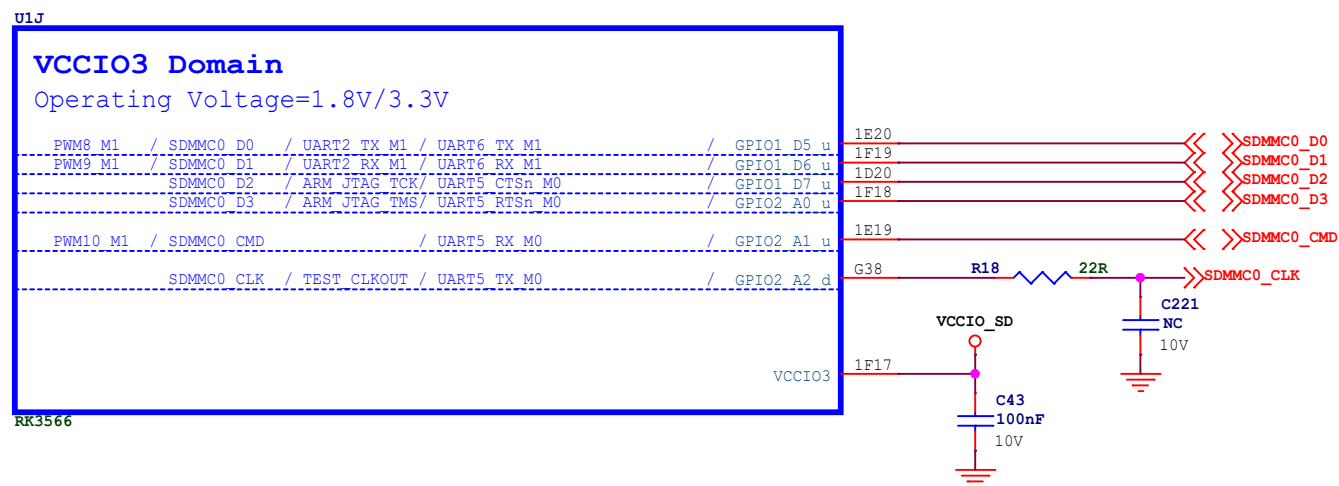


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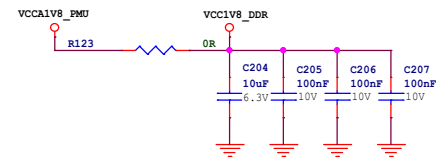
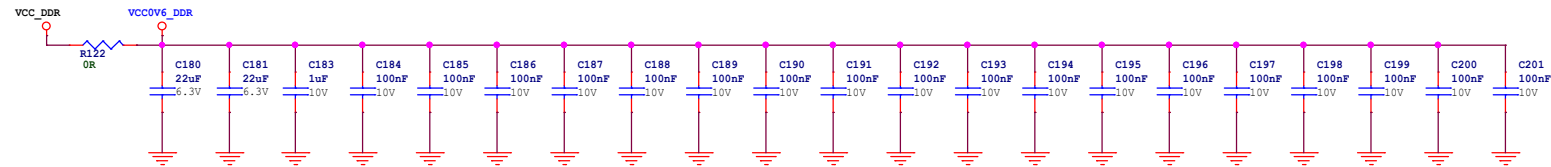
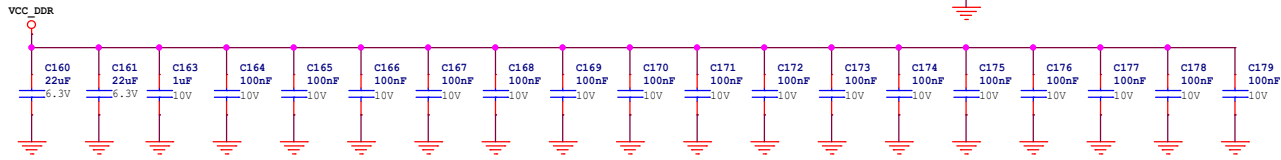
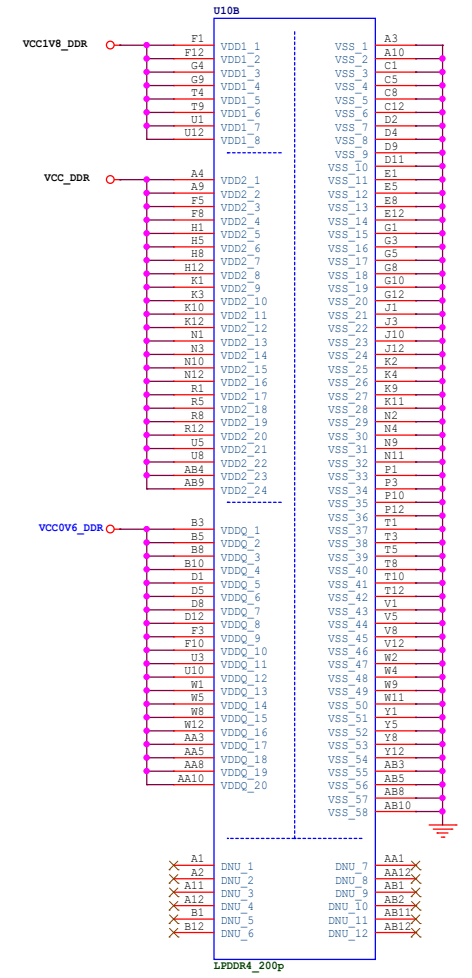
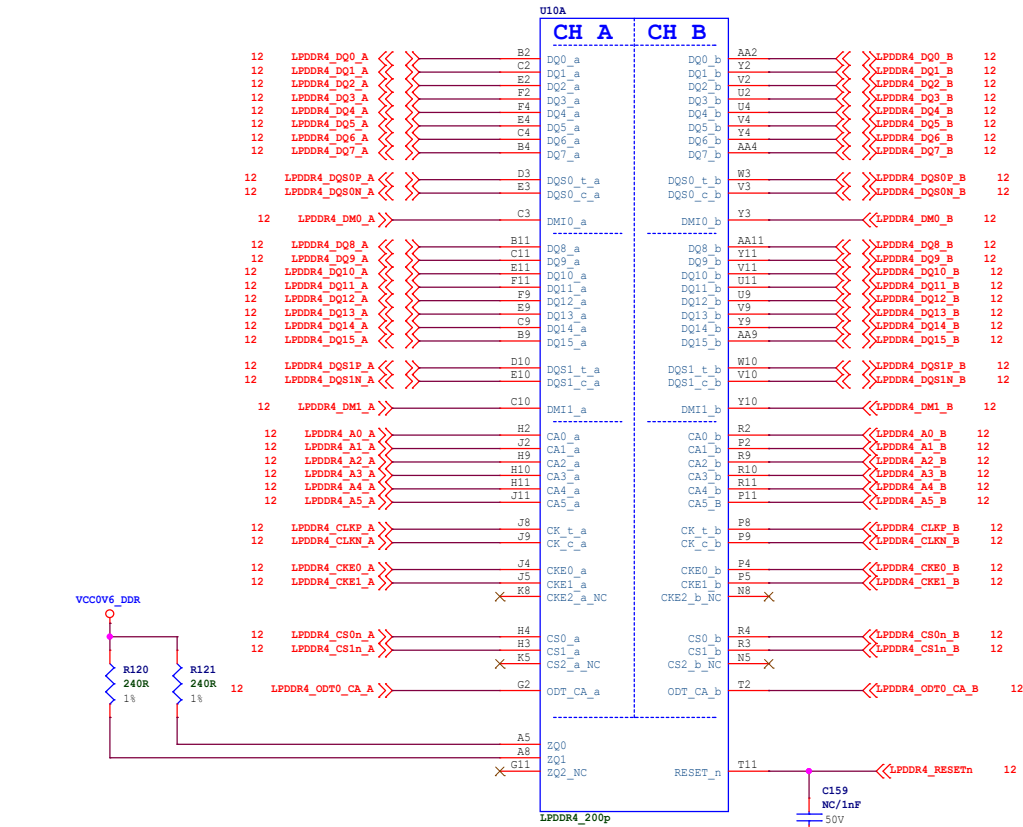
# RK3566\_I (VCCIO2 Domain)



# RK3566\_J (VCCIO3 Domain)



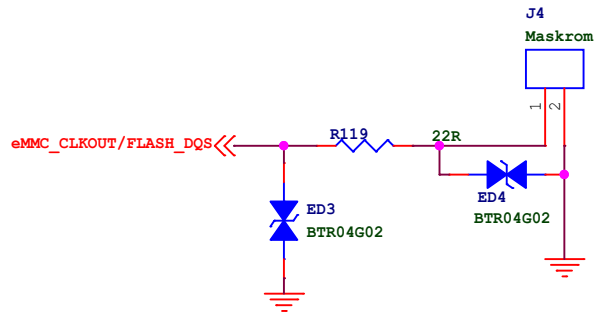
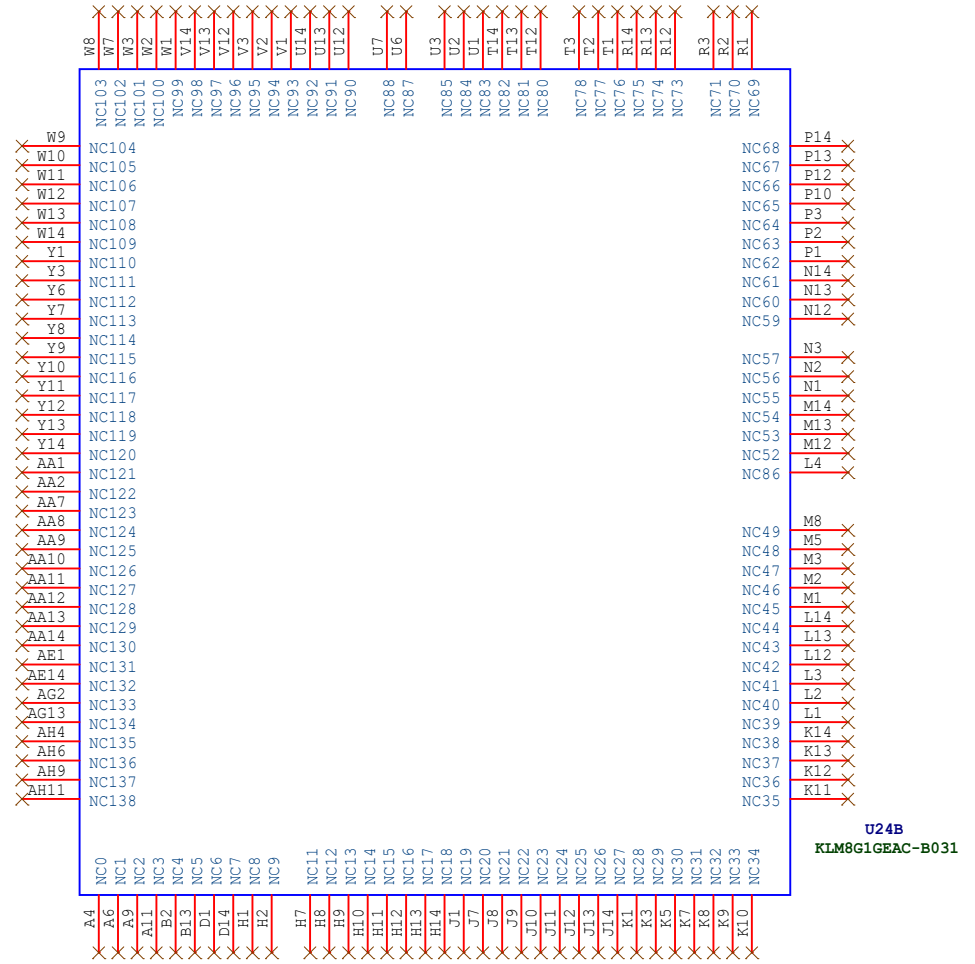
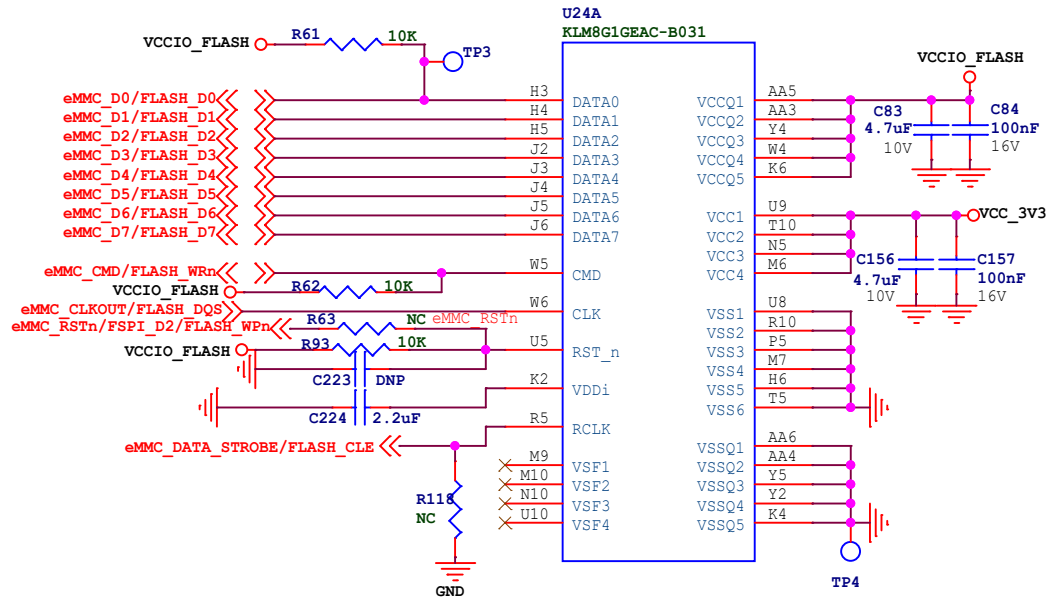
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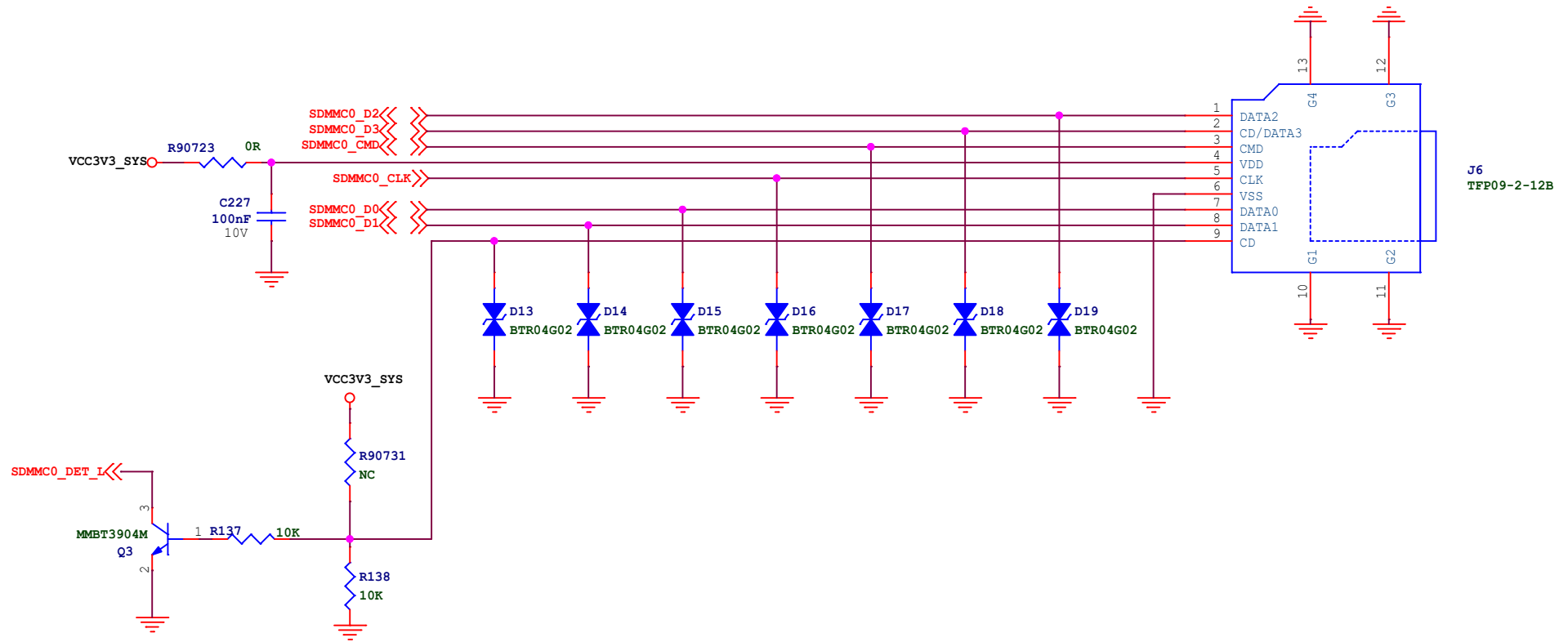
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# EMMC FLASH



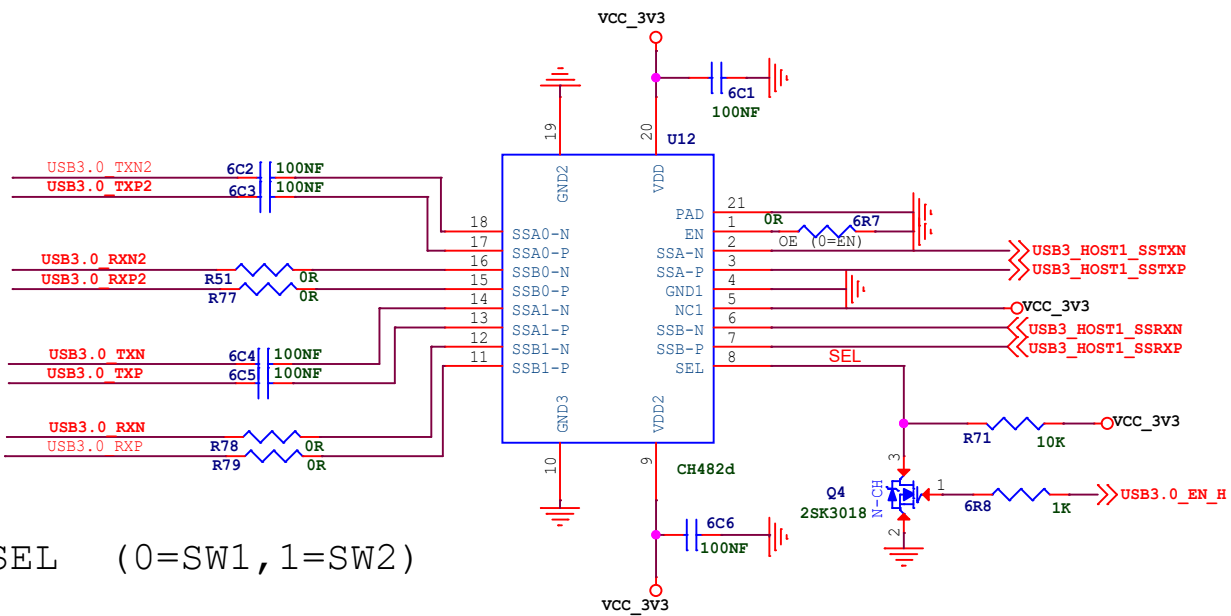
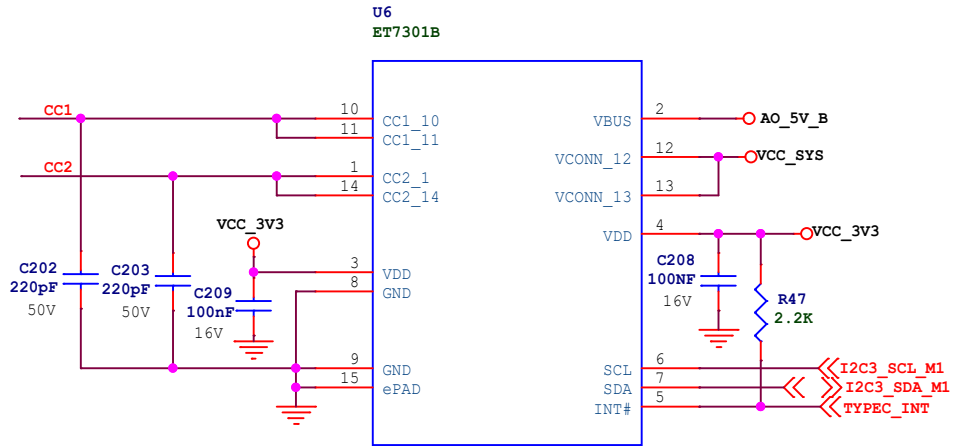
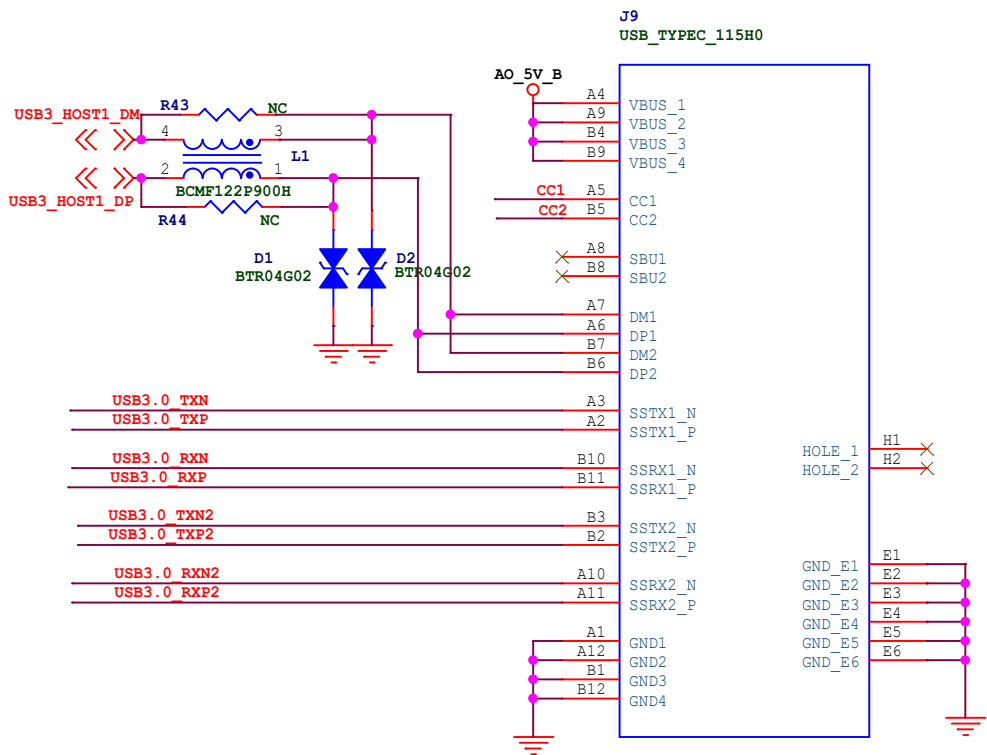
# MicroSD Card



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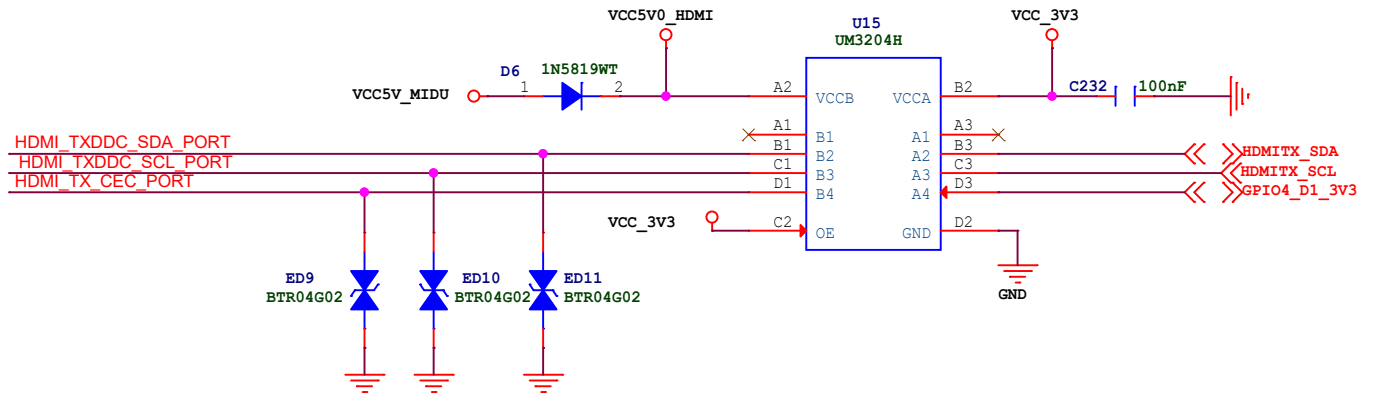


SEL (0=SW1, 1=SW2)

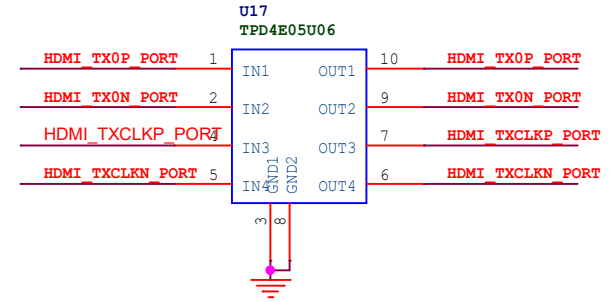
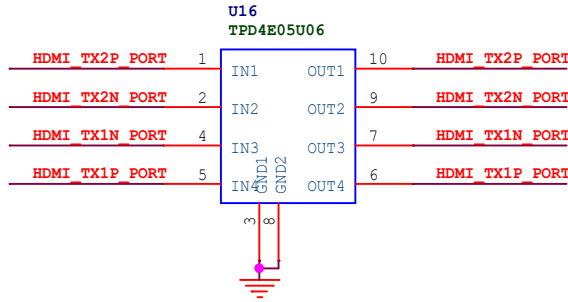
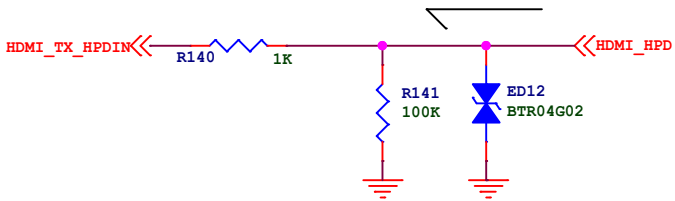


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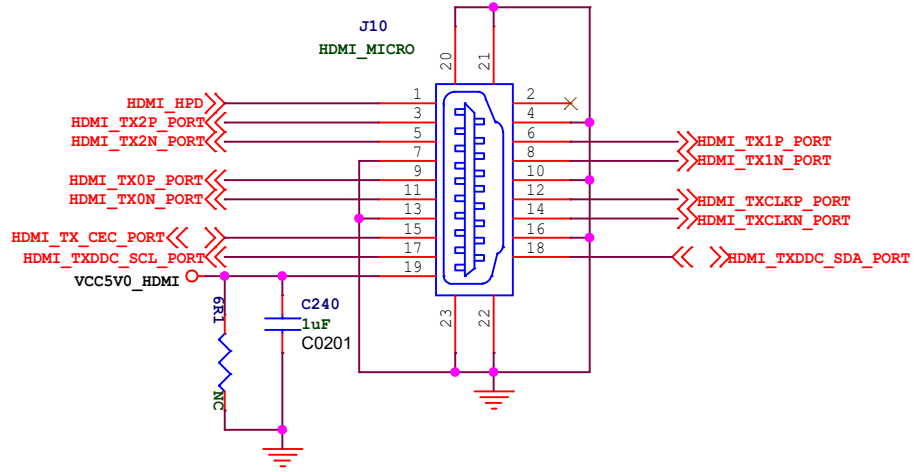
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 >>>HDMI\_TXCLKN\_PORT



### HDMI TX HPD

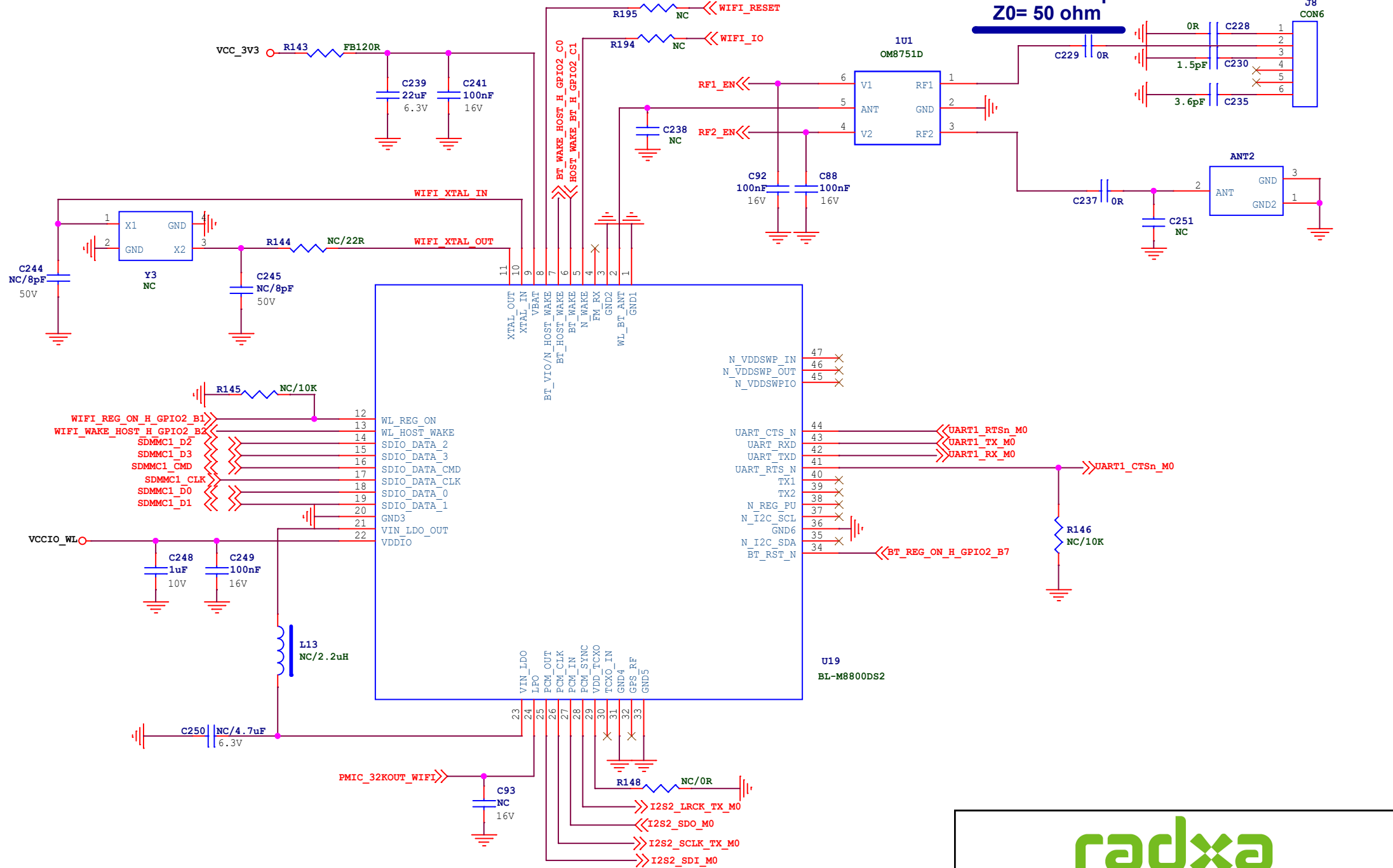



### MICRO HDMI output

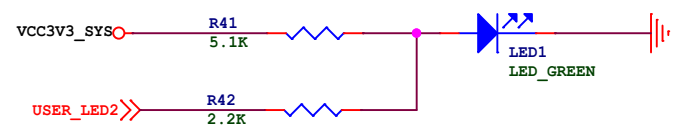
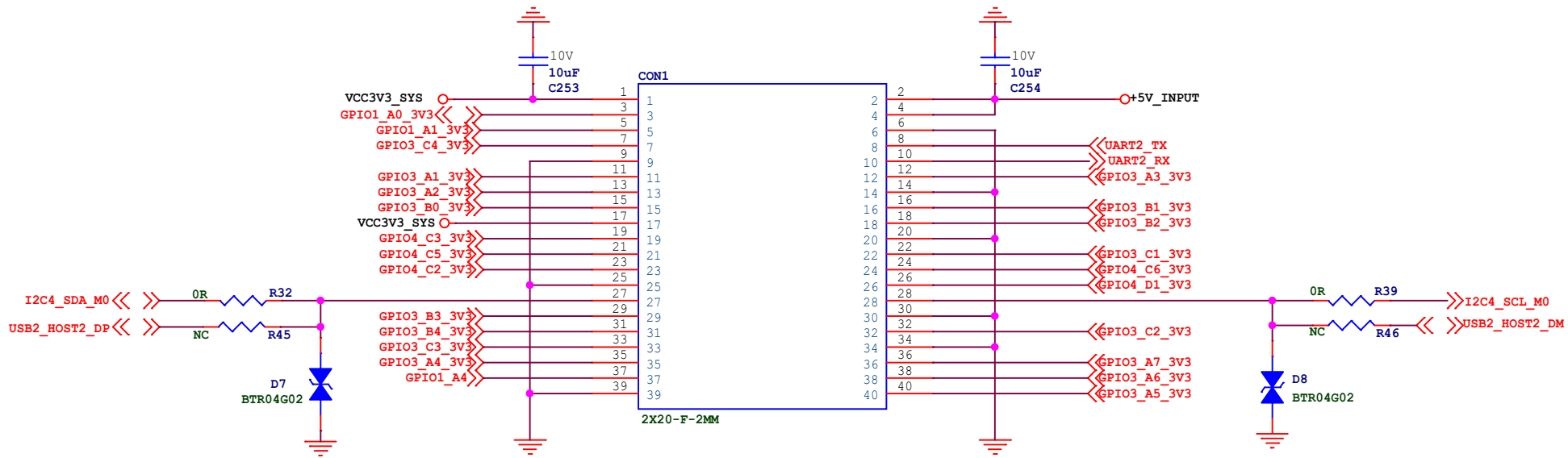


Size	Title: Zero 3W	REV
A4	Page Name: HDMI2.0 TX	V1.12
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# SDIO WIFI/BT

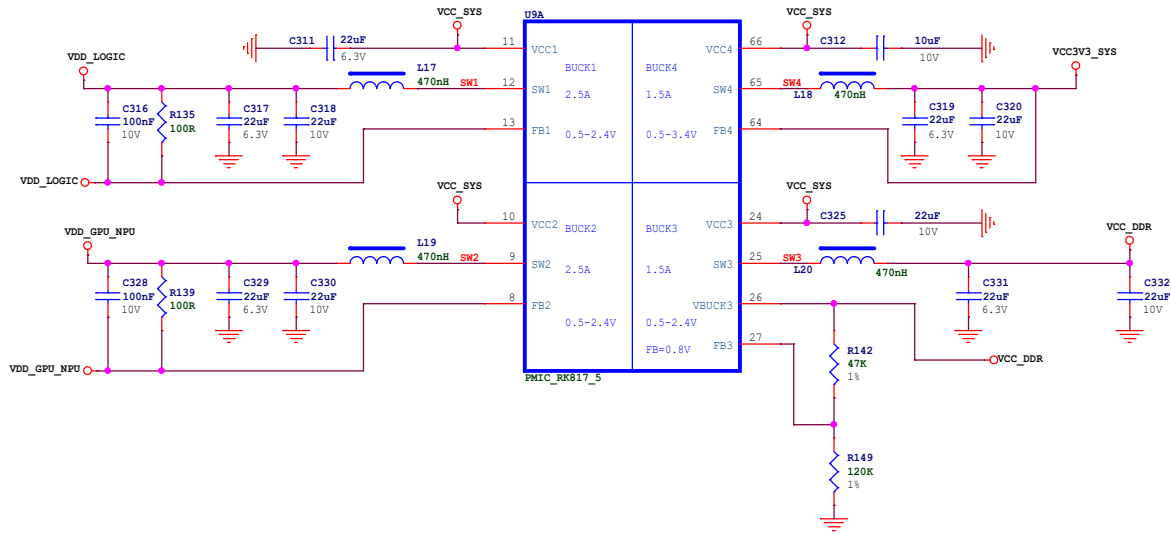
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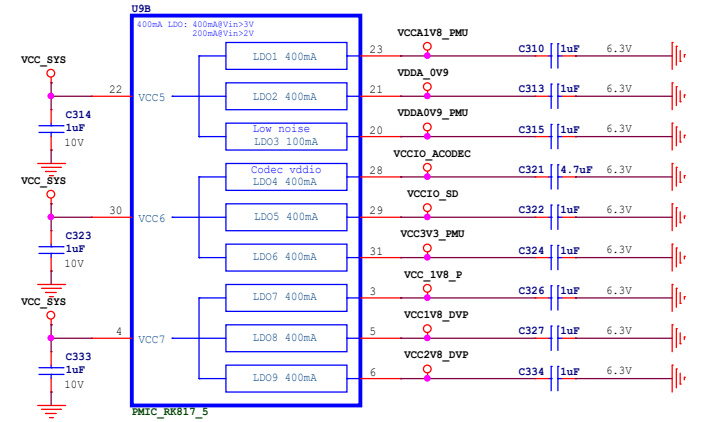
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Size	Title: Zero 3W	REV
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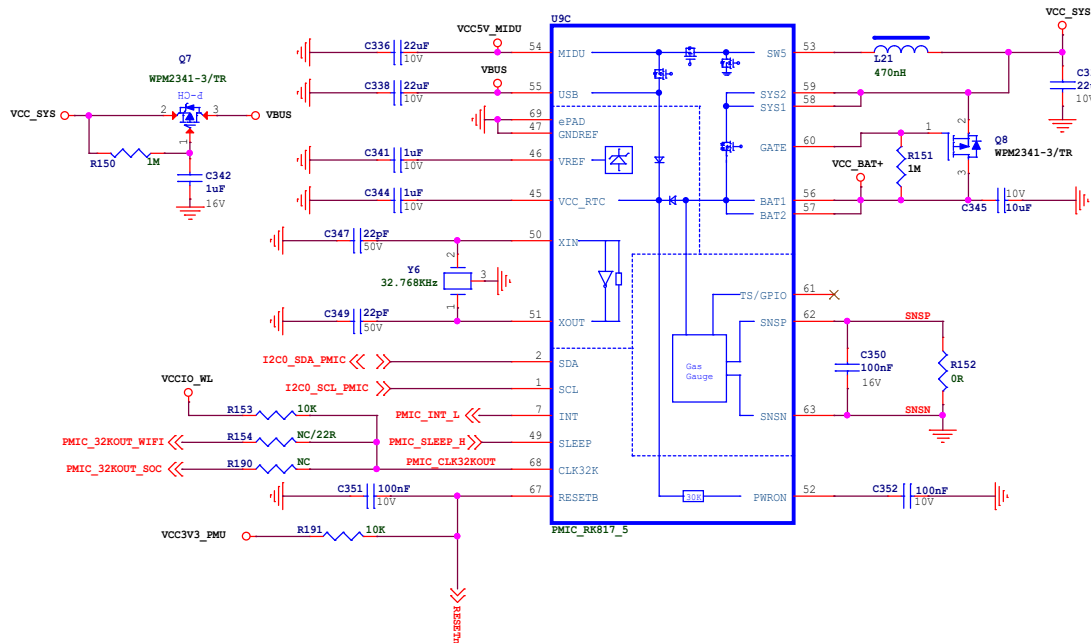
# PMIC RK817 DCDC



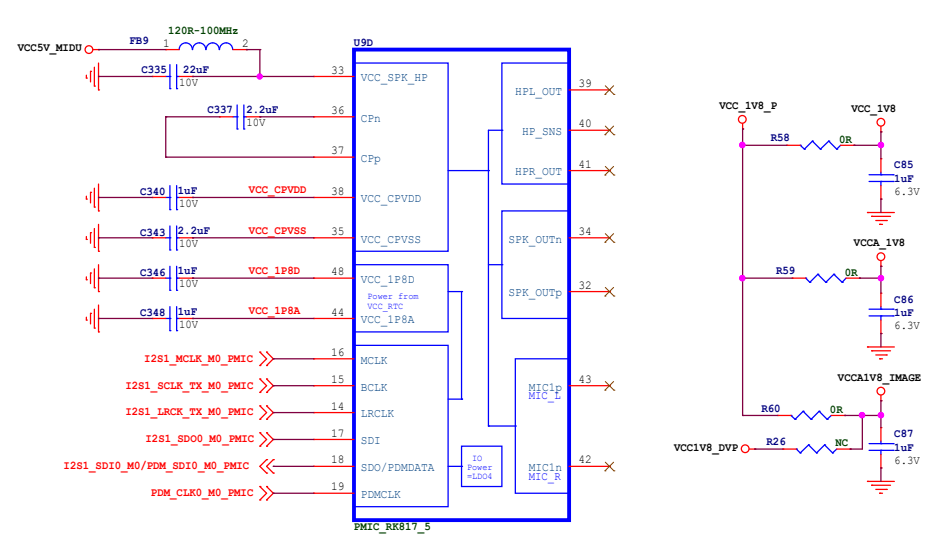
# PMIC RK817 LDO



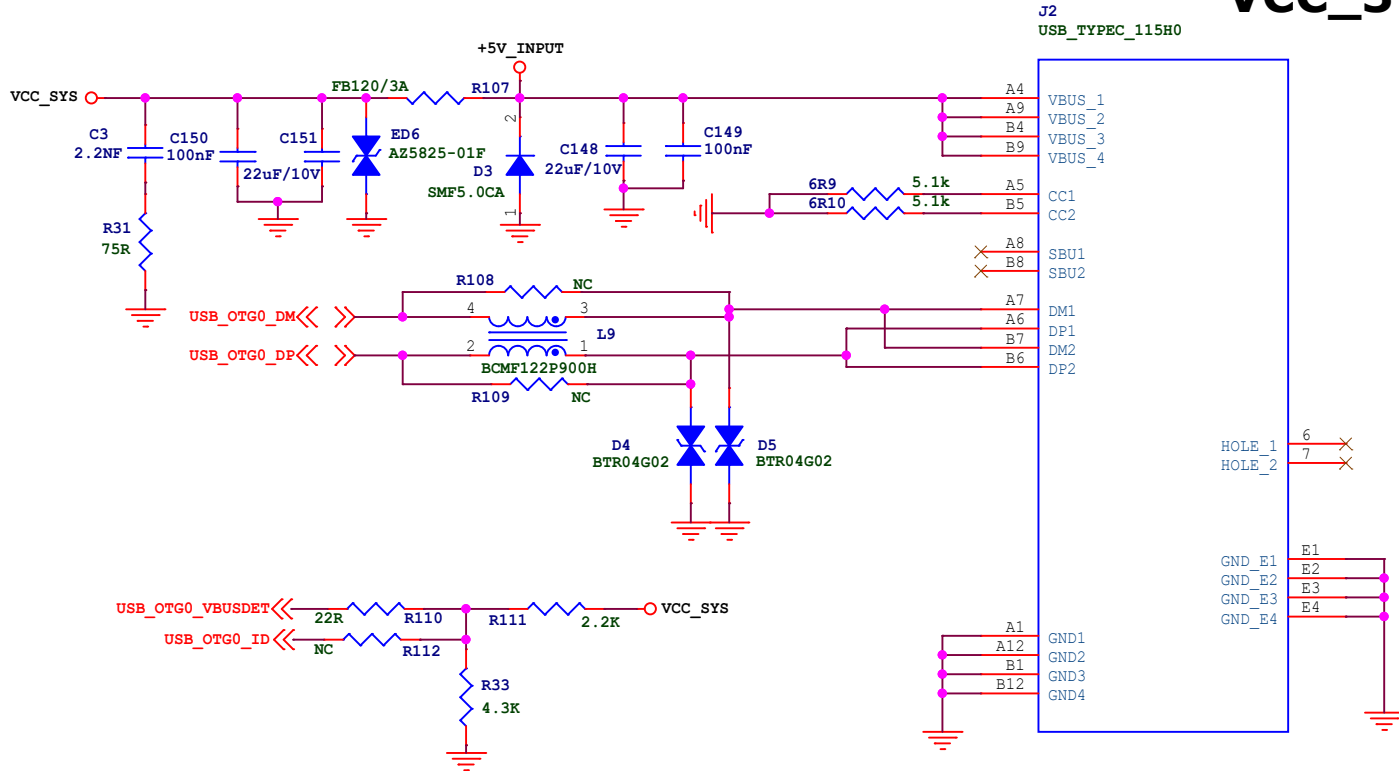
# PMIC RK817 Management



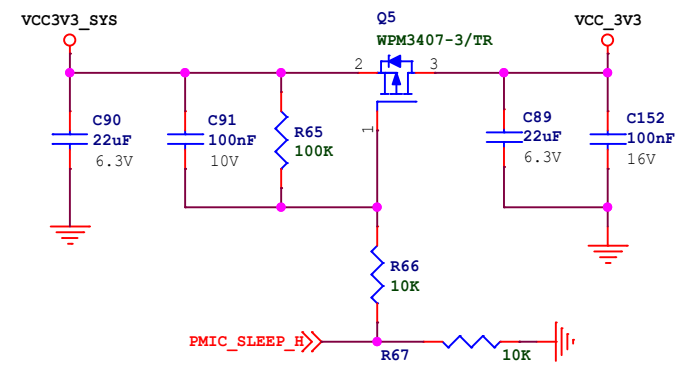
# PMIC RK817 CODEC



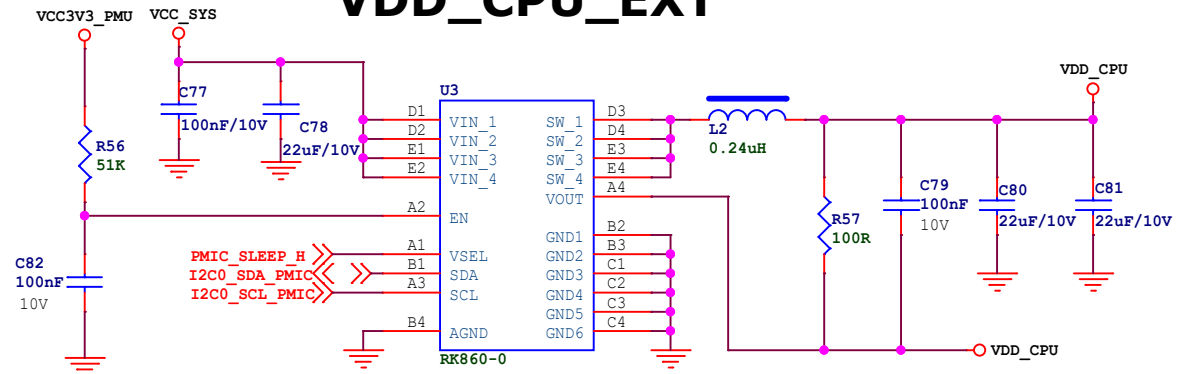
# DC 5V IN



# VCC\_3V3 (Power OFF under SLEEP)



# VDD\_CPU\_EXT



Size	Title:	Zero 3W	REV
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