



Radxa ROCK 5T

Schematic

V1.2

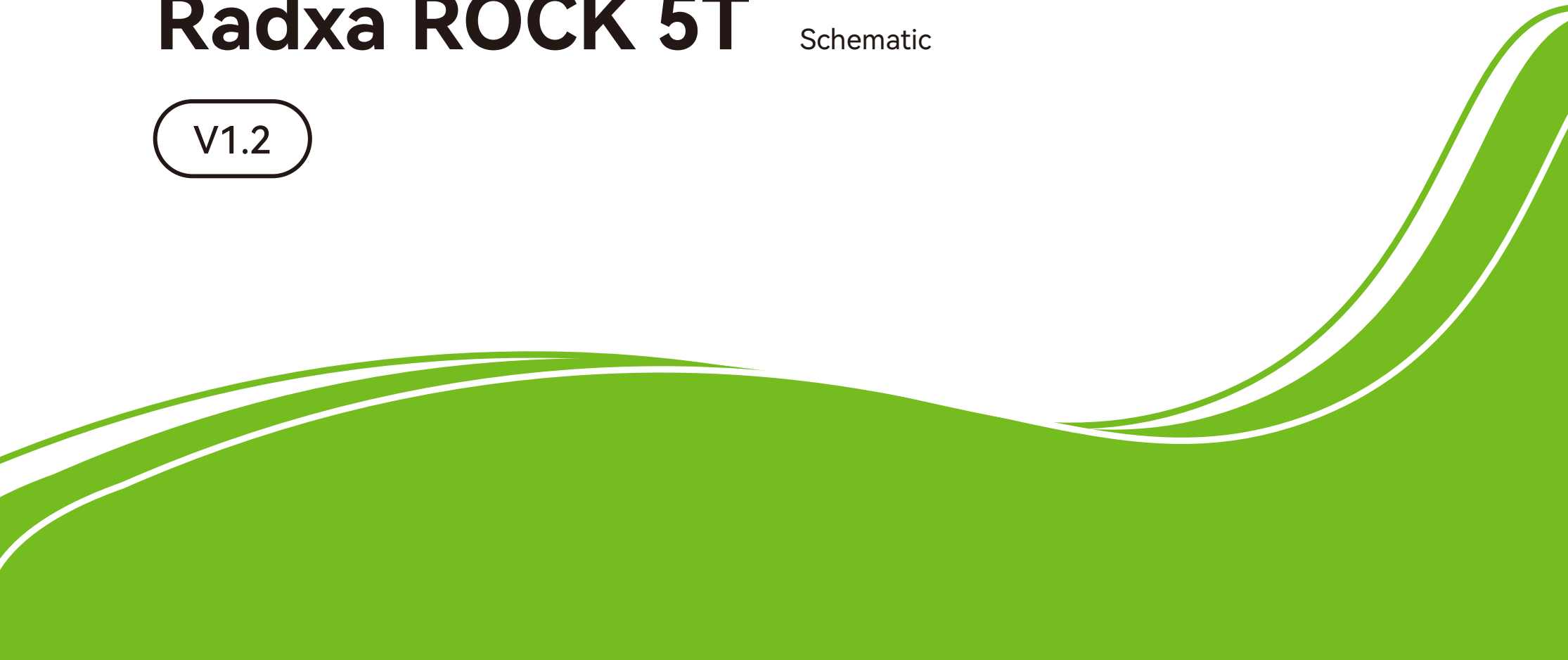


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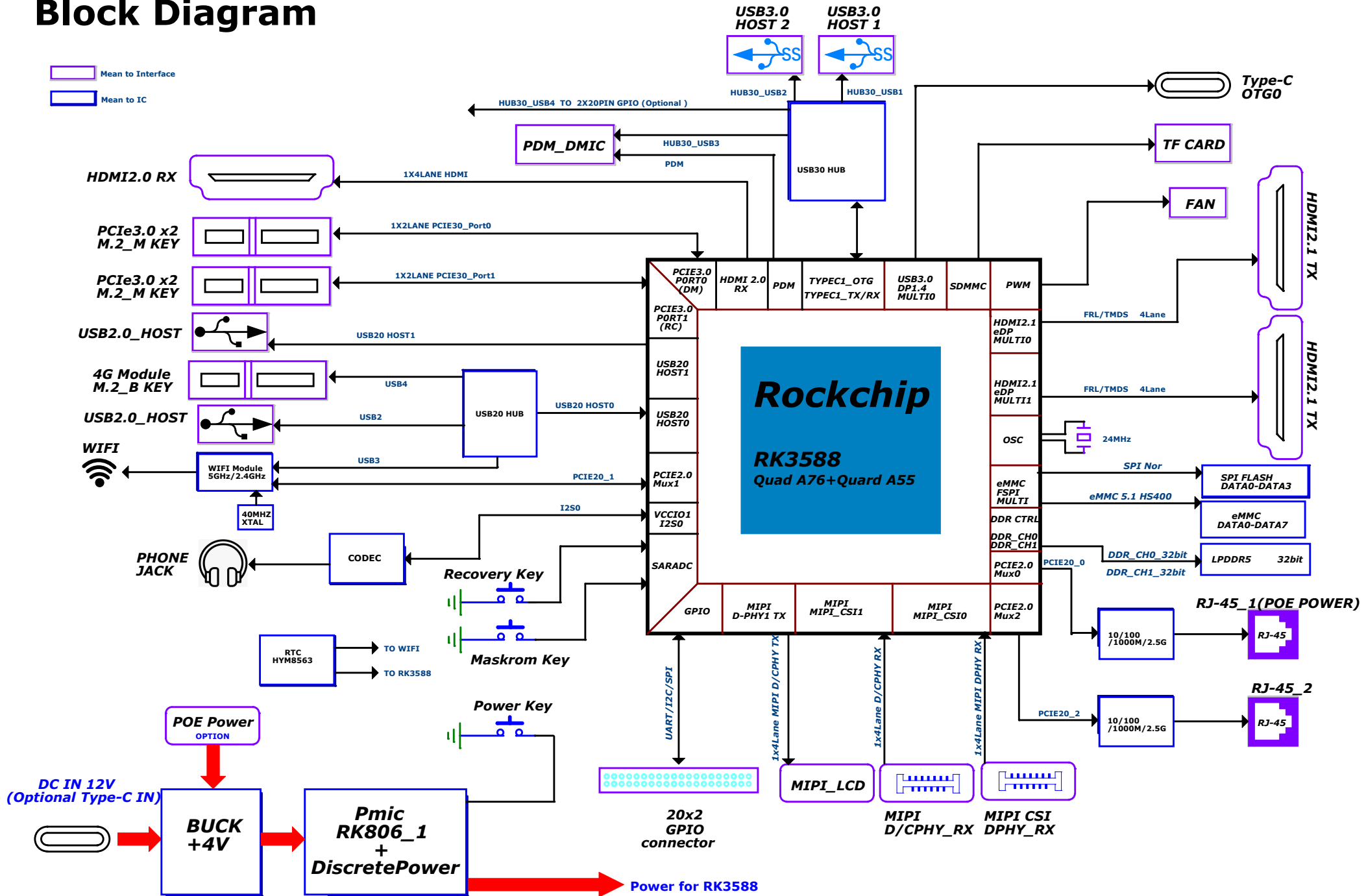
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Block Diagram

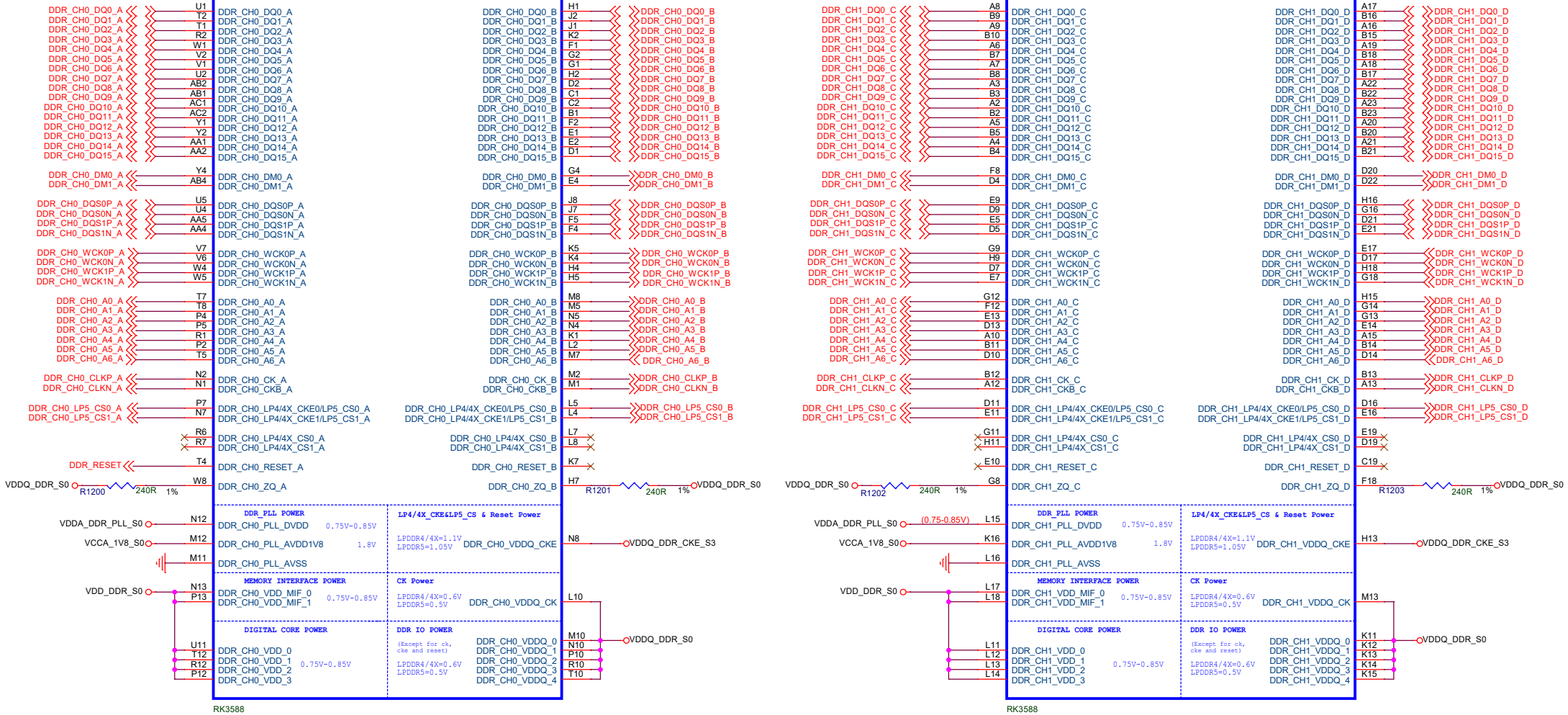
- Mean to Interface
- Mean to IC



RK3588 DDR Controller

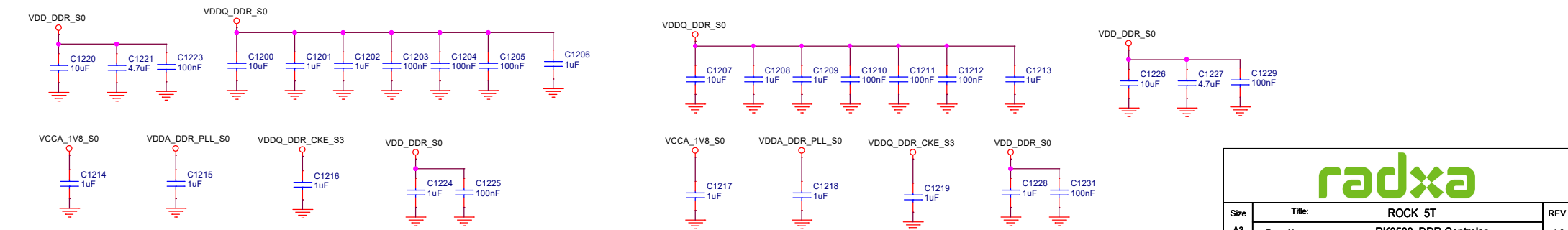
U1000A

U1000B



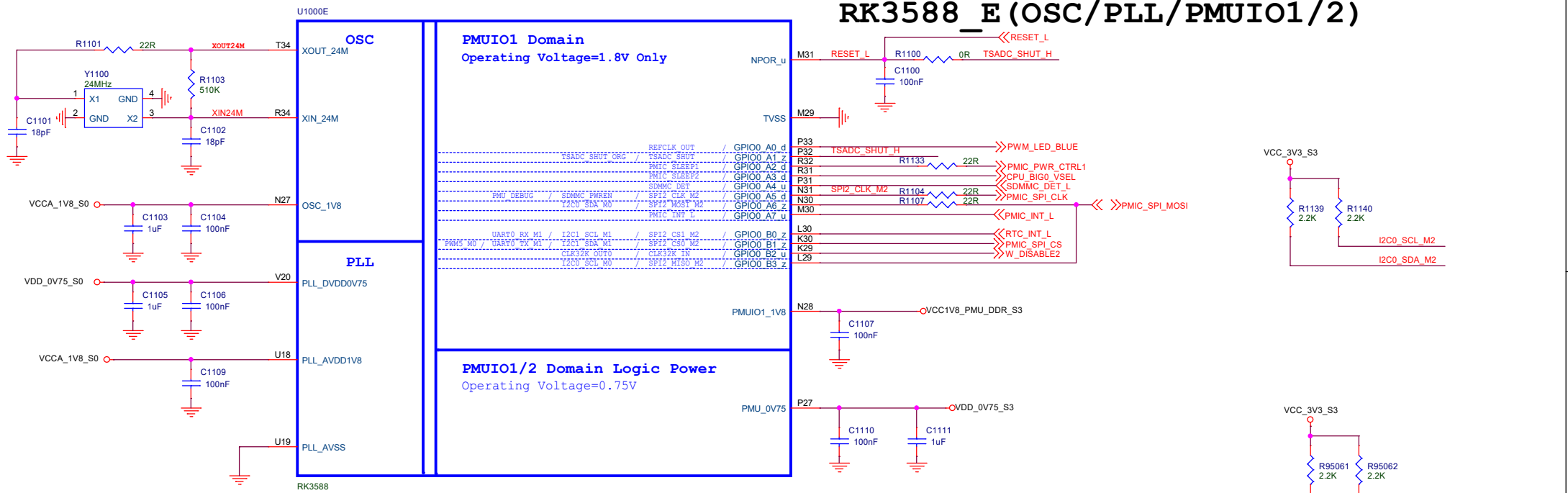
RK3588

RK3588

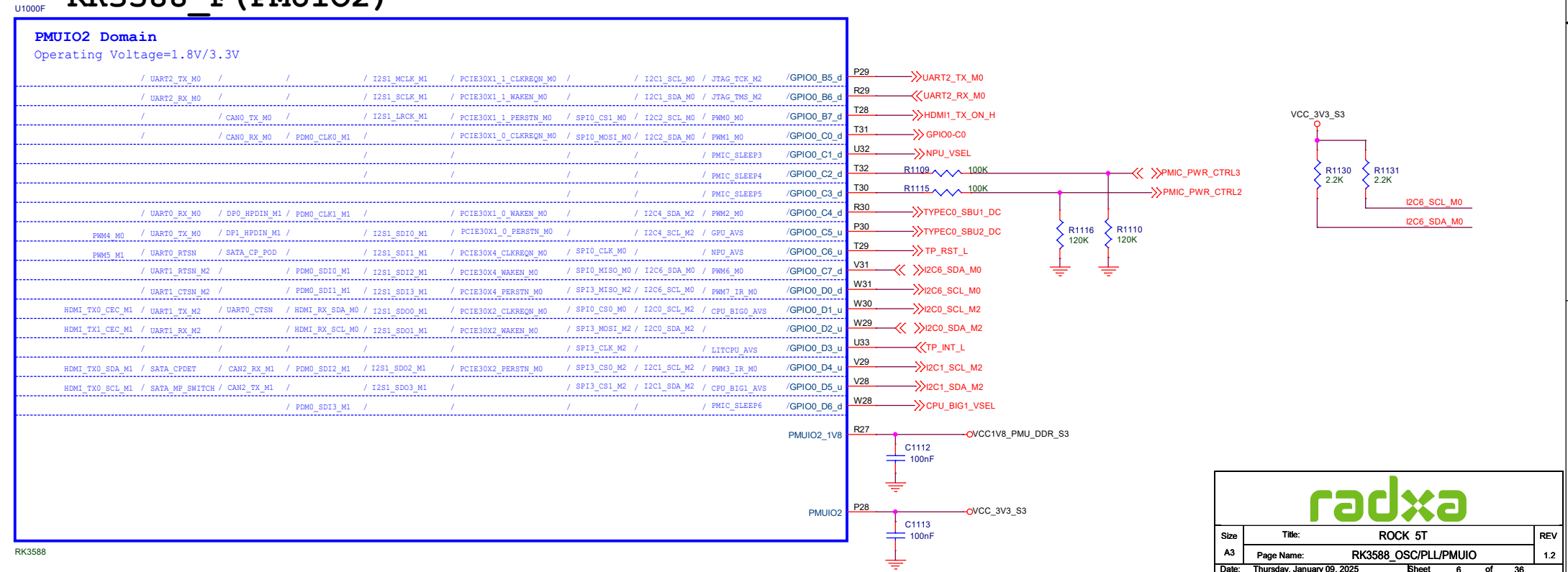



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RK3588_E (OSC/PLL/PMUIO1/2)



RK3588_F (PMUIO2)

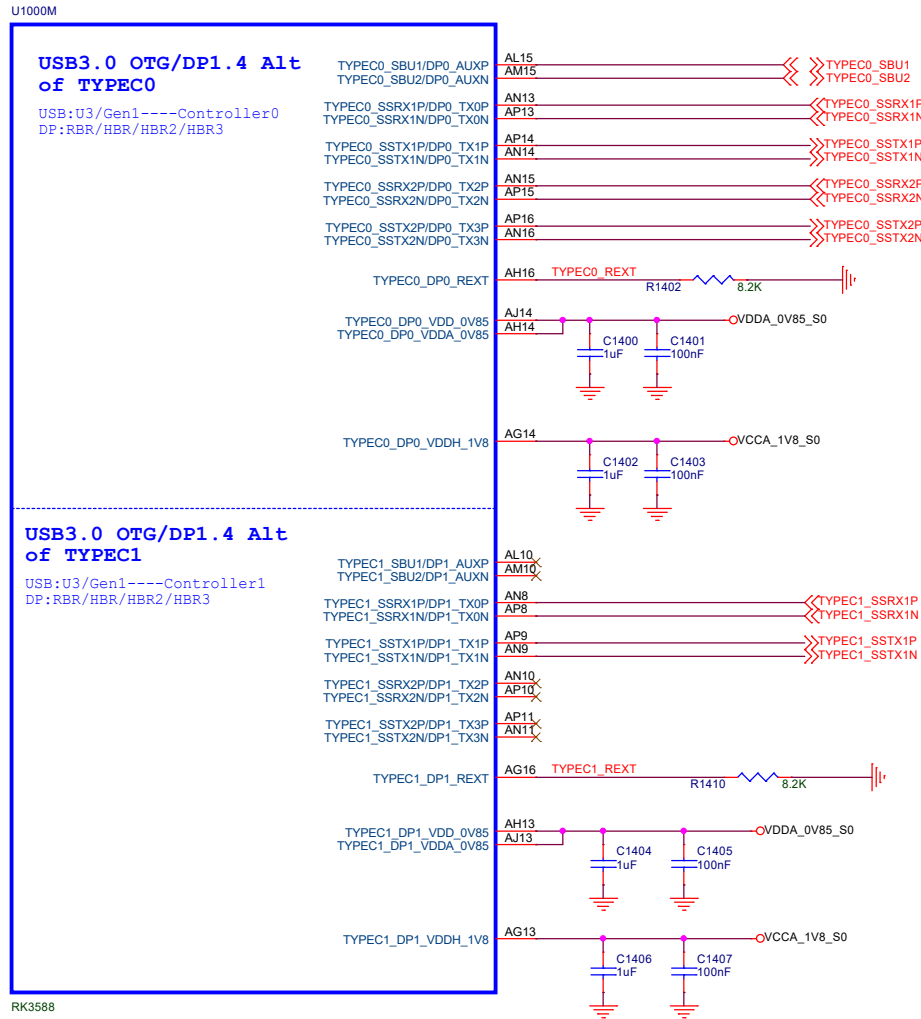




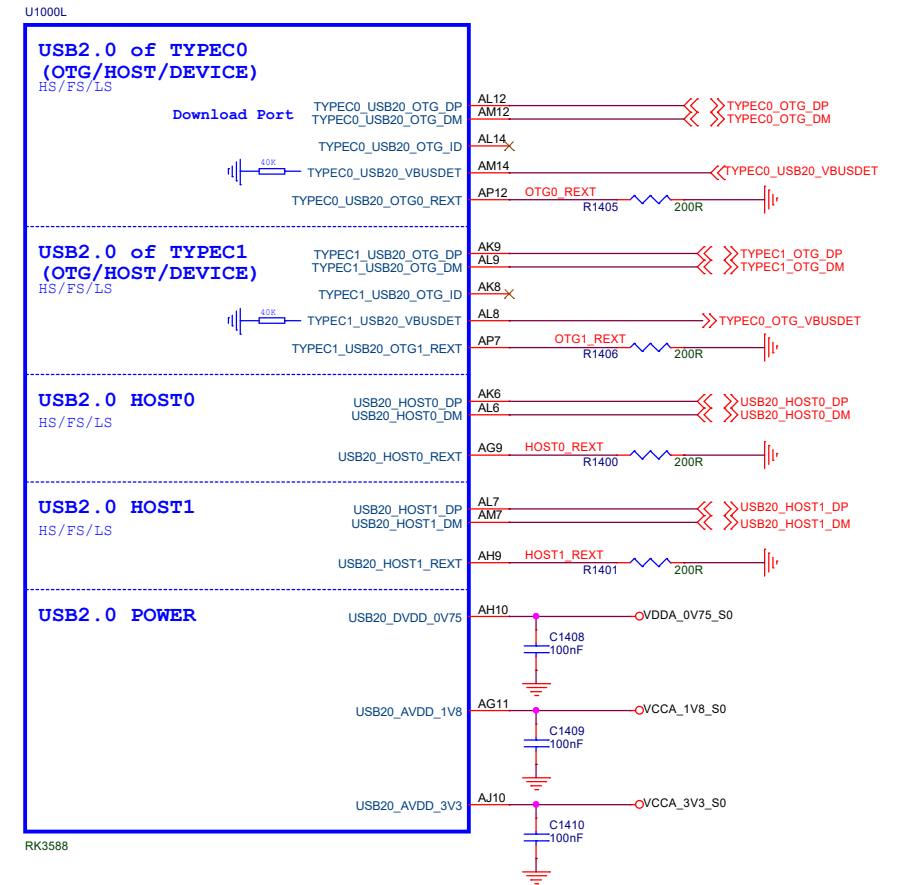
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RK3588_M (TYPEC/DP)

RK3588_L (USB2.0 HOST/OTG)



RK3588



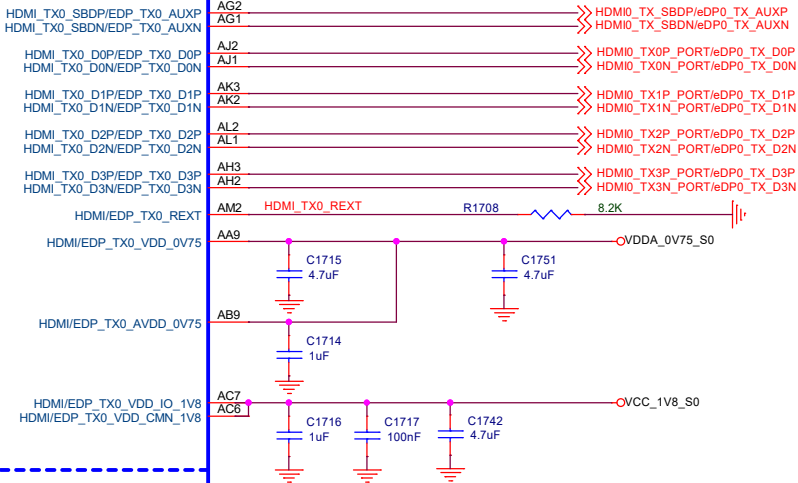
RK3588

RK3588_S (HDMI2.1 TX)

U1000S

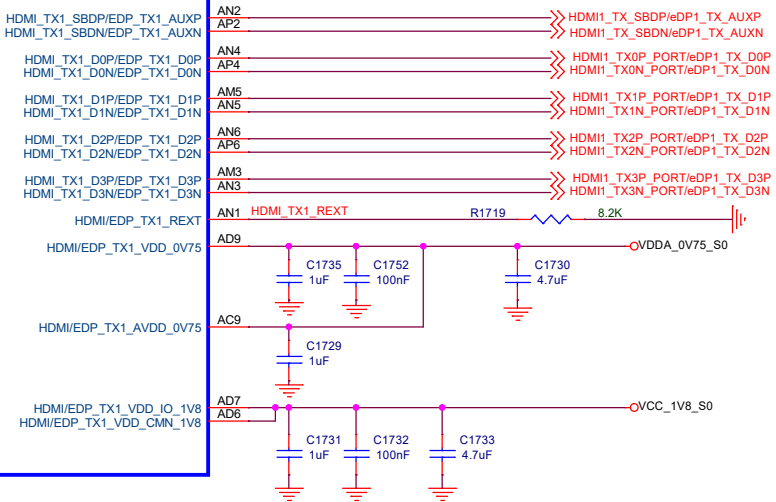
HDMI TX/eDP MUX Port0

HDMI:V2.1 12Gbps
eDP: V1.3 5.4Gbps



HDMI TX/eDP MUX Port1

HDMI:V2.1 12Gbps
eDP: V1.3 5.4Gbps



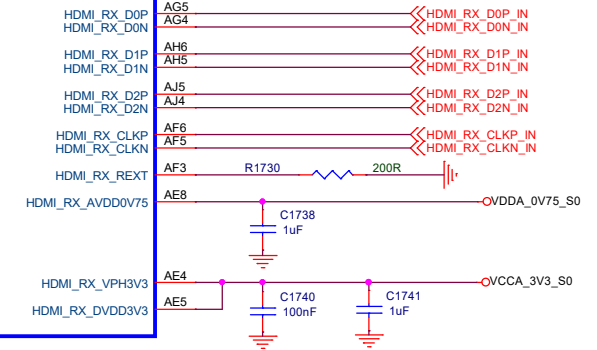
RK3588

RK3588_T (HDMI2.0 RX)

U1000T

HDMI RX

HDMI:V2.0

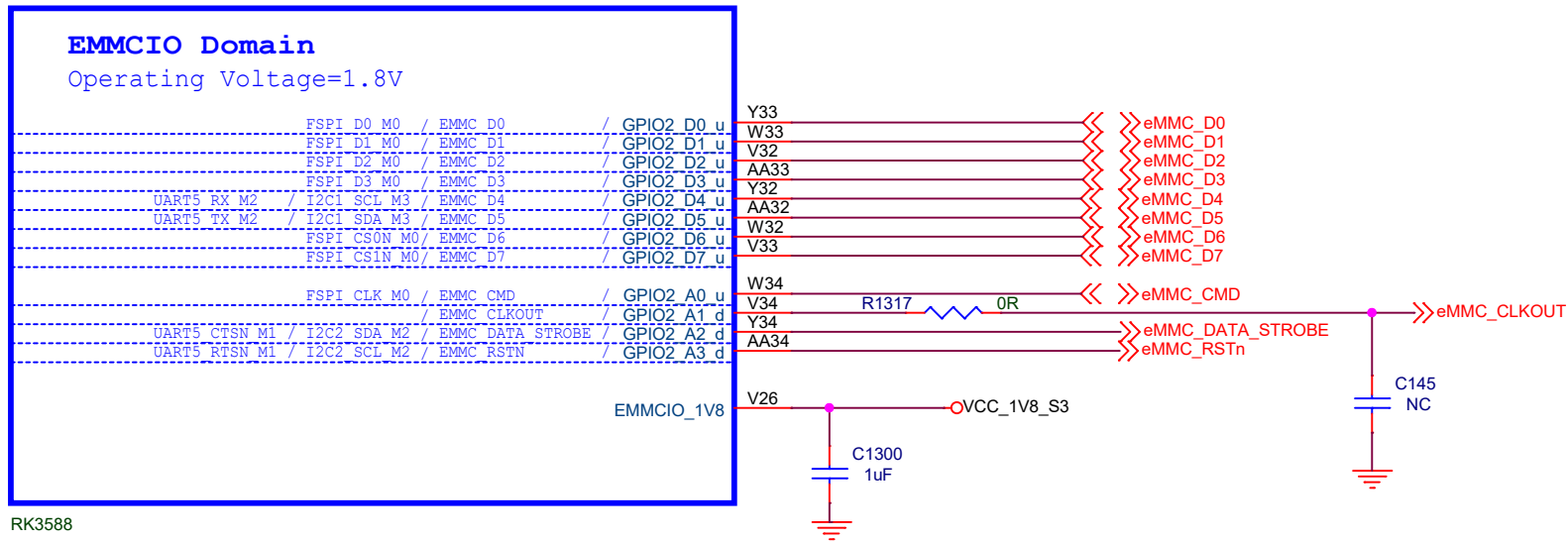


RK3588



RK3588_C (EMMC)

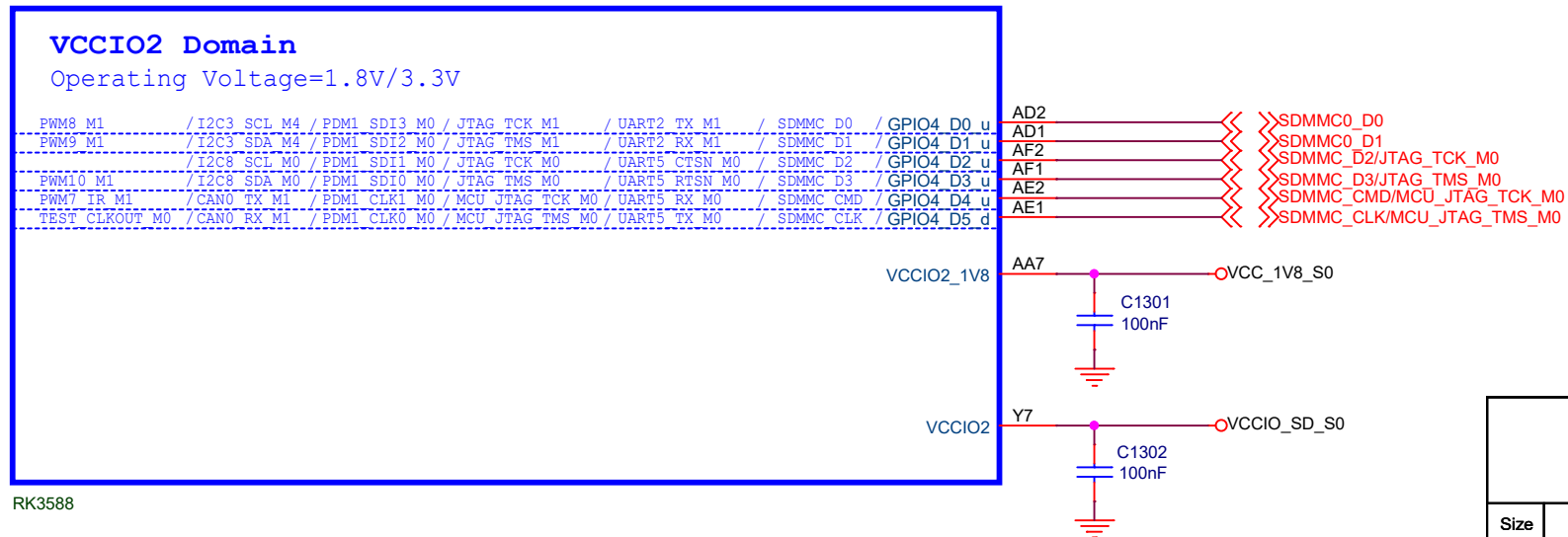
U1000C



RK3588

RK3588_D (VCCIO2)

U1000D



RK3588



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RK3588_Q/R(MIPI_D/C_PHY0/1)

U1000Q

MIPI D/C-PHY DSI_TX Port0

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C
MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B
MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B
MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A
MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A
MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C
MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B
MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A
MIPI_DPHY0_TX_D3P/NO_USE
MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C

AN26
AP26
AN24
AP24
AN25
AP25
AN27
AP27
AN28
AP28

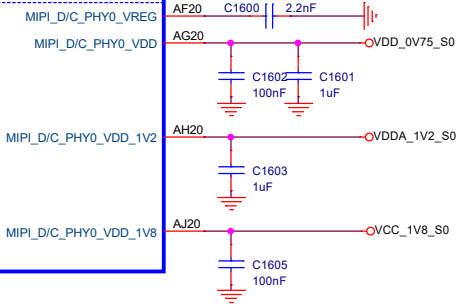
MIPI D/C-PHY CSI_RX Port0

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C
MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B
MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B
MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A
MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A
MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C
MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B
MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_TRIO2_A
MIPI_DPHY0_RX_D3P/NO_USE
MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C

AN32
AP31
AN29
AP29
AN30
AP30
AN33
AP32
AN34
AP33

MIPI D/C-PHY POWER



RK3588

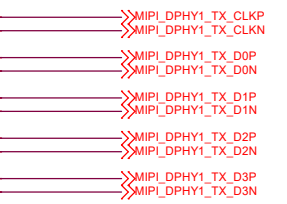
U1000R

MIPI D/C-PHY DSI_TX Port1

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY1_TX_CLKP/MIPI_CPHY1_TX_TRIO1_C
MIPI_DPHY1_TX_CLKN/MIPI_CPHY1_TX_TRIO1_B
MIPI_DPHY1_TX_D0P/MIPI_CPHY1_TX_TRIO0_B
MIPI_DPHY1_TX_D0N/MIPI_CPHY1_TX_TRIO0_A
MIPI_DPHY1_TX_D1P/MIPI_CPHY1_TX_TRIO1_A
MIPI_DPHY1_TX_D1N/MIPI_CPHY1_TX_TRIO0_C
MIPI_DPHY1_TX_D2P/MIPI_CPHY1_TX_TRIO2_B
MIPI_DPHY1_TX_D2N/MIPI_CPHY1_TX_TRIO2_A
MIPI_DPHY1_TX_D3P/NO_USE
MIPI_DPHY1_TX_D3N/MIPI_CPHY1_TX_TRIO2_C

AN20
AP20
AN18
AP18
AN19
AP19
AN21
AP21
AN22
AP22



MIPI D/C-PHY CSI_RX Port1

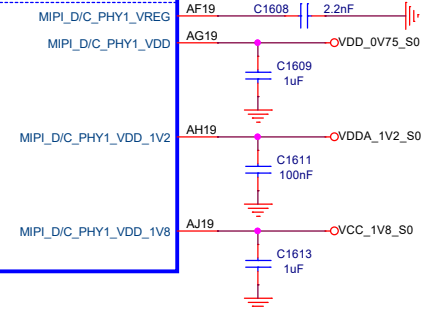
D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C
MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B
MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B
MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A
MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A
MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C
MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B
MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A
MIPI_DPHY1_RX_D3P/NO_USE
MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C

AK20
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AK19
AL19
AK21
AL21
AK22
AL22



MIPI D/C-PHY POWER

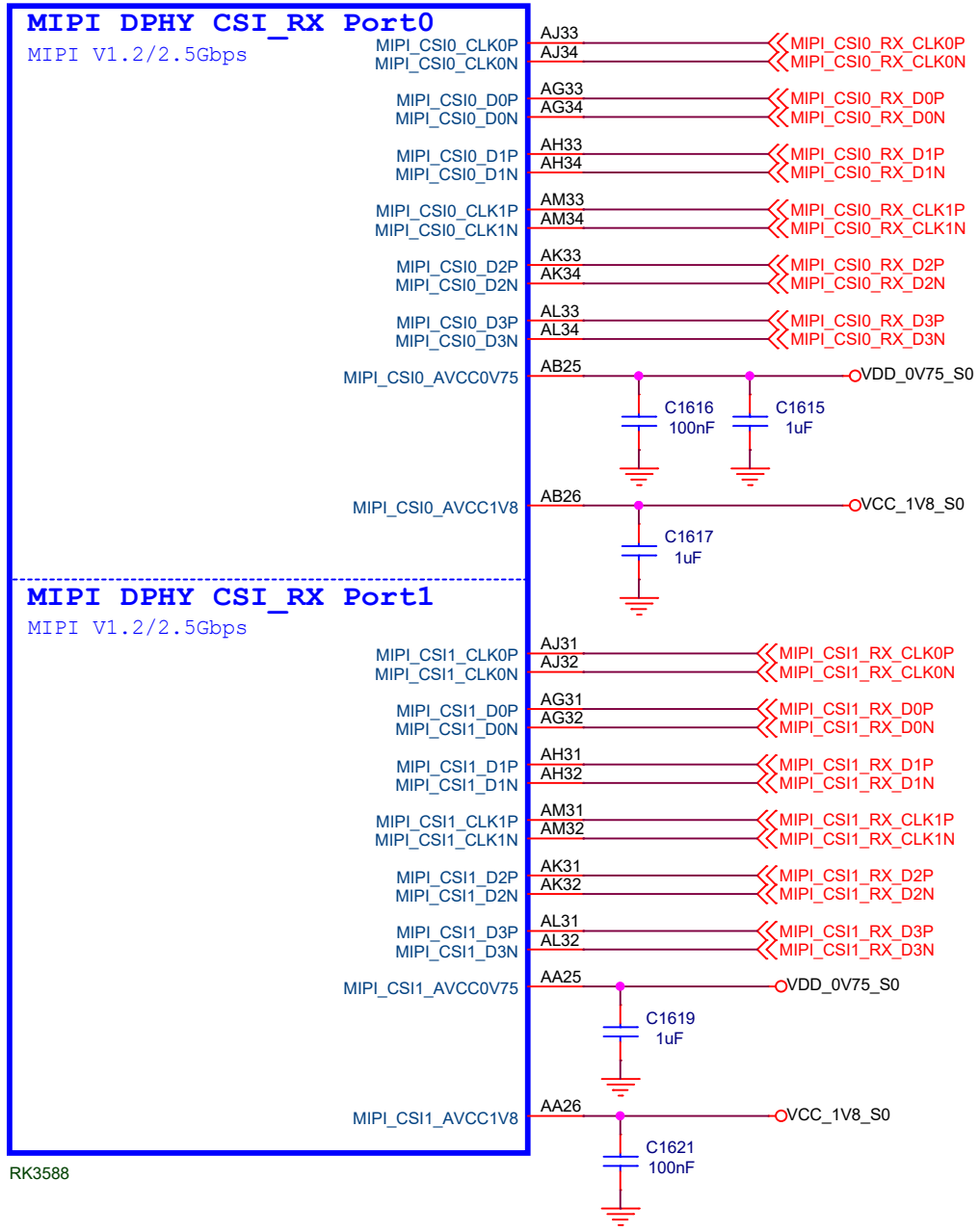


RK3588



RK3588_P (MIPI_CSI_RX_PHY)

U1000P



RK3588

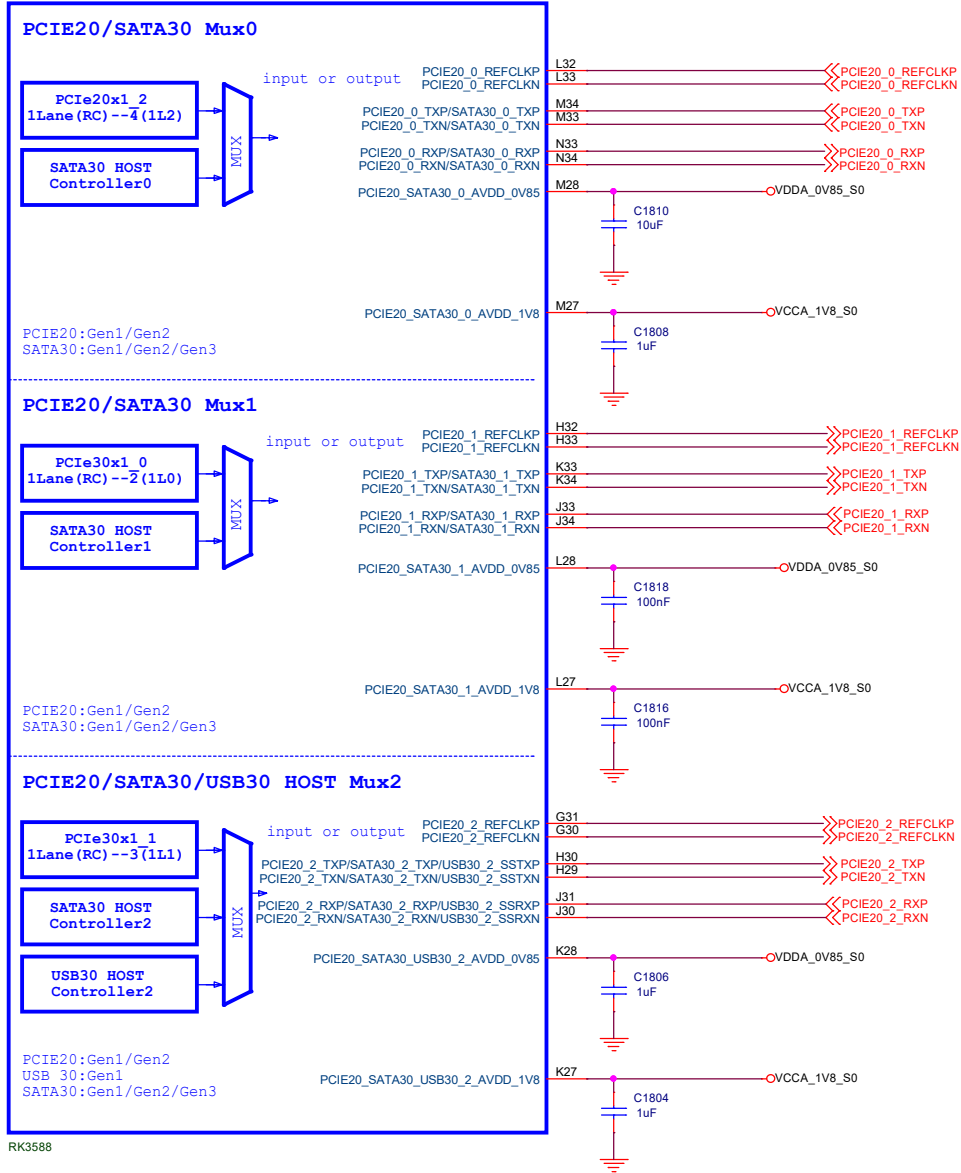


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RK3588_N (PCIE20)

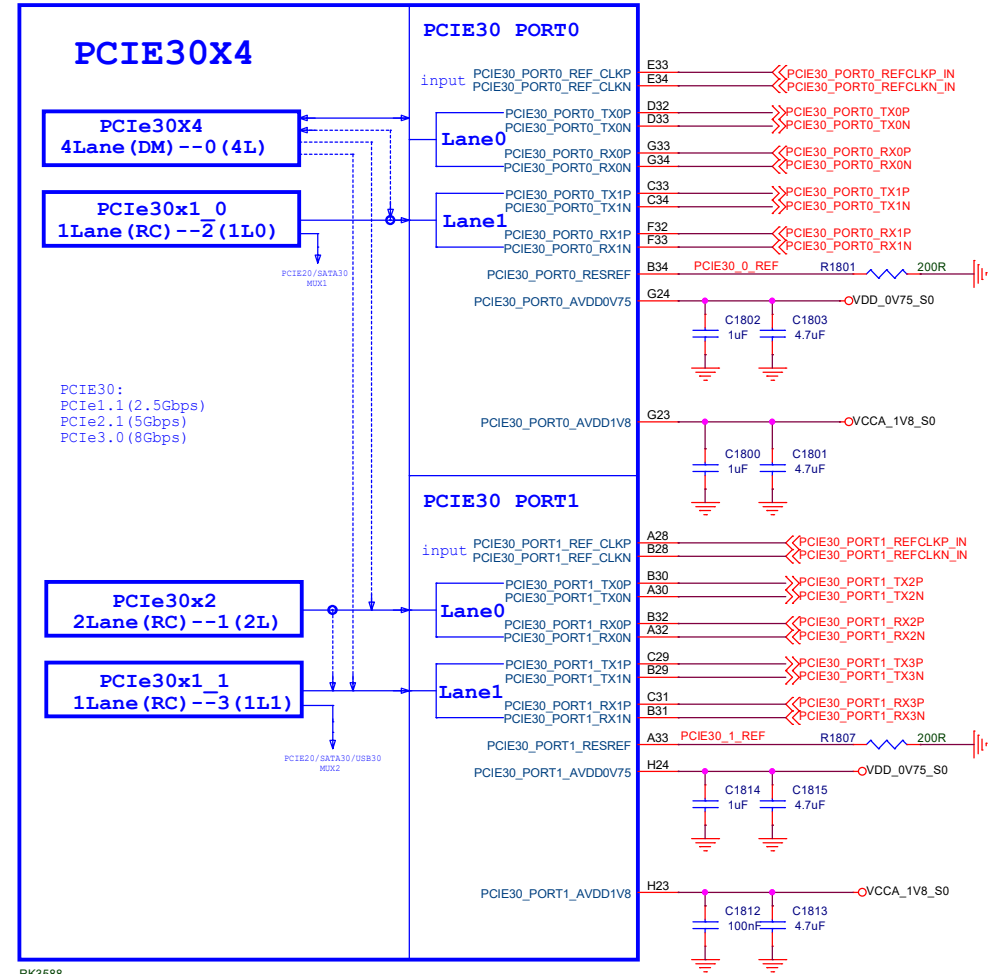
RK3588_O (PCIE30)

U1000N



RK3588

U1000O

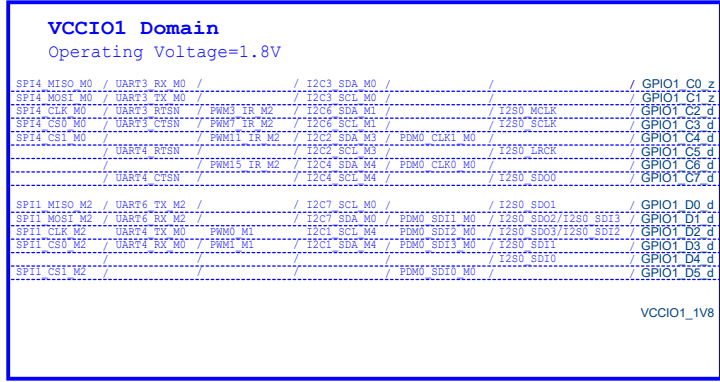


RK3588

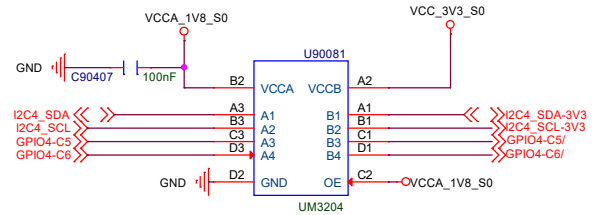


RK3588_G (VCCIO1 Domain)

U1000G

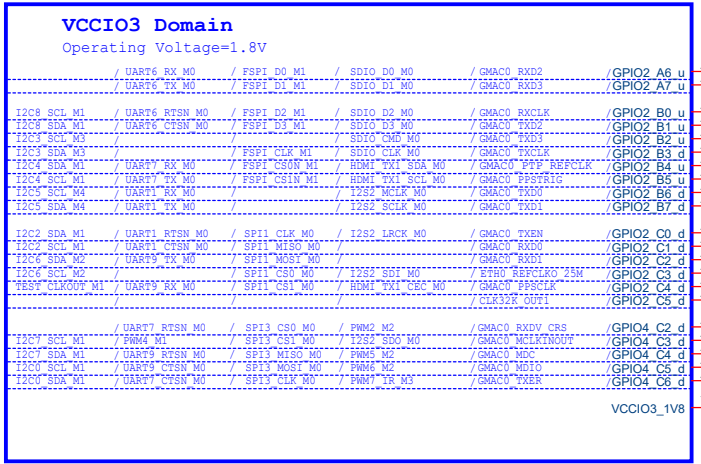


RK3588



RK3588_H (VCCIO3 Domain)

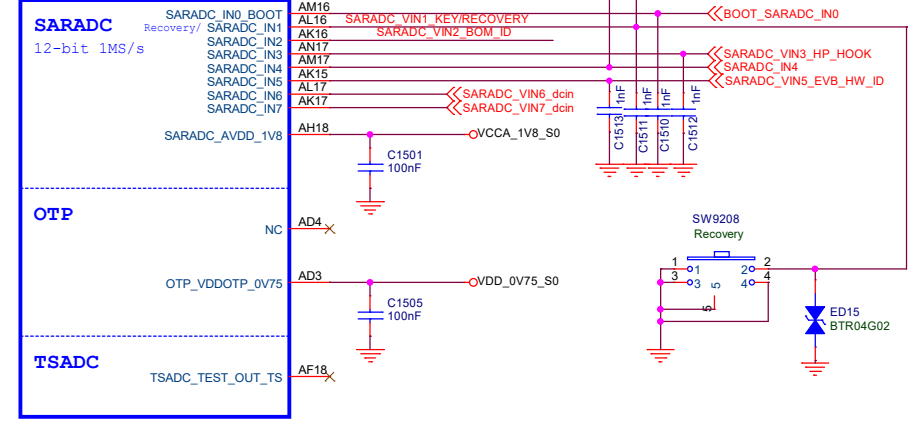
U1000H



RK3588

RK3588_U (SARADC/OTP)

U1000U



RK3588

BOOT MODE CONFIG

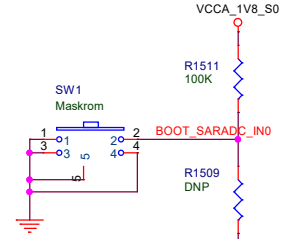


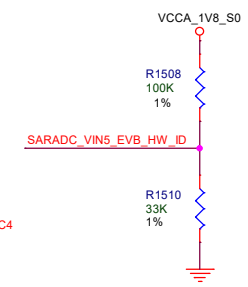
TABLE 1

Item	Rup	Rdown	ADC	VOL	BOOT MODE
LEVEL1	DNP	100K	0	0V	USB (Maskrom mode)
LEVEL2	100K	20K	682	0.3V	SD Card-USB
LEVEL3	100K	51K	1365	0.6V	EMMC-USB
LEVEL4	100K	100K	2047	0.9V	FSPI M0-USB
LEVEL5	100K	200K	2730	1.2V	FSPI M1-USB
LEVEL6	100K	499K	3412	1.5V	FSPI M2-USB
LEVEL7	100K	DNP	4095	1.8V	FSPI_M2-FSPI_M1-FSPI_M0-EMMC-SD Card-USB

TABLE 2

Item	Rup	Rdown	ADC	VOL	VERSION
LEVEL1	DNP	100K	0	0V	A
LEVEL2	100K	20K	682	0.3V	B
LEVEL3	100K	51K	1365	0.6V	C
LEVEL4	100K	100K	2047	0.9V	D
LEVEL5	100K	200K	2730	1.2V	E
LEVEL6	100K	499K	3412	1.5V	F
LEVEL7	100K	DNP	4095	1.8V	H

BOARD ID CONFIG



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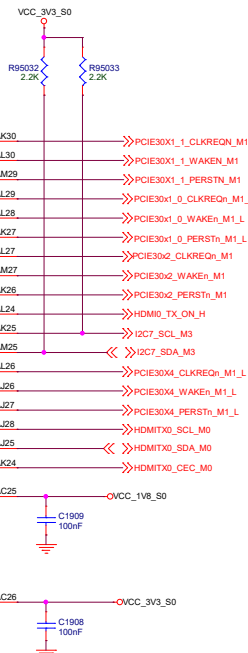
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RK3588_K (VCCIO6)

U1000K

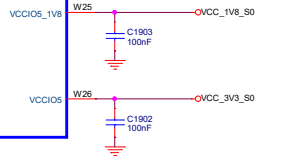
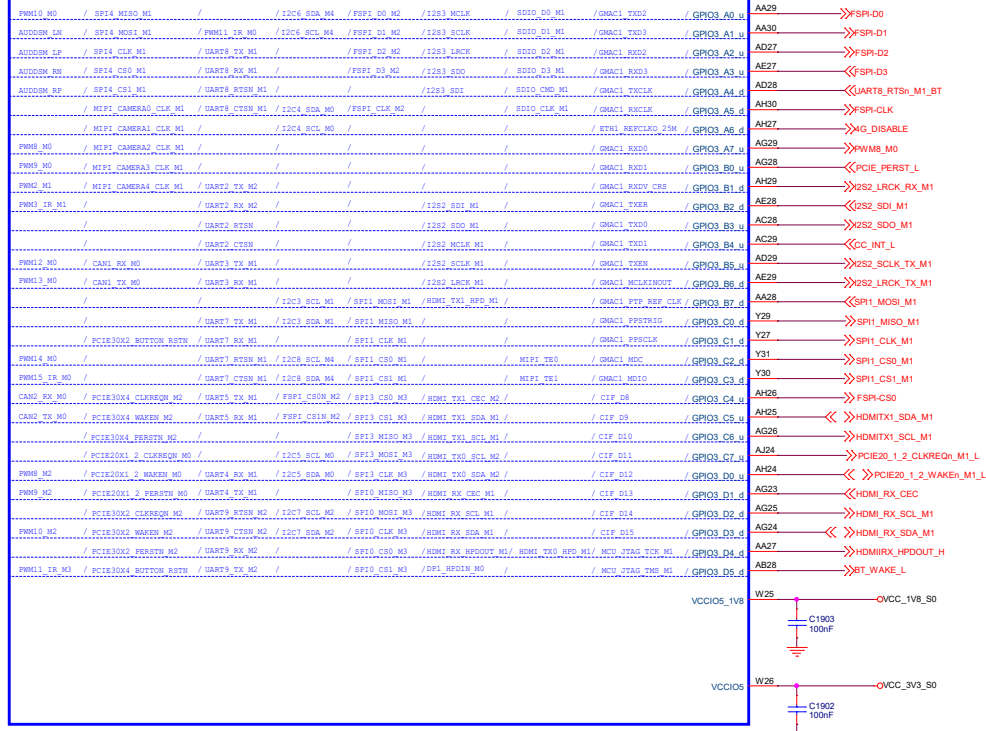
VCCIO6 Domain
Operating Voltage=1.8V/3.3V



RK3588_J (VCCIO5)

U1000J

VCCIO5 Domain
Operating Voltage=1.8V/3.3V

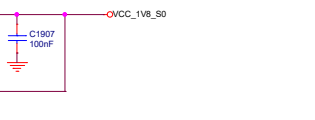
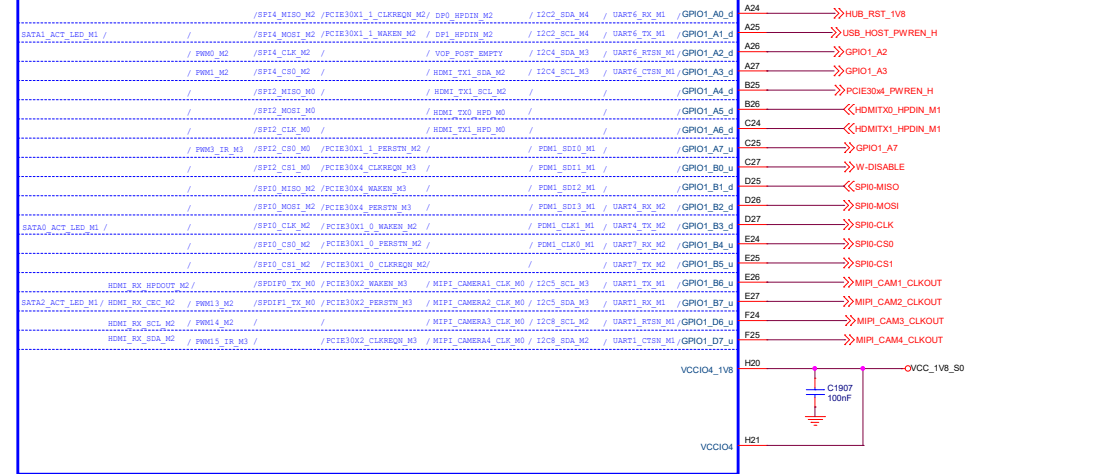


RK3588

RK3588_I (VCCIO4)

U1000I

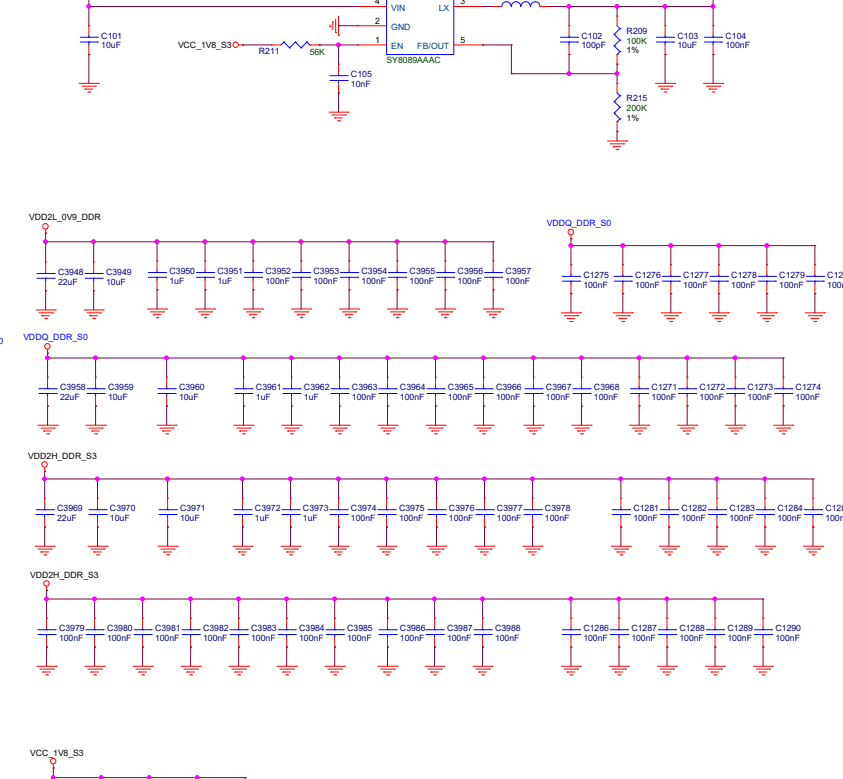
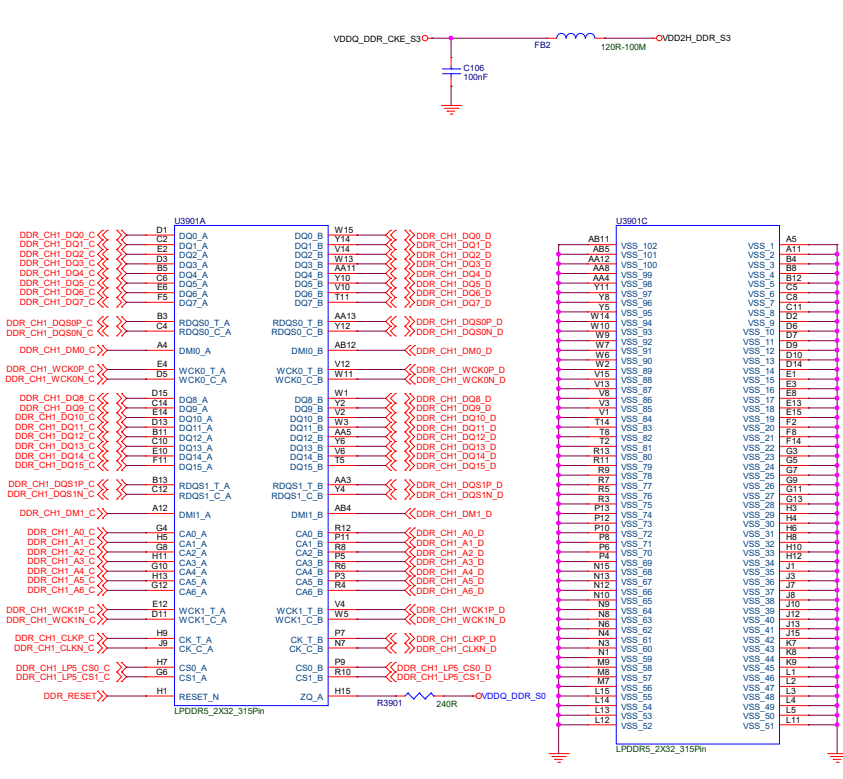
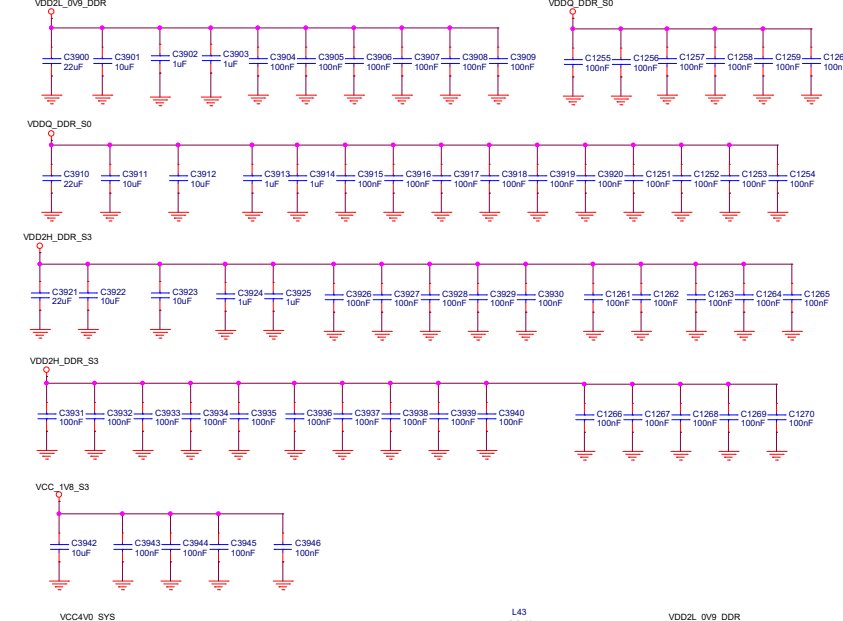
VCCIO4 Domain
Operating Voltage=1.8V/3.3V



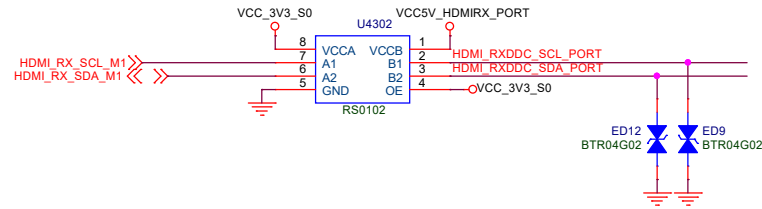
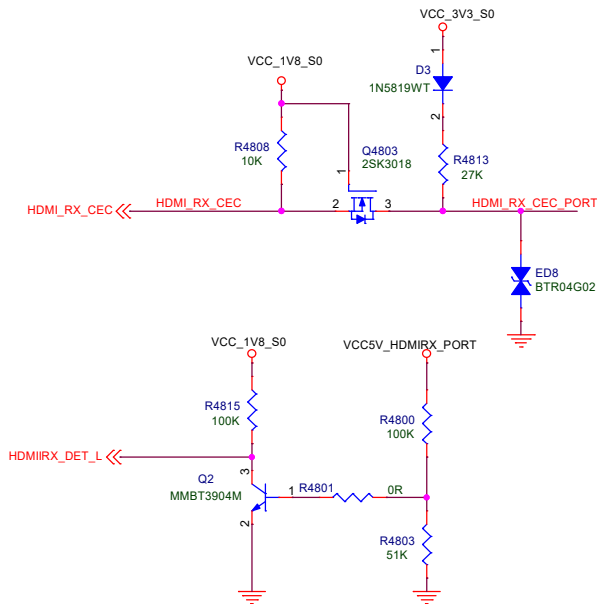
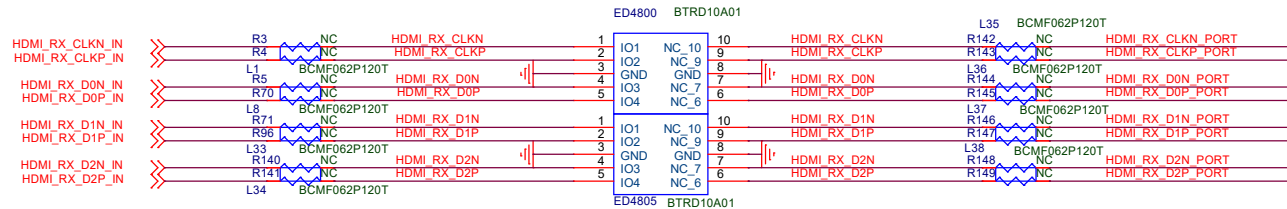
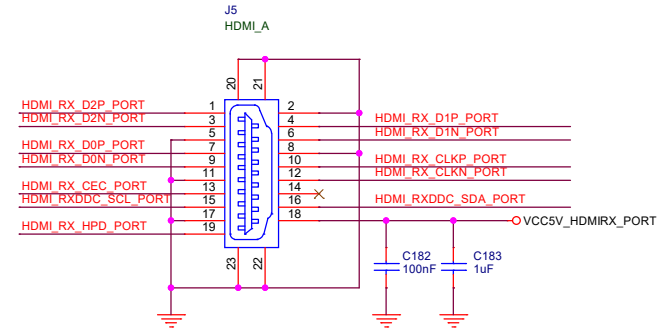
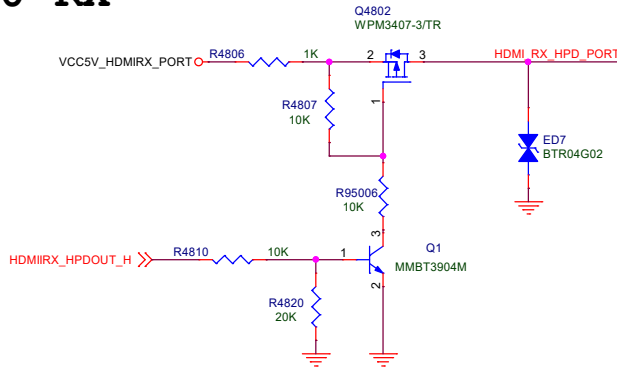
RK3588

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LPDDR5

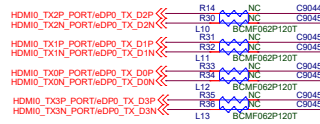
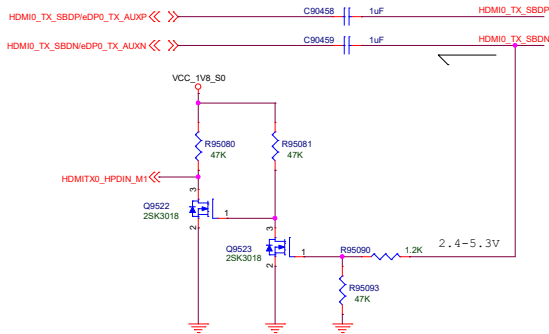


HDMI2.0 RX

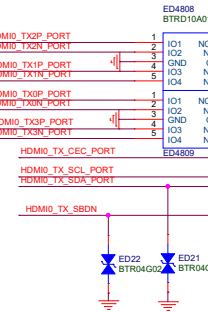
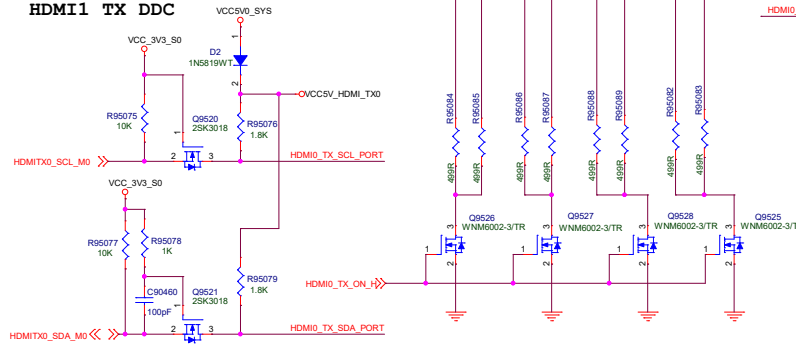


HDMI 1

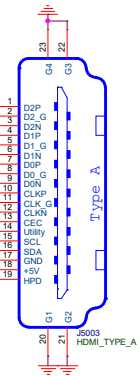
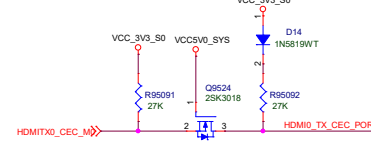
HDMI1 TX eARC



HDMI1 TX DDC

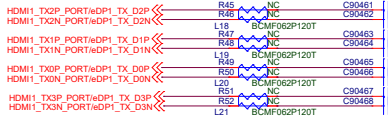
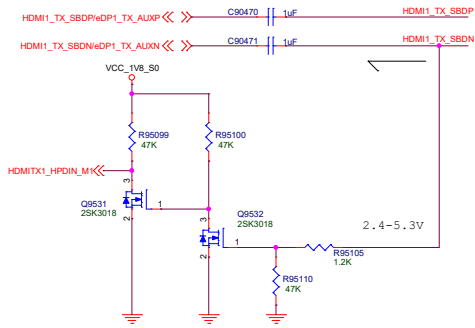


HDMI1 TX CEC

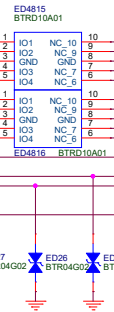
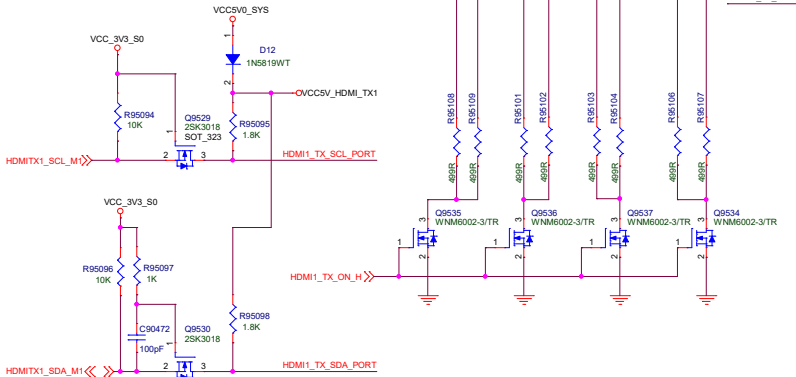


HDMI 2

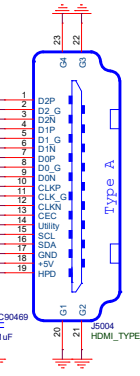
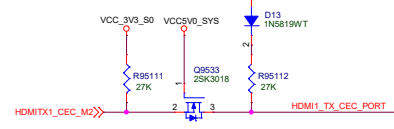
HDMI2 TX eARC



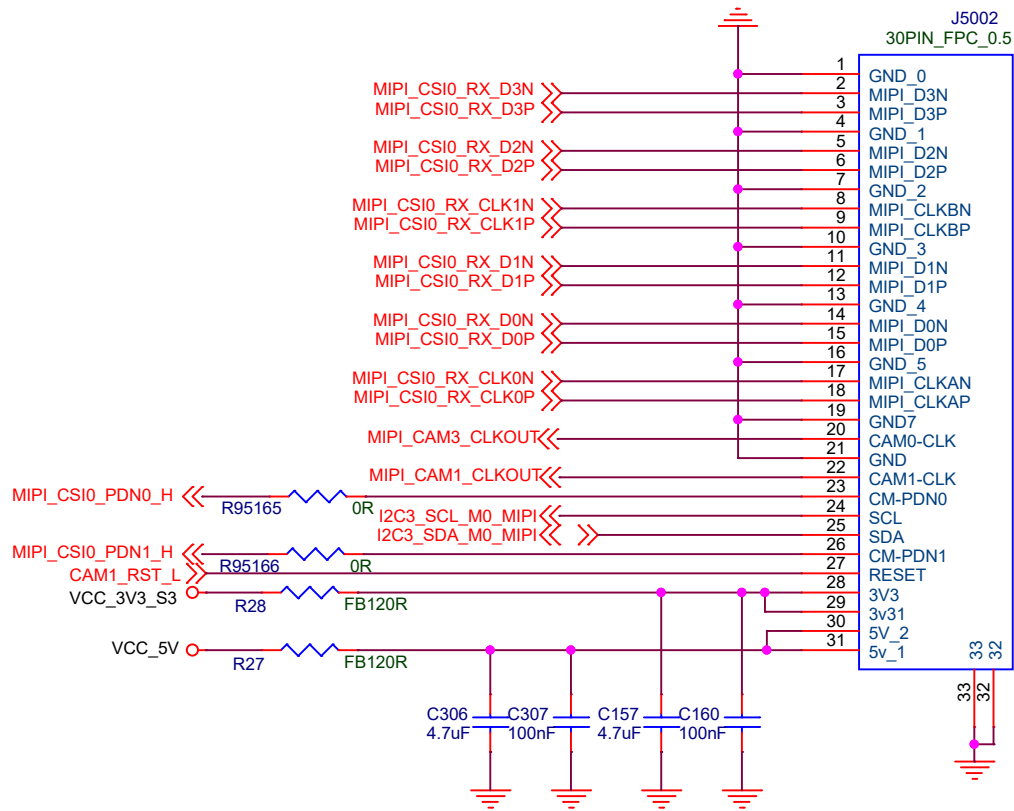
HDMI2 TX DDC



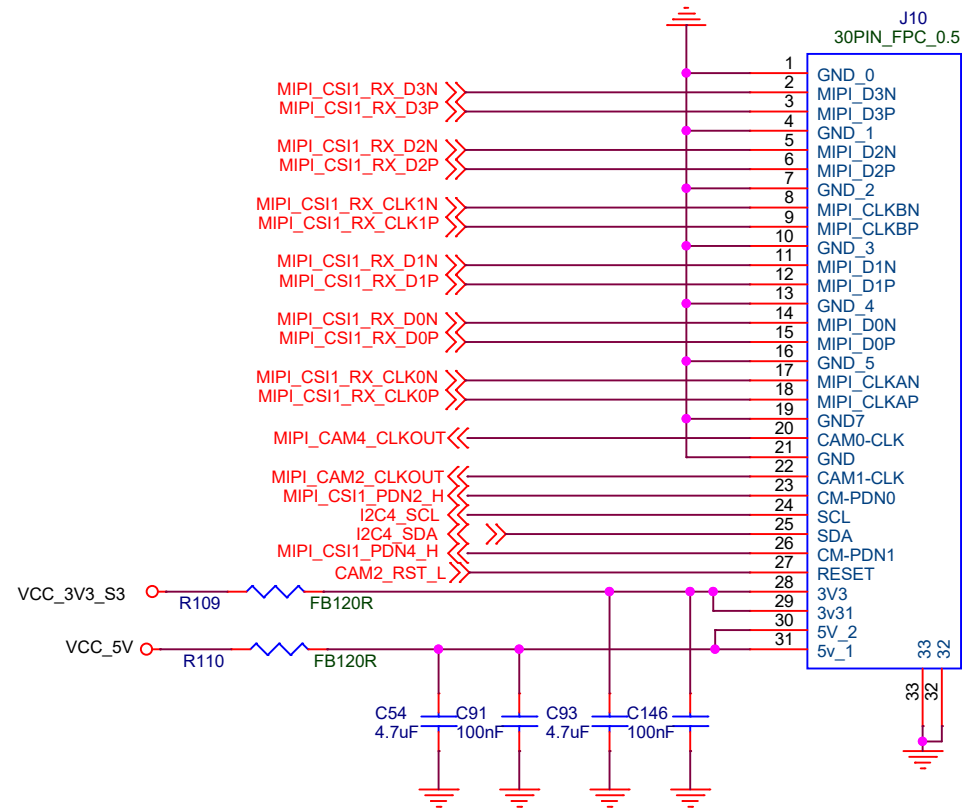
HDMI2 TX CEC



CAM1

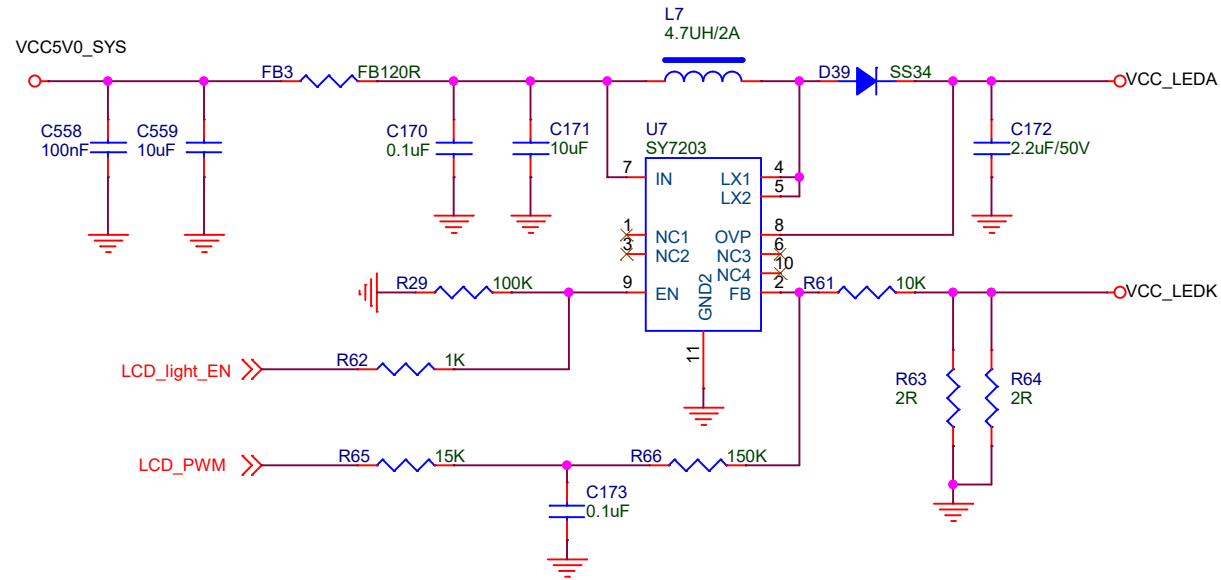


CAM2

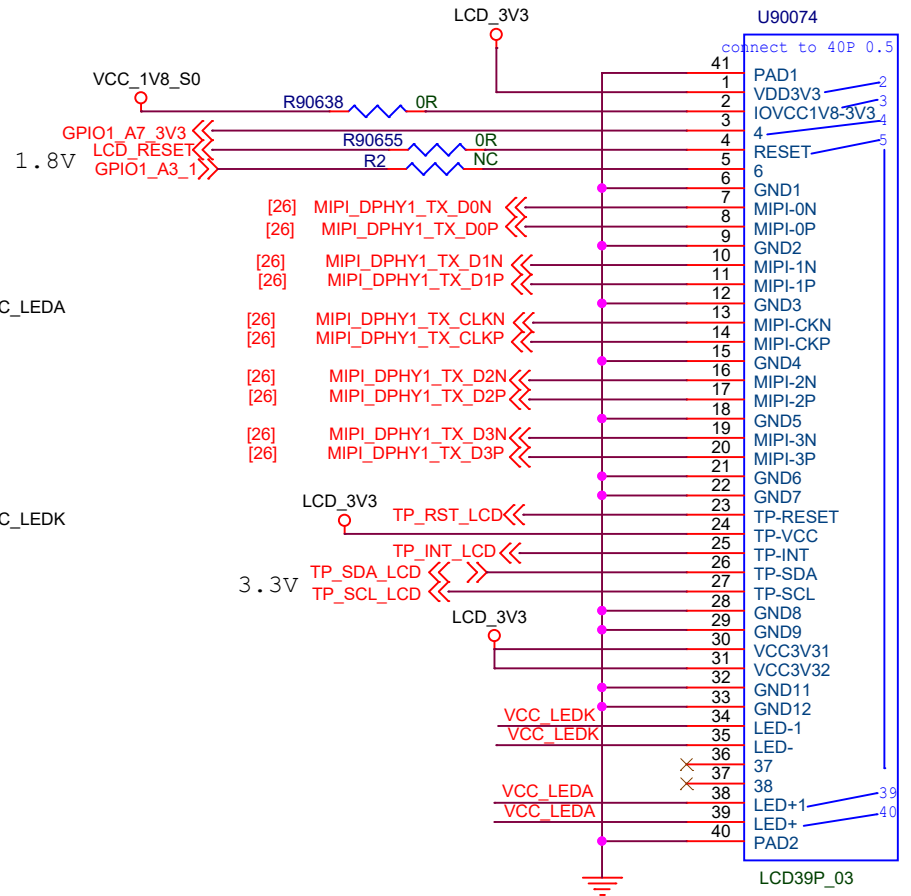
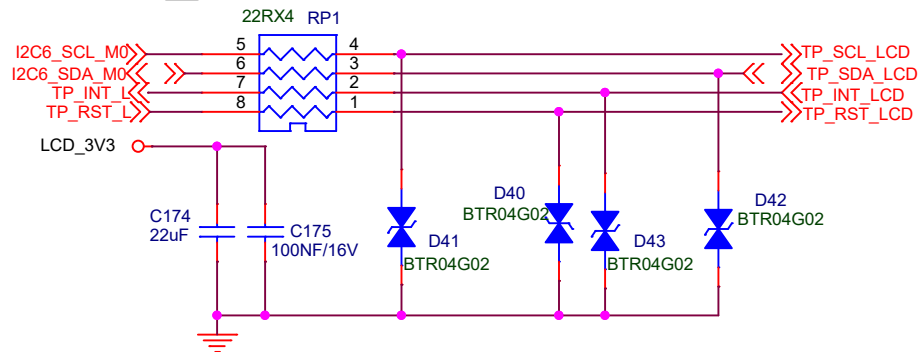


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MIPI DPHY1 TX

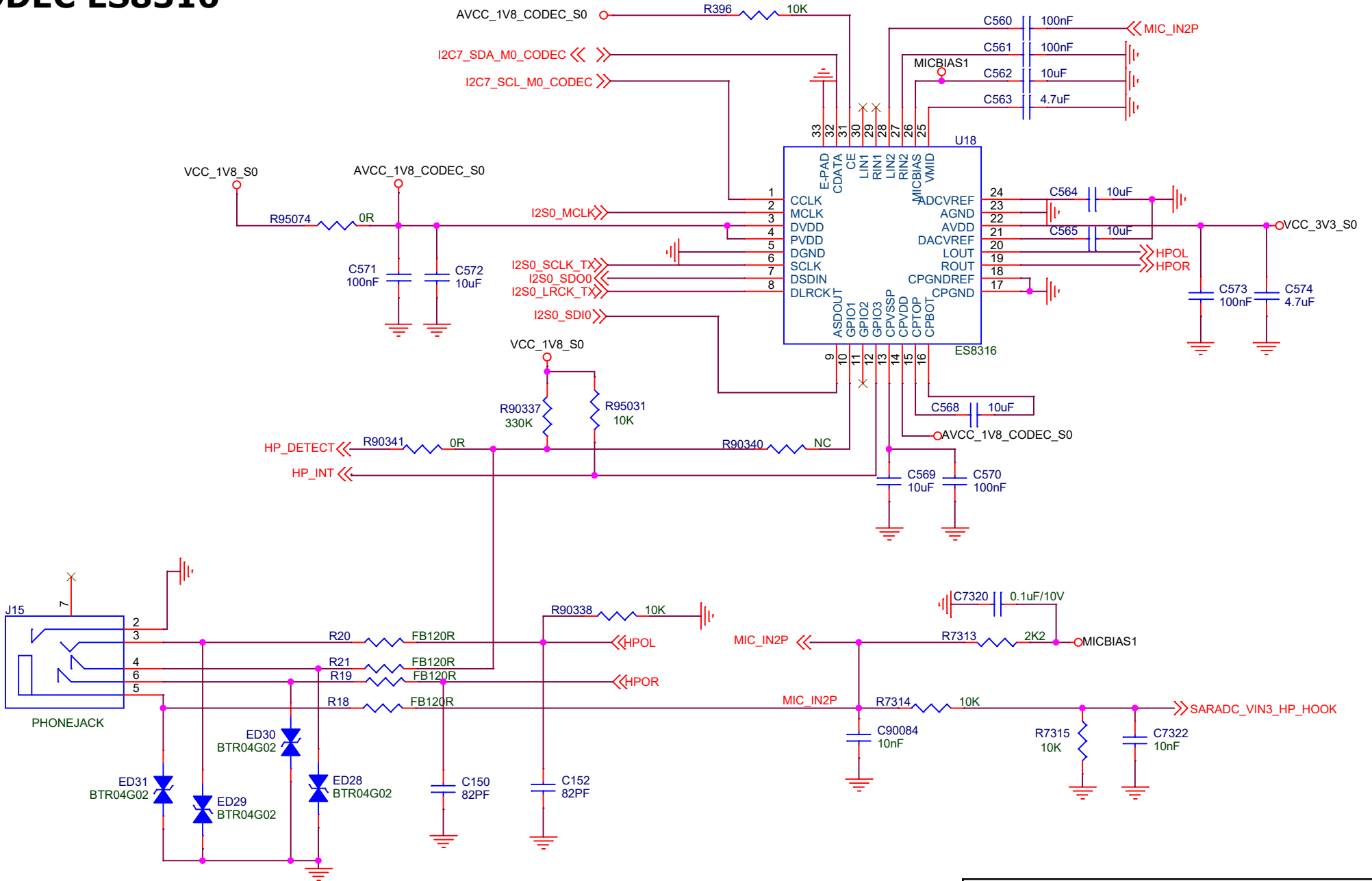


LCD_TP



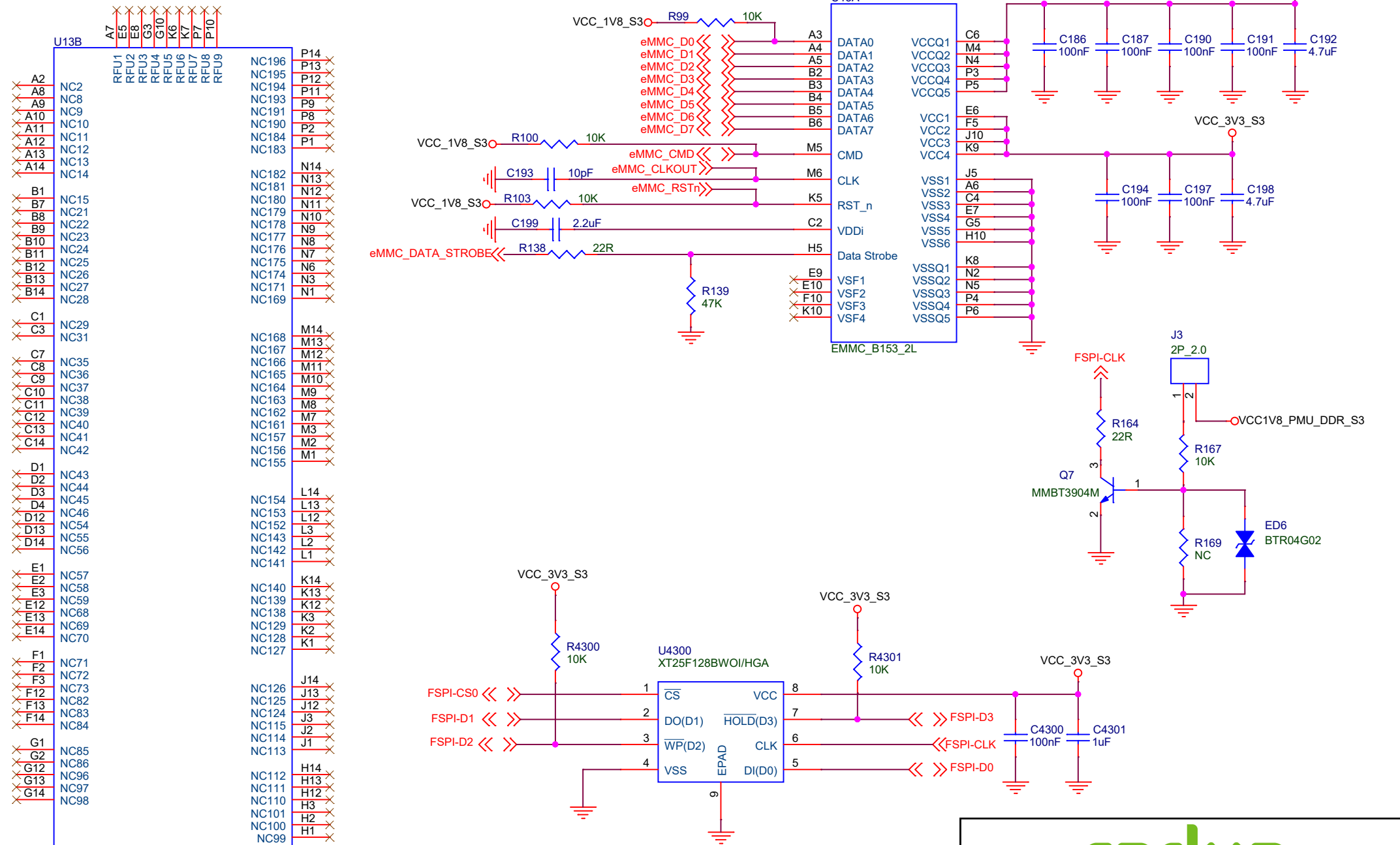
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A4	Page Name:	VO-LCM_MIPI	1.2
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CODEC ES8316



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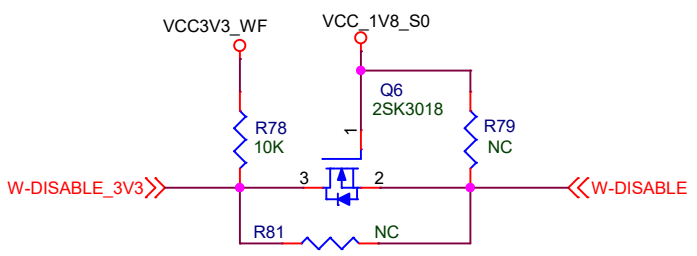
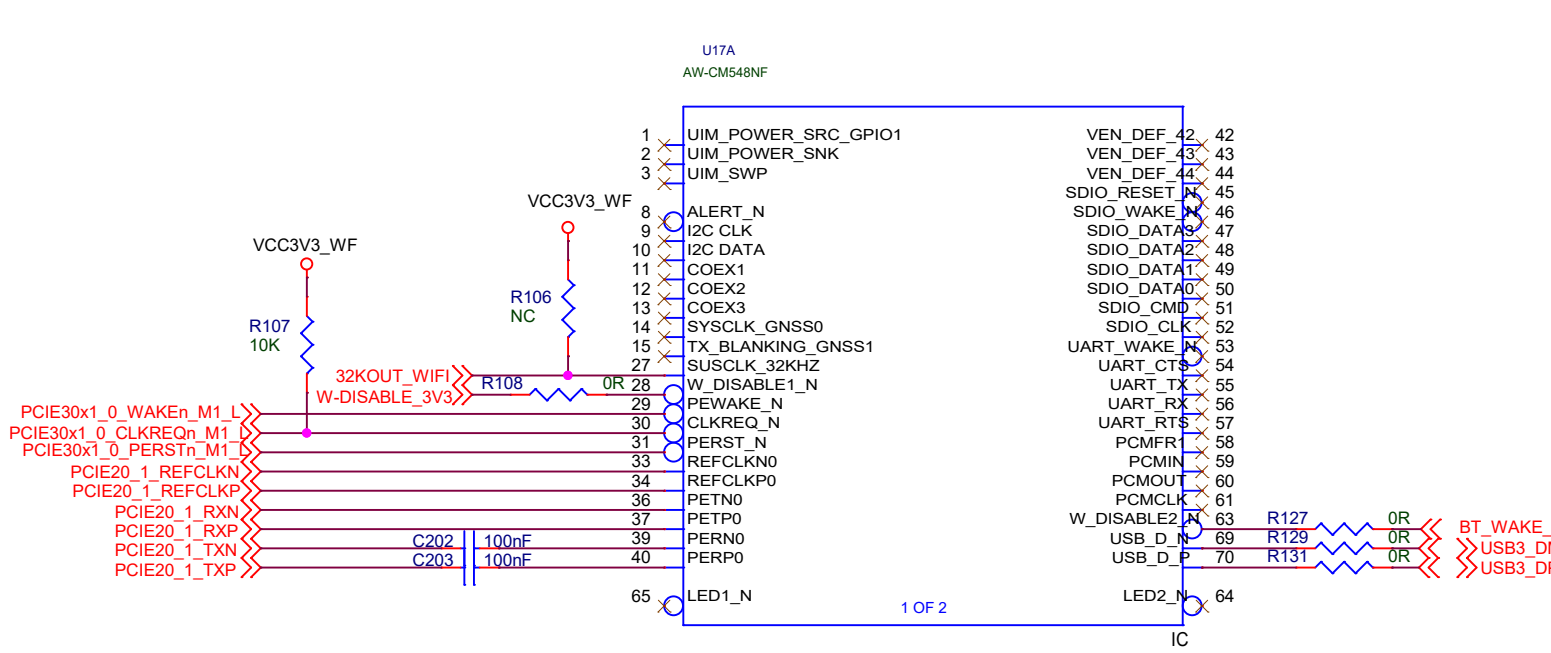
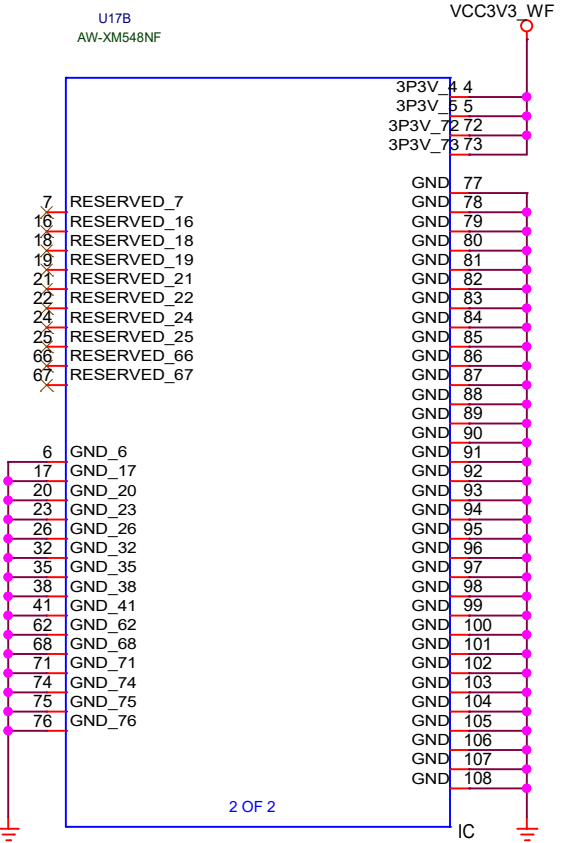
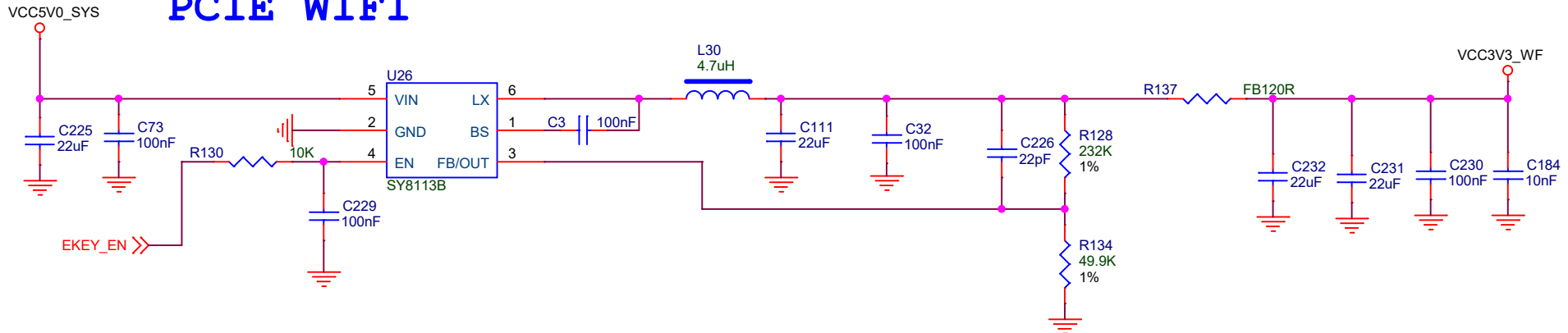
eMMC FLASH






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A4	Page Name: SPI/eMMC Flash	1.2
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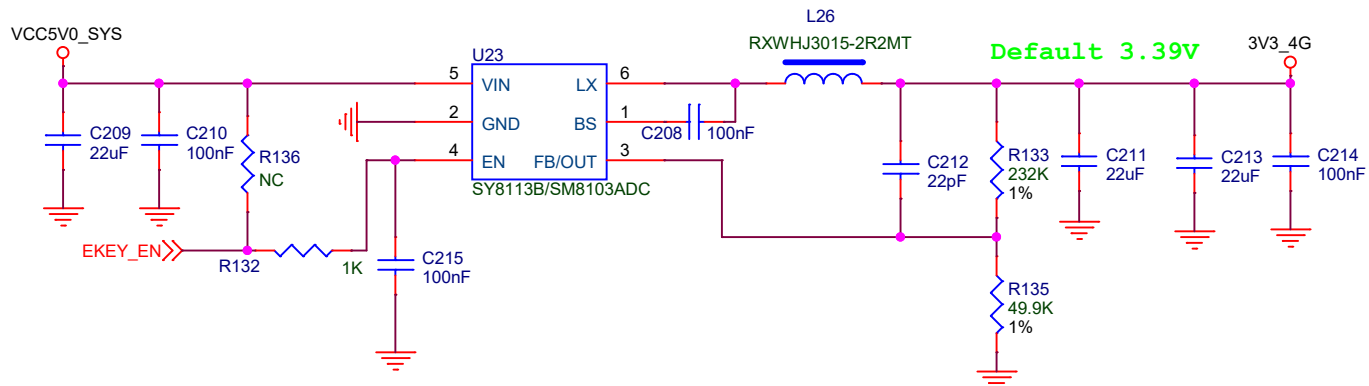
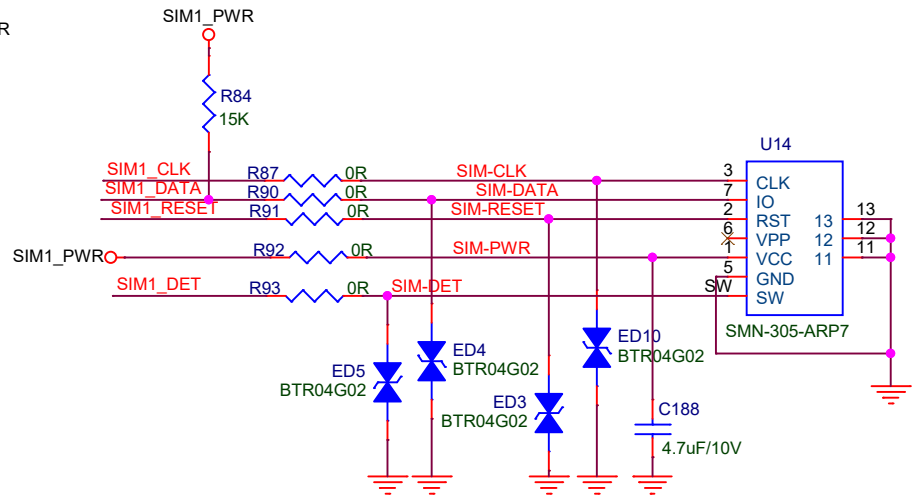
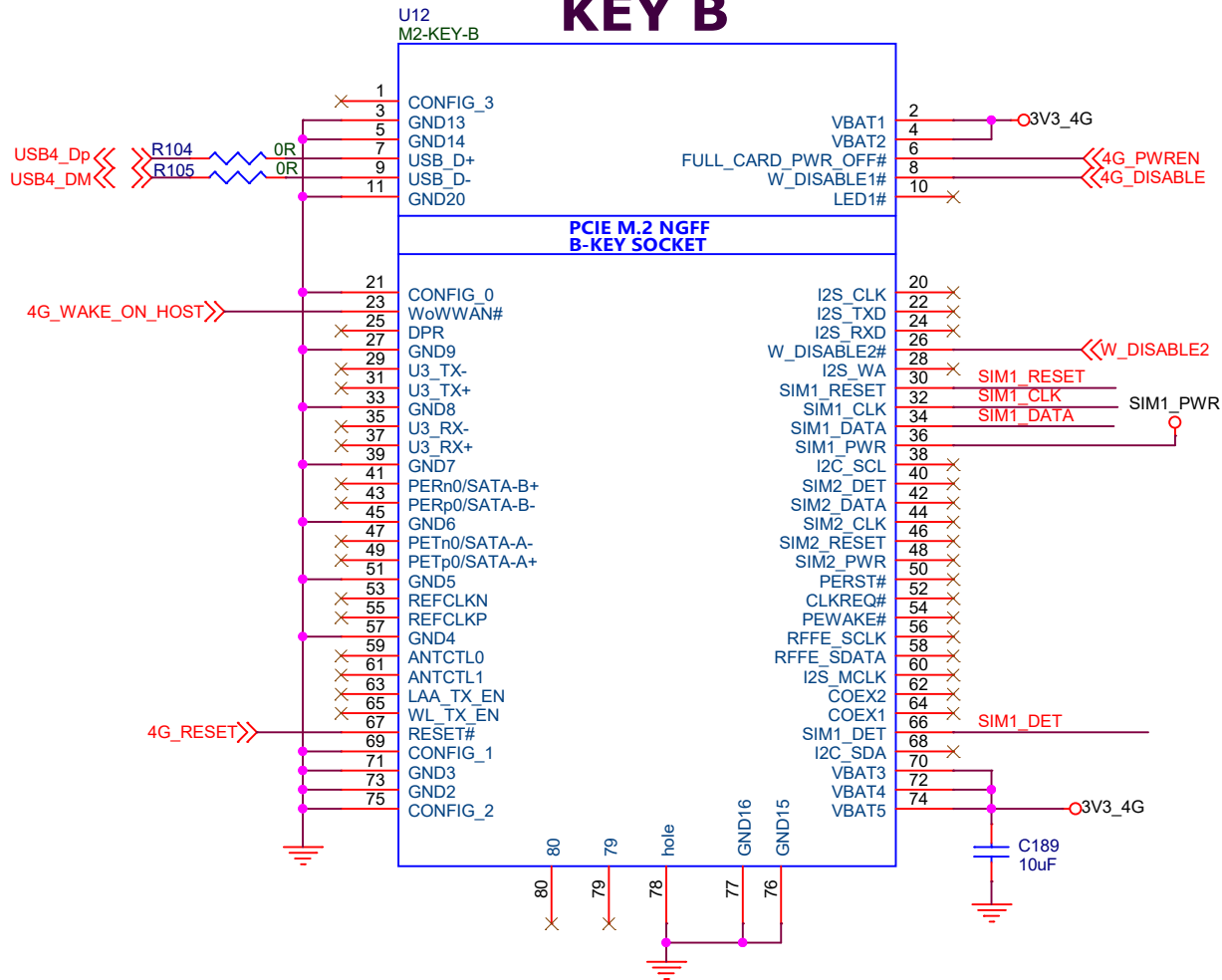
PCIE WIFI





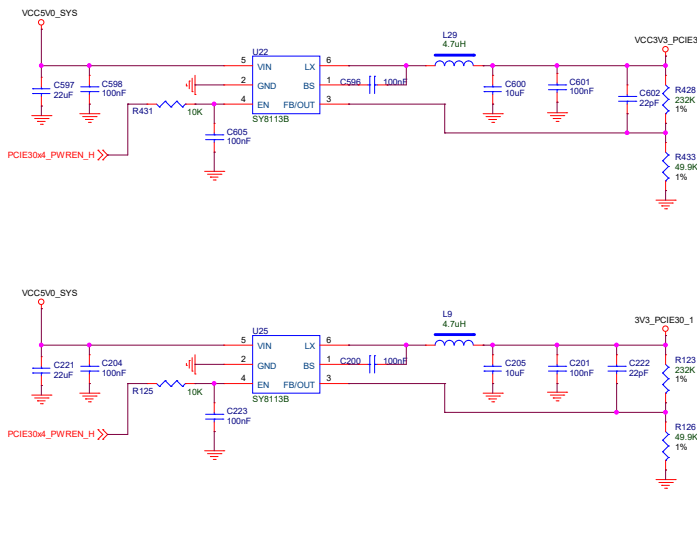
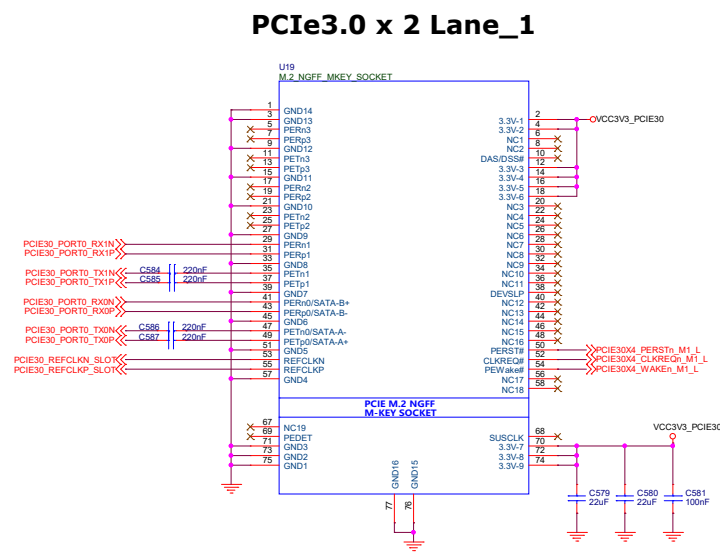
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A4	Page Name: PCIE_WIFI	1.2
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KEY B

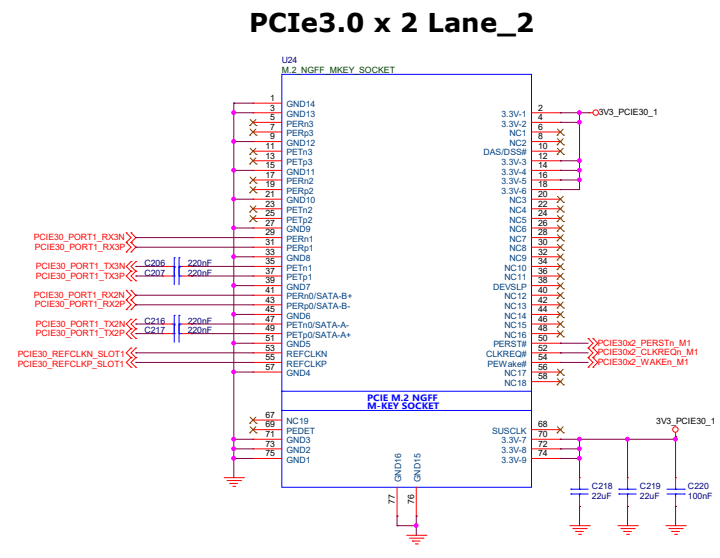


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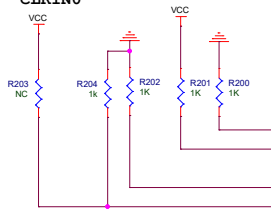
PCIe3.0 x 2 Lane_1



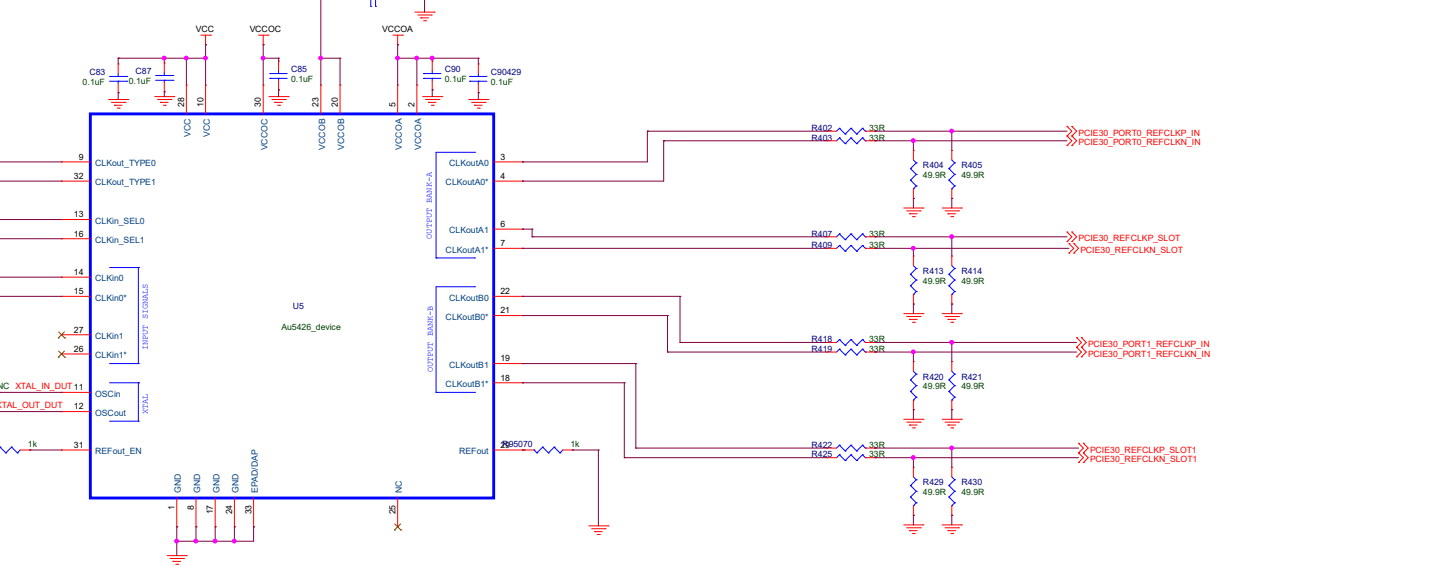
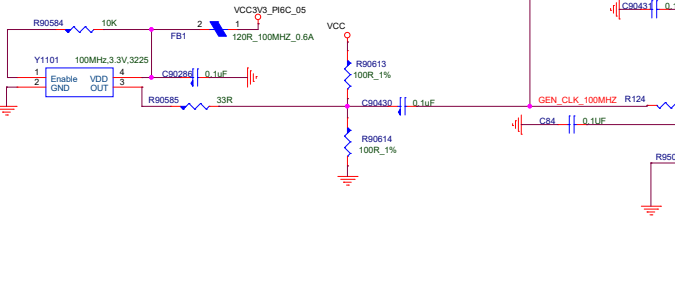
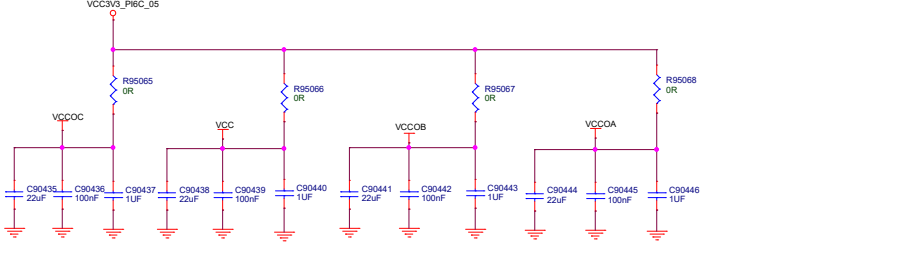
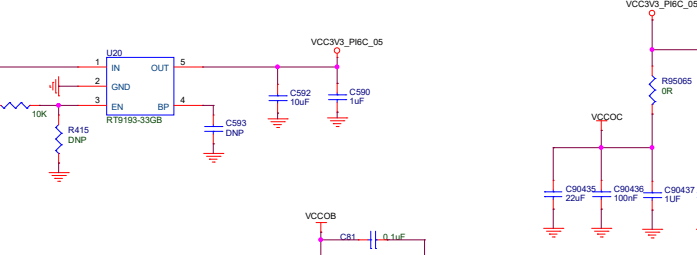
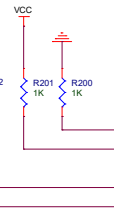
PCIe3.0 x 2 Lane_2



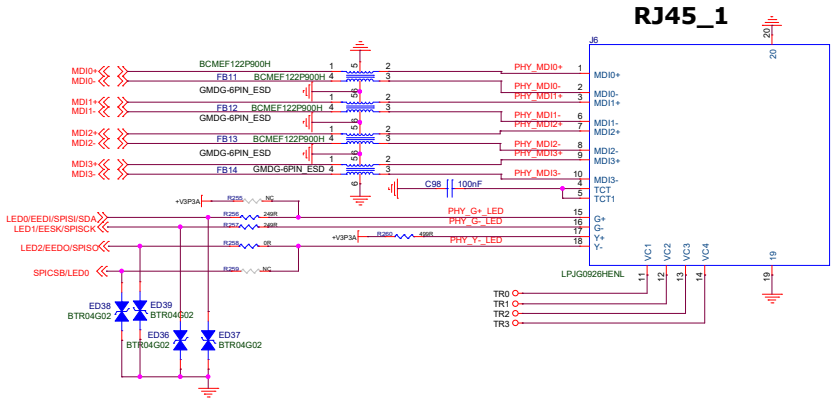
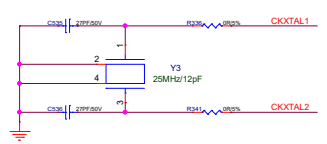
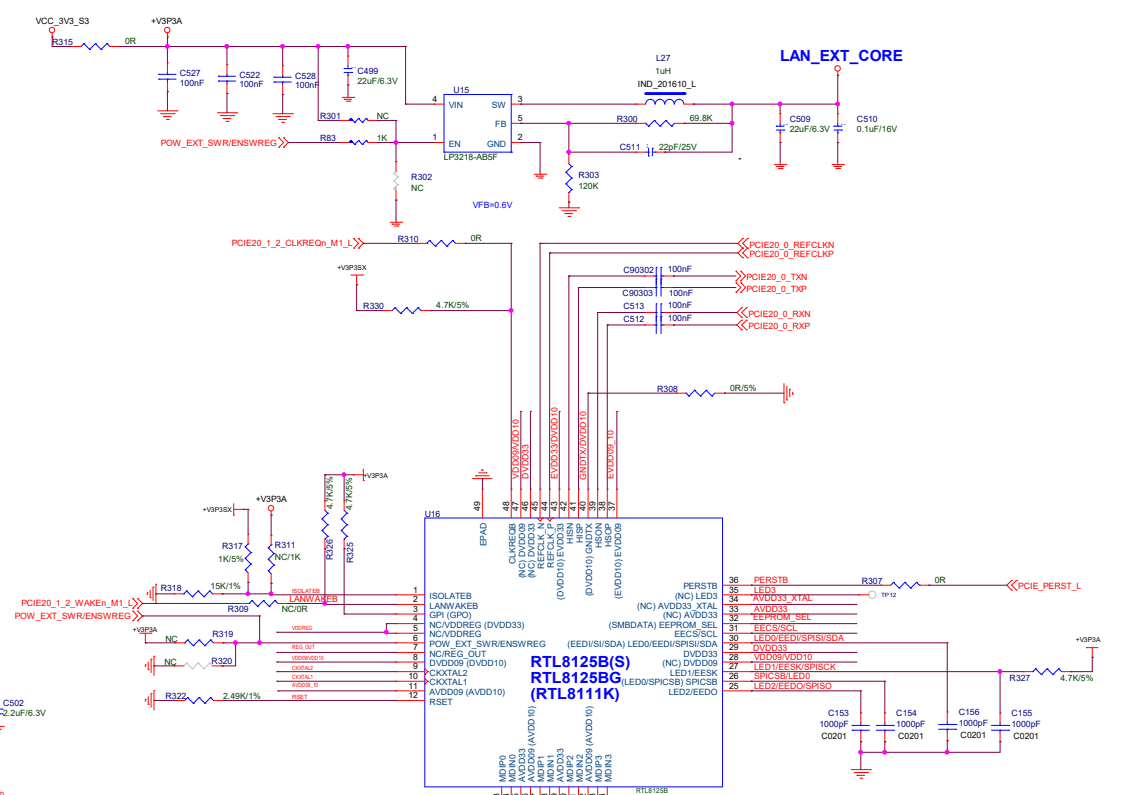
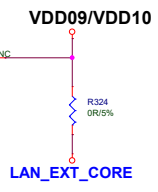
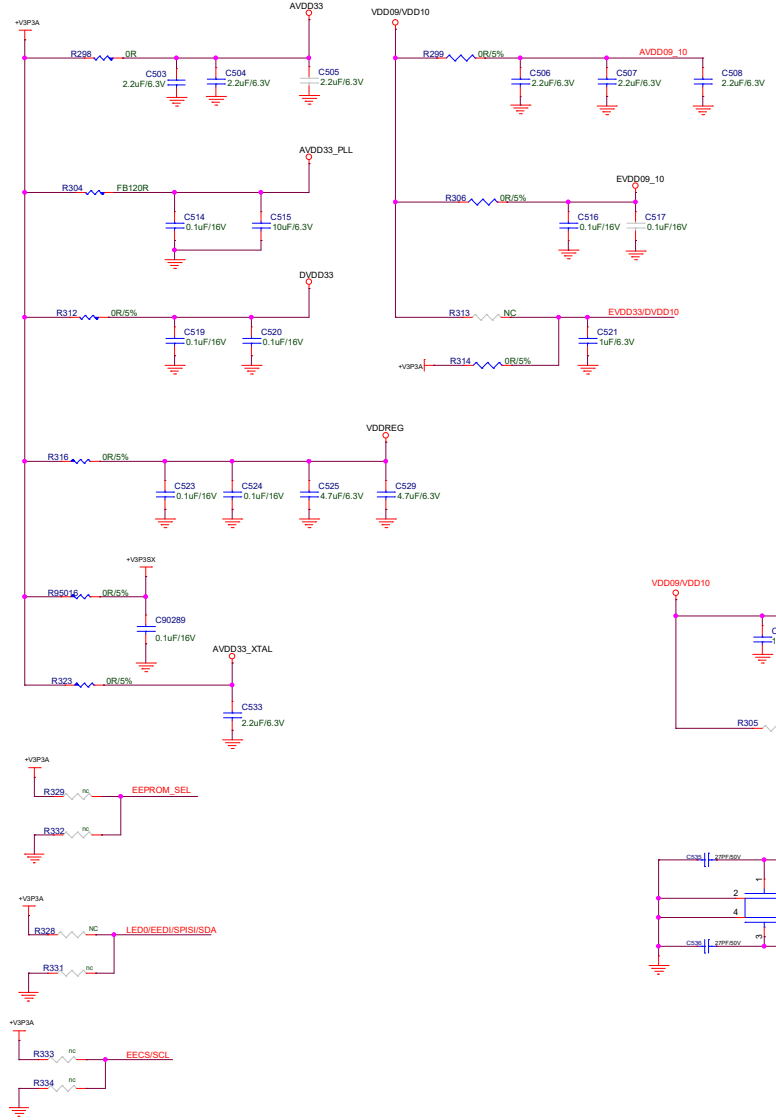
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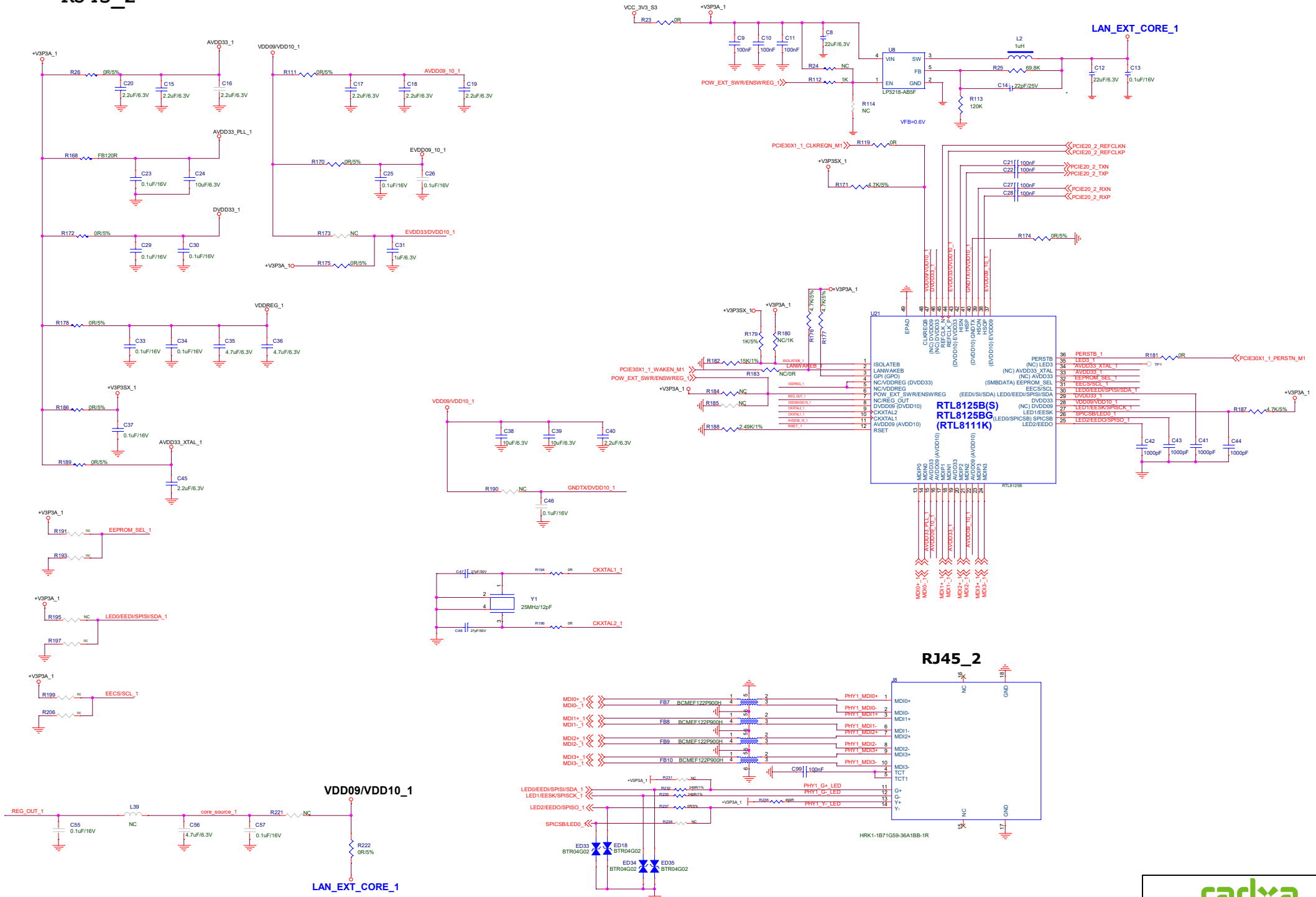
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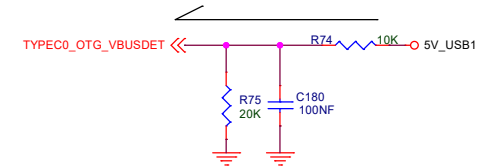
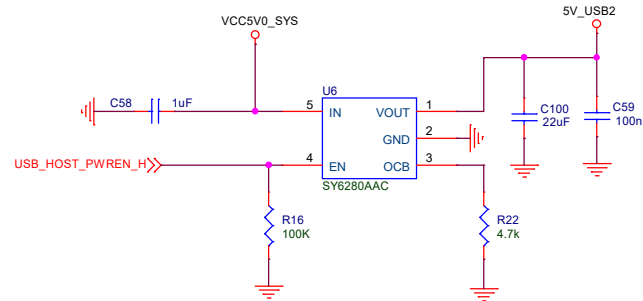
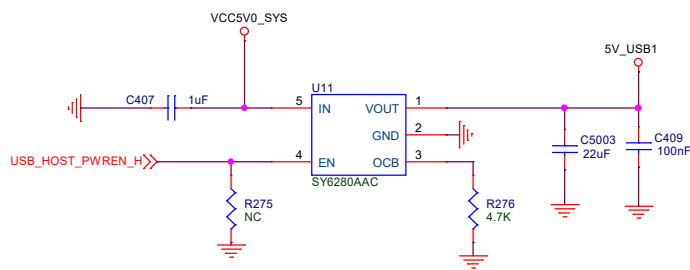
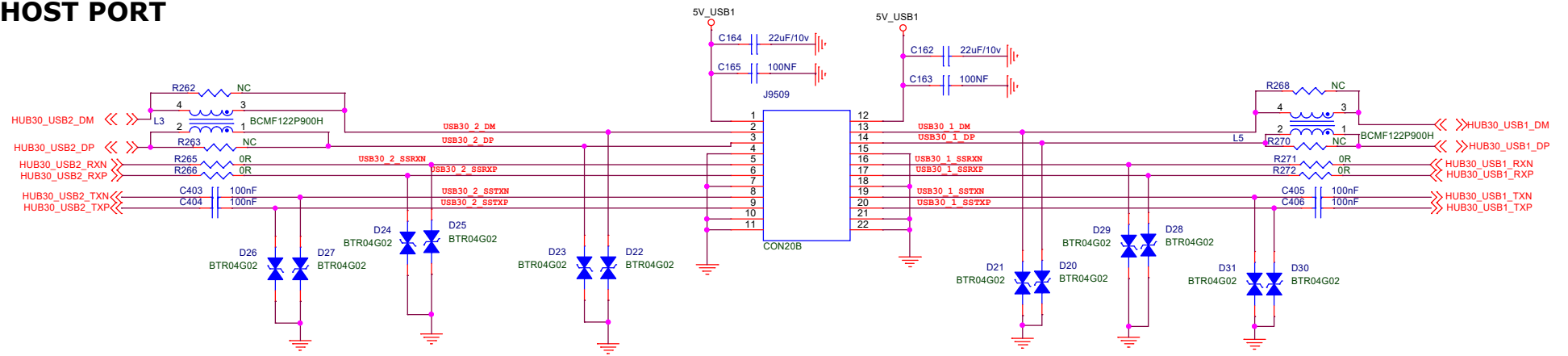
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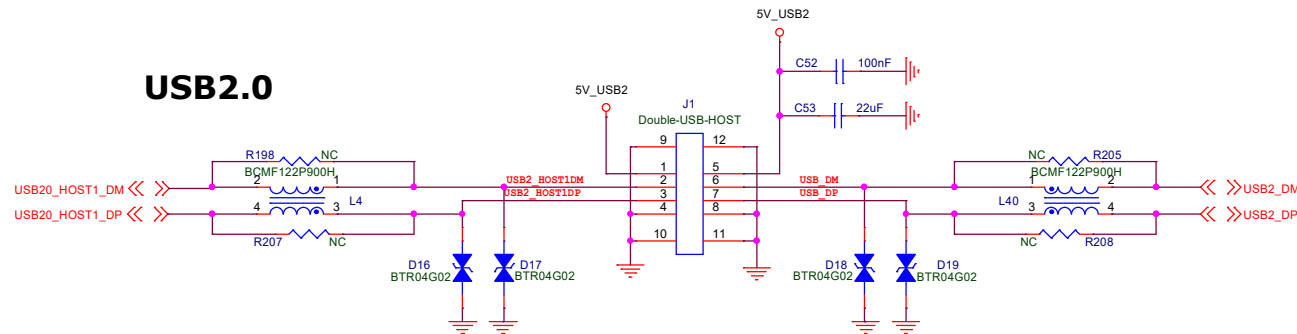
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USB3.0 HOST PORT



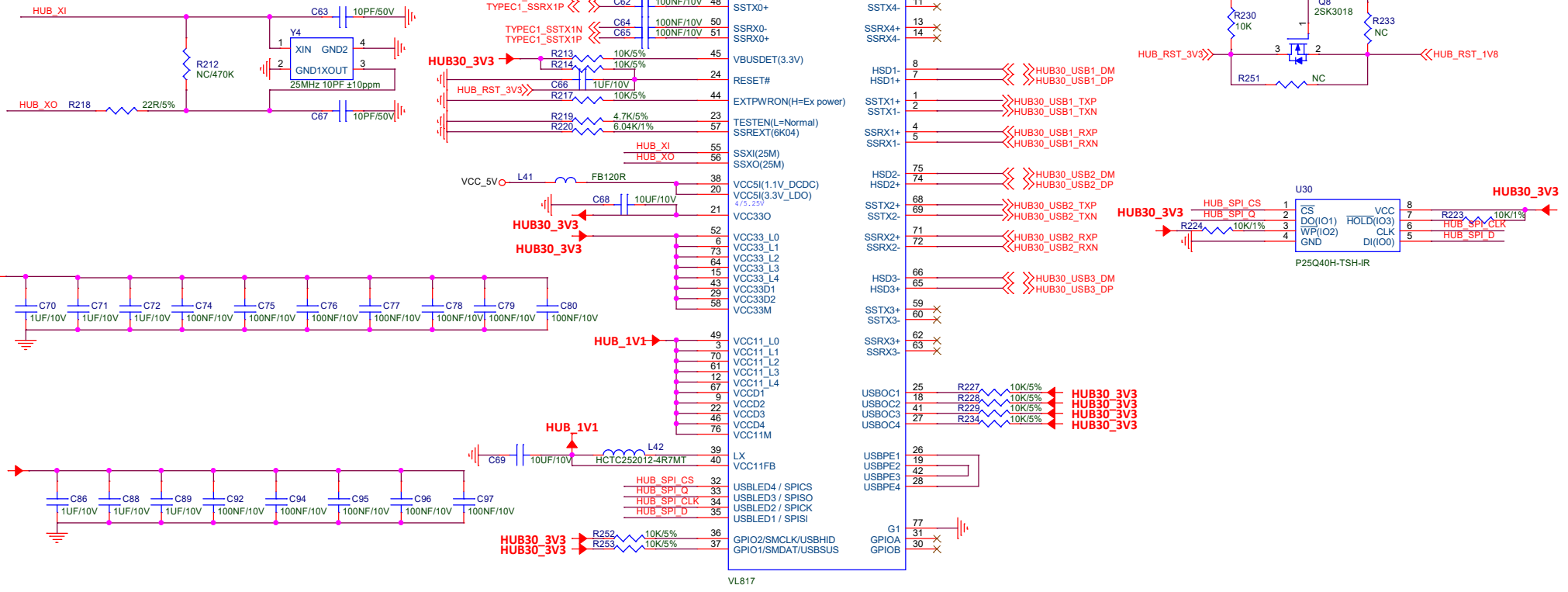
USB2.0



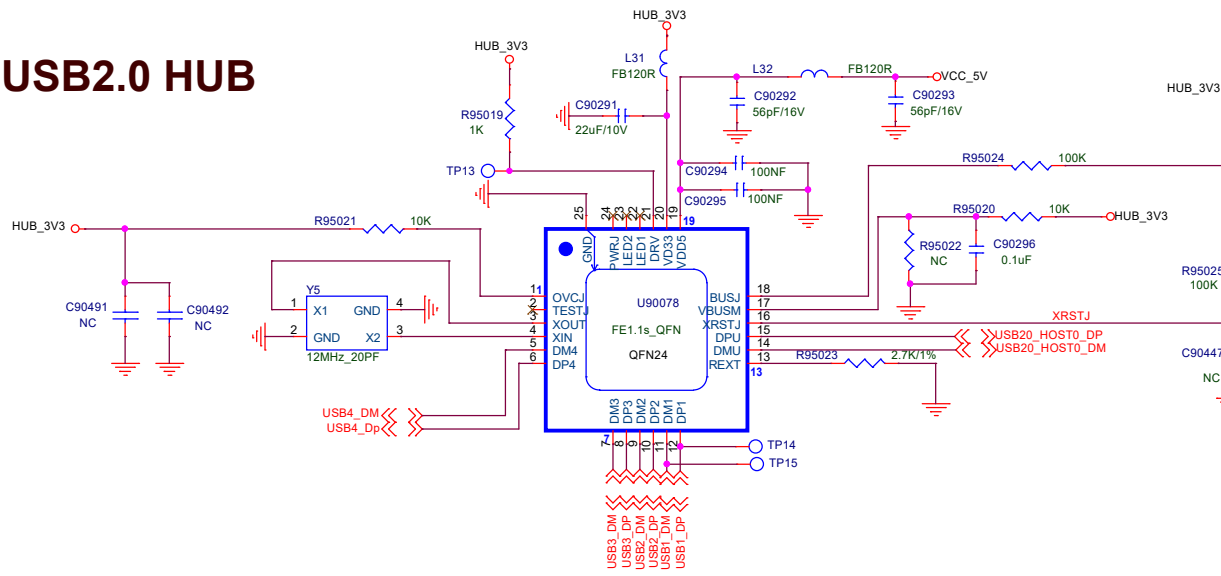
radxa


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USB3.0 HUB



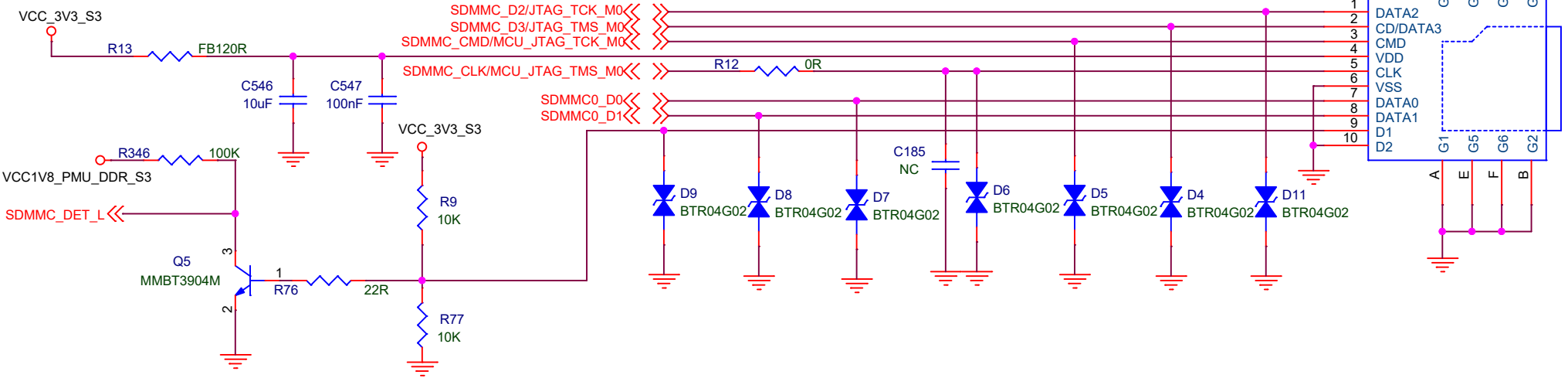
USB2.0 HUB



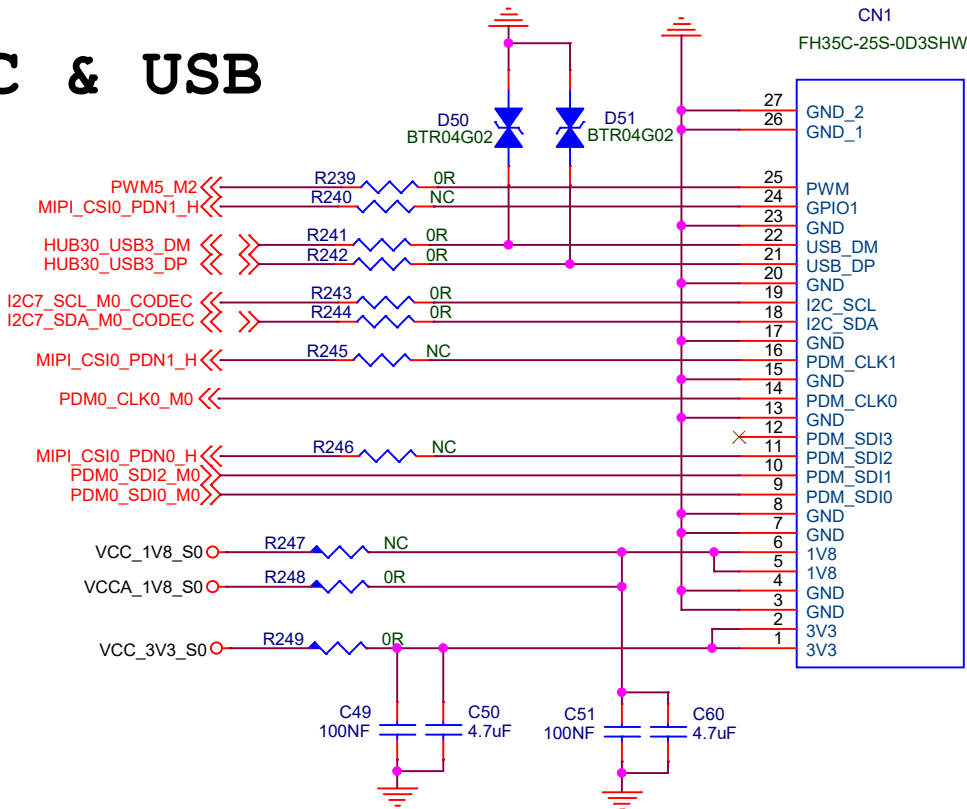


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TF CARD

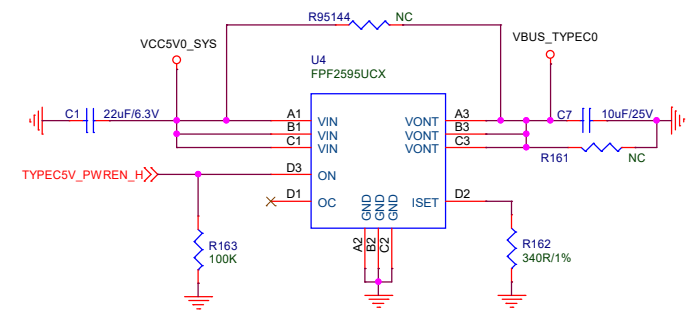
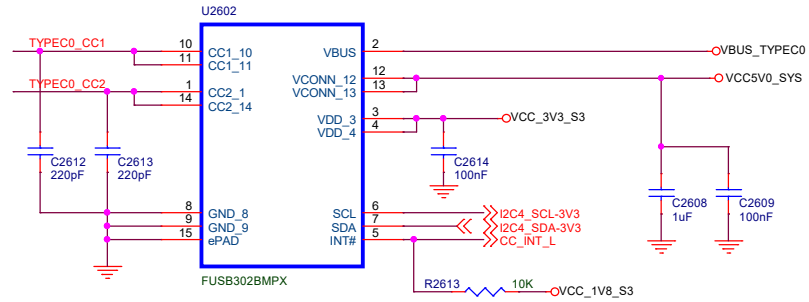
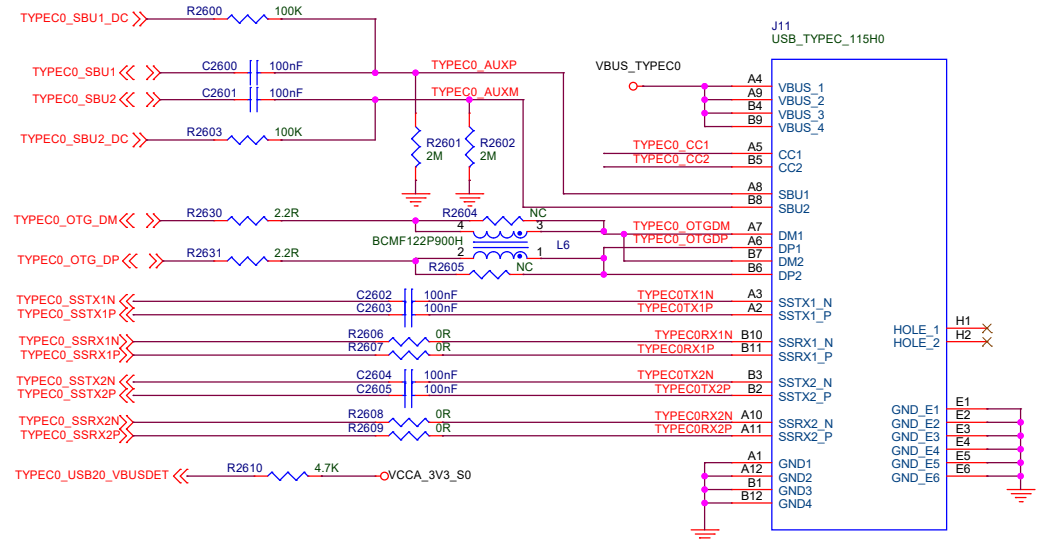
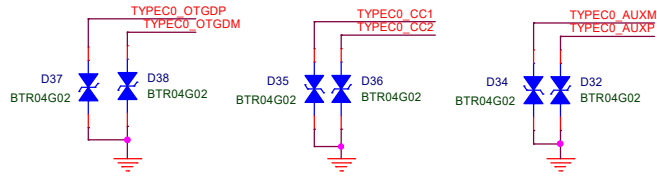
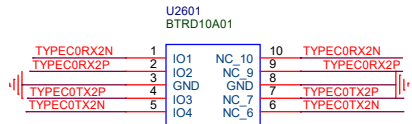
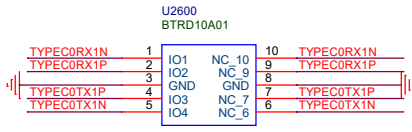


PDM_DMIC & USB

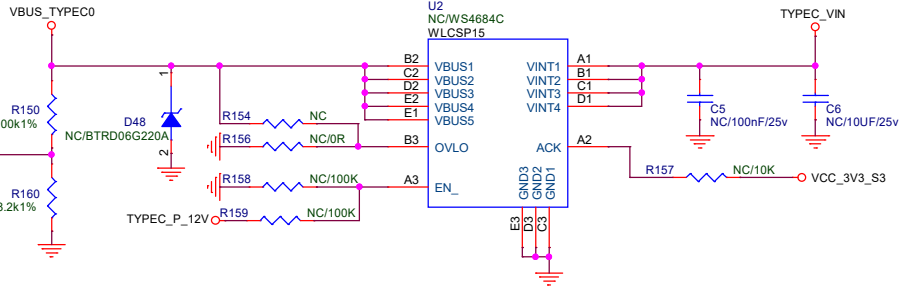


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Type-C PORT



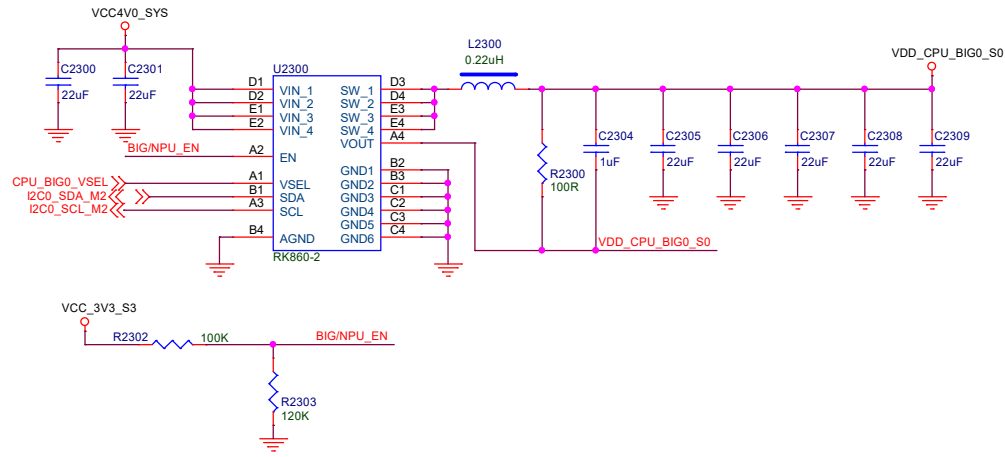
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5V	35a	0.37V
9V	61b	0.68V
12V	81s	0.9V
15V	a1a	1.136V
20V	d7s	1.51V



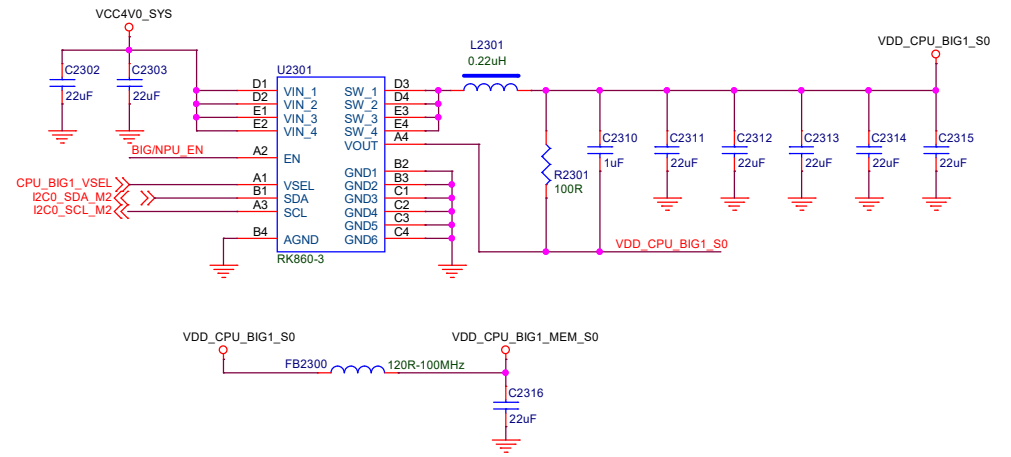
TYPEC_POW1>VBUS_TYPEC0

Size	Title:	ROCK 5T	REV
A3	Page Name:	Type-C Port	1.2
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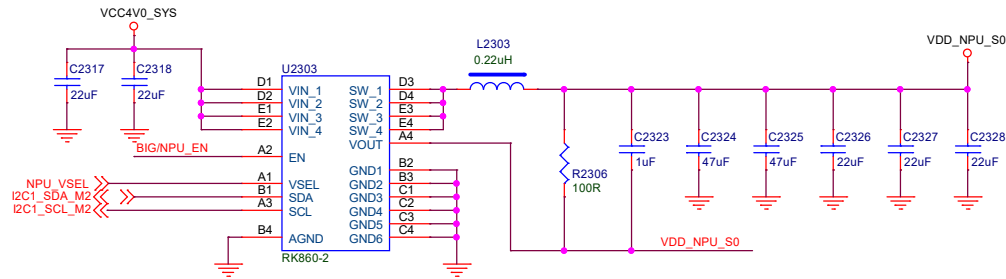
VDD_CPU_BIG0



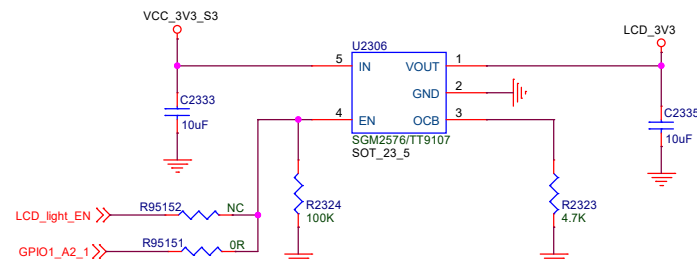
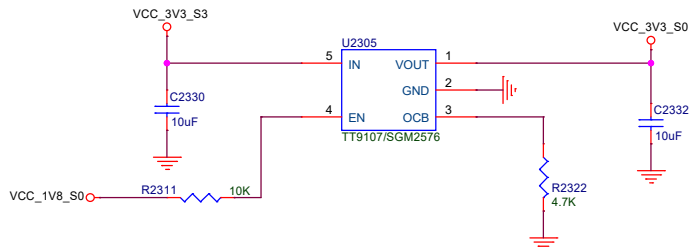
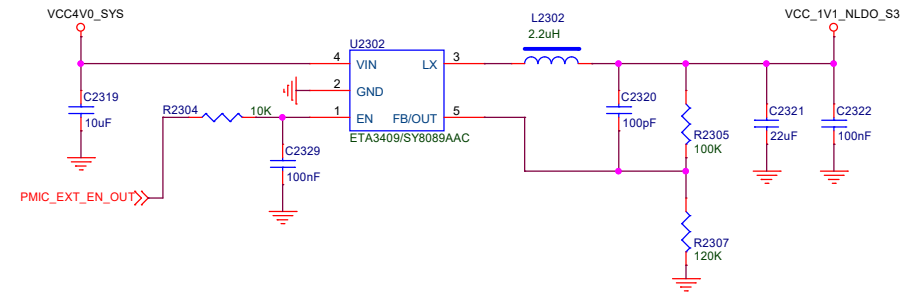
VDD_CPU_BIG1



VDD_NPU



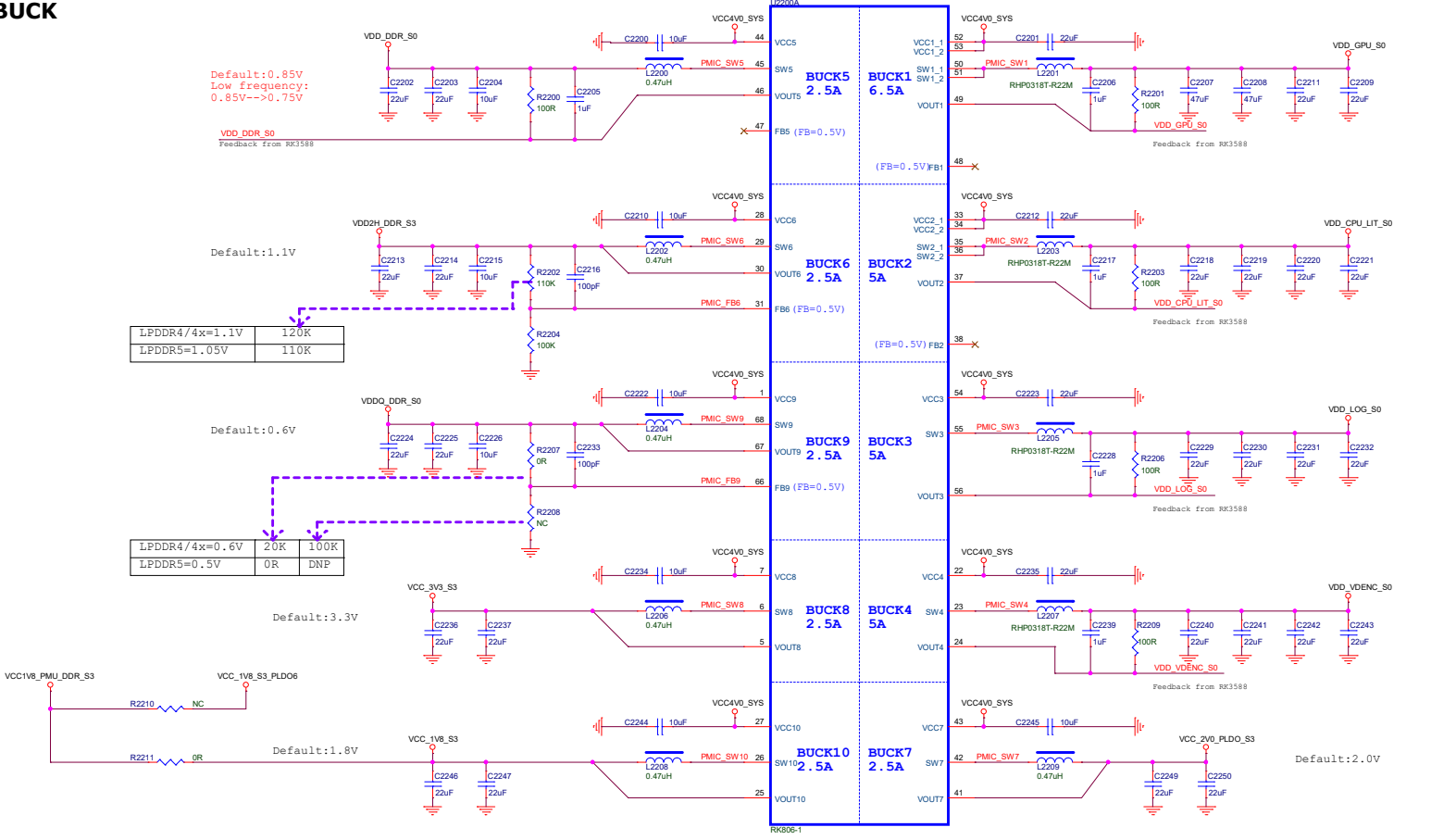
VCC_1V1_NLDO_S3



Size	Title	ROCK 5T	REV
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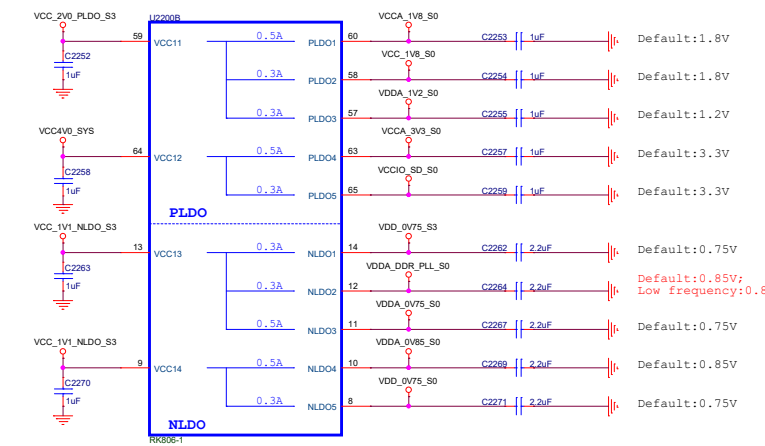
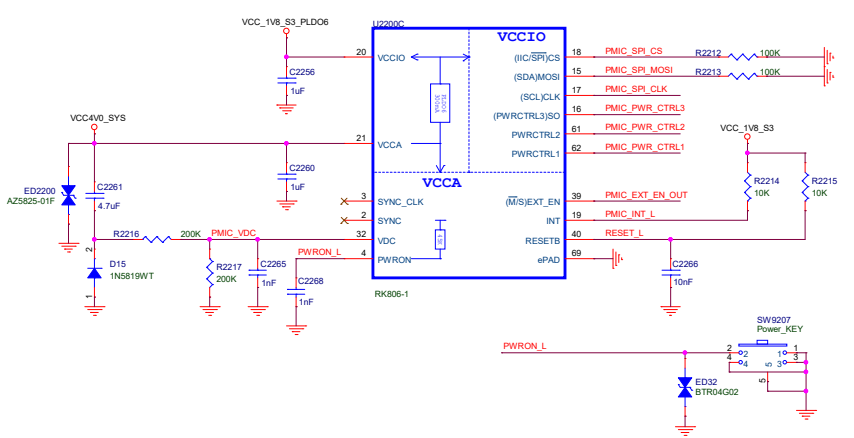
PMIC RK806-1 BUCK

- PMIC_SPI_CS
- PMIC_SPI_MOSI
- PMIC_SPI_CLK
- PMIC_PWR_CTRL1
- PMIC_PWR_CTRL2
- PMIC_PWR_CTRL3
- PMIC_INT_L
- RESET_L
- PMIC_EXT_EN_OUT
- PWRON_L

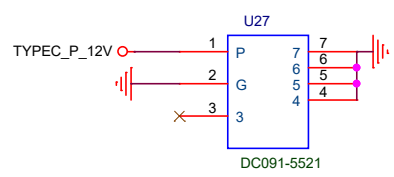
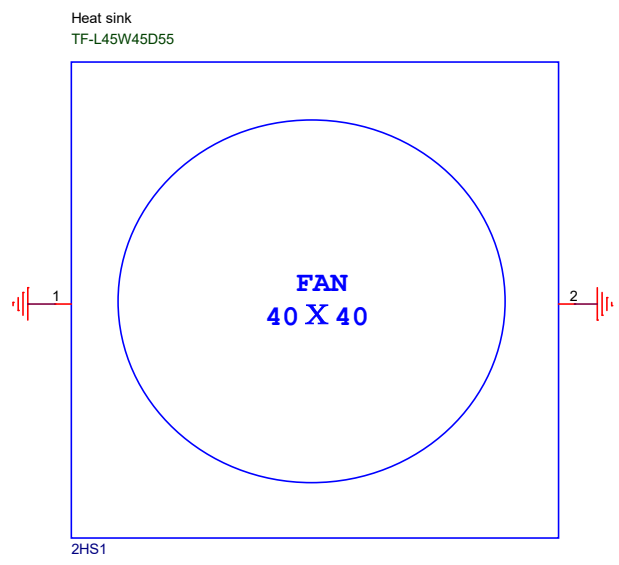
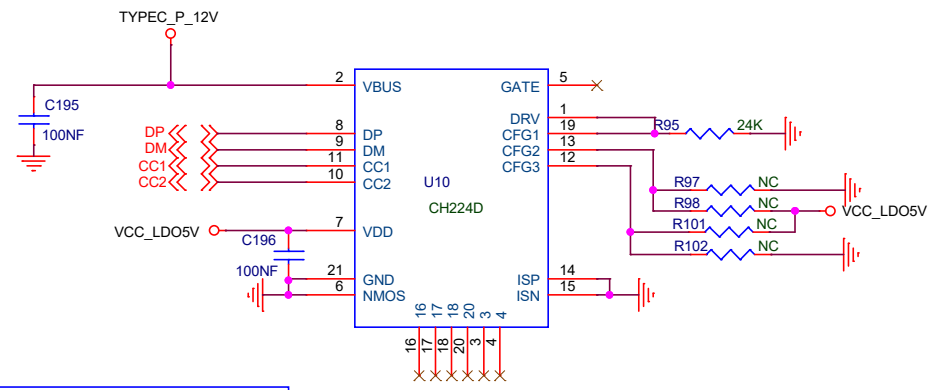
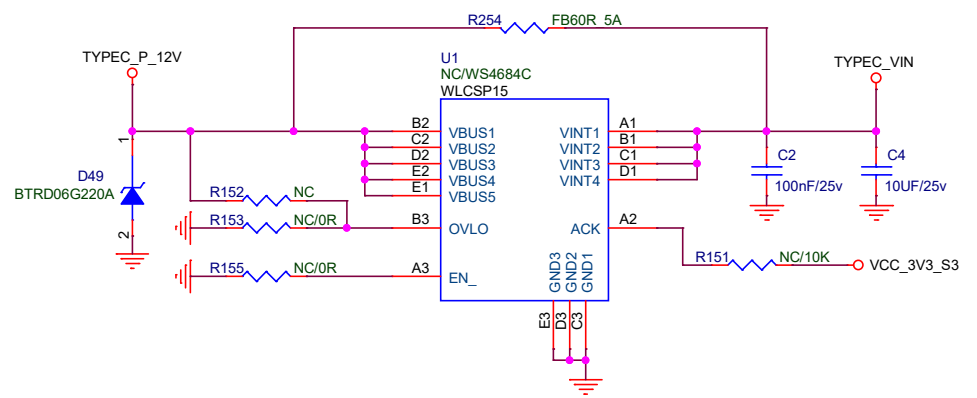
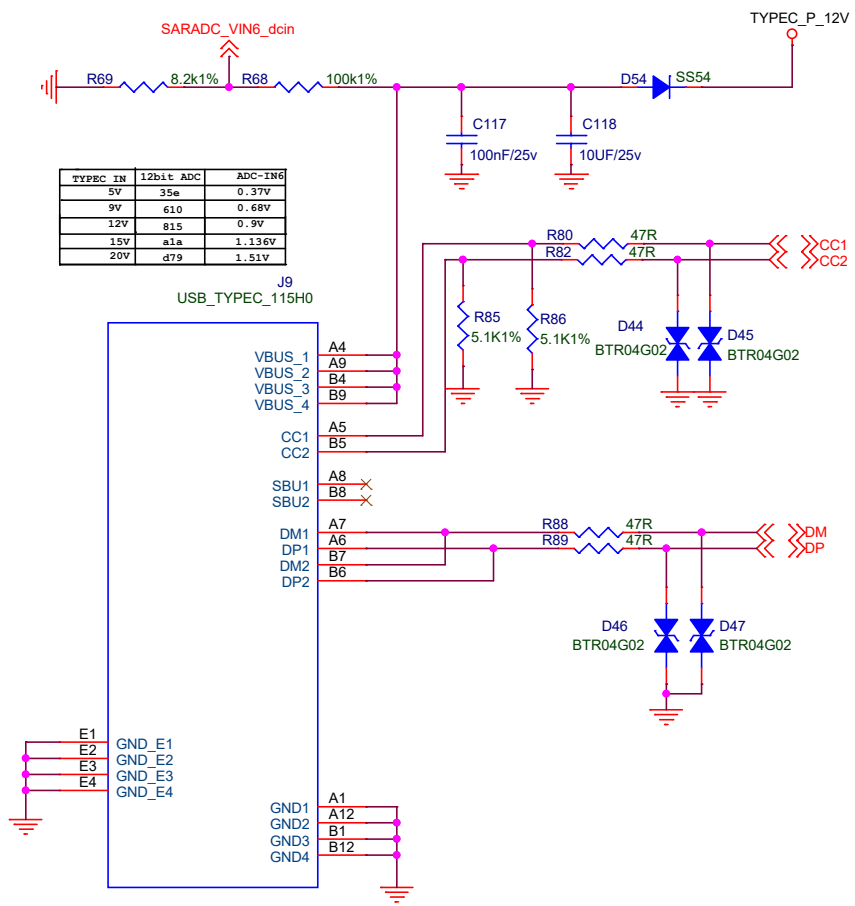


PMIC RK806-1 Management

PMIC RK806-1 LDO

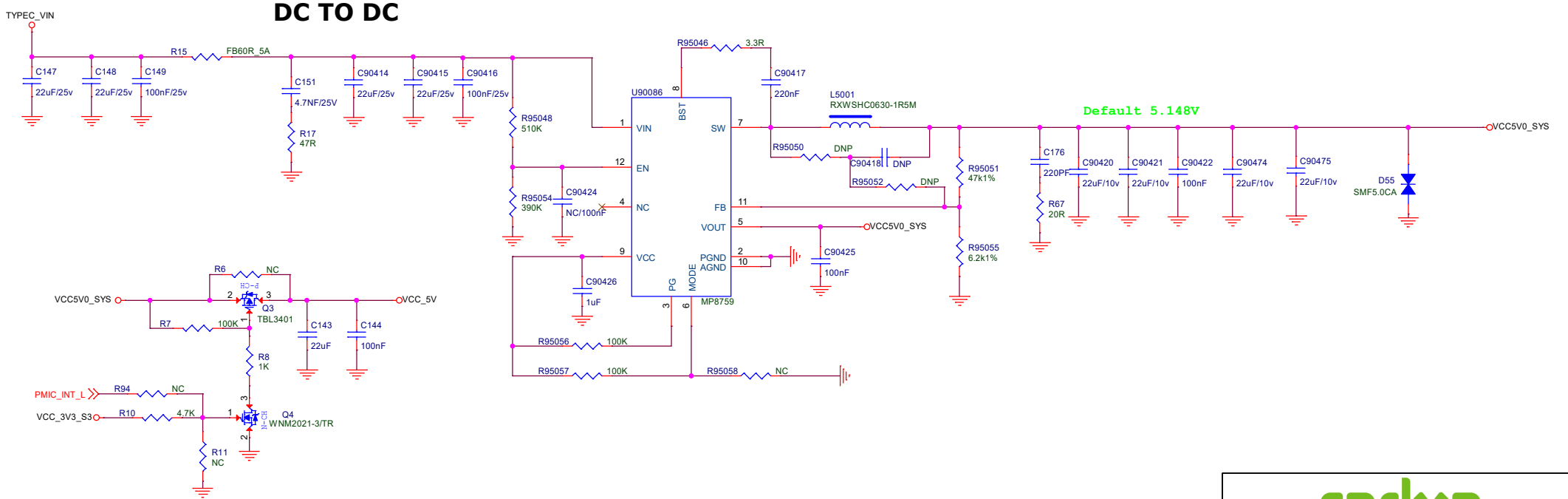
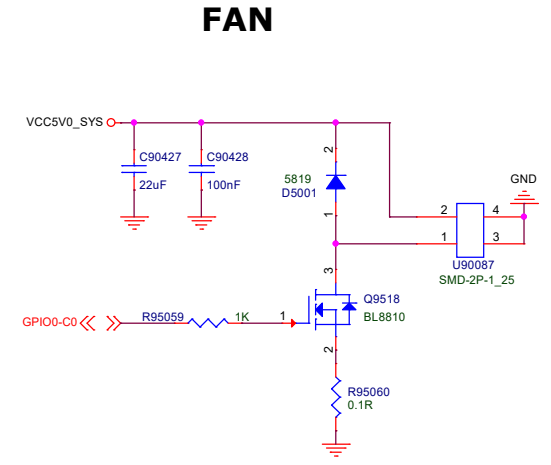
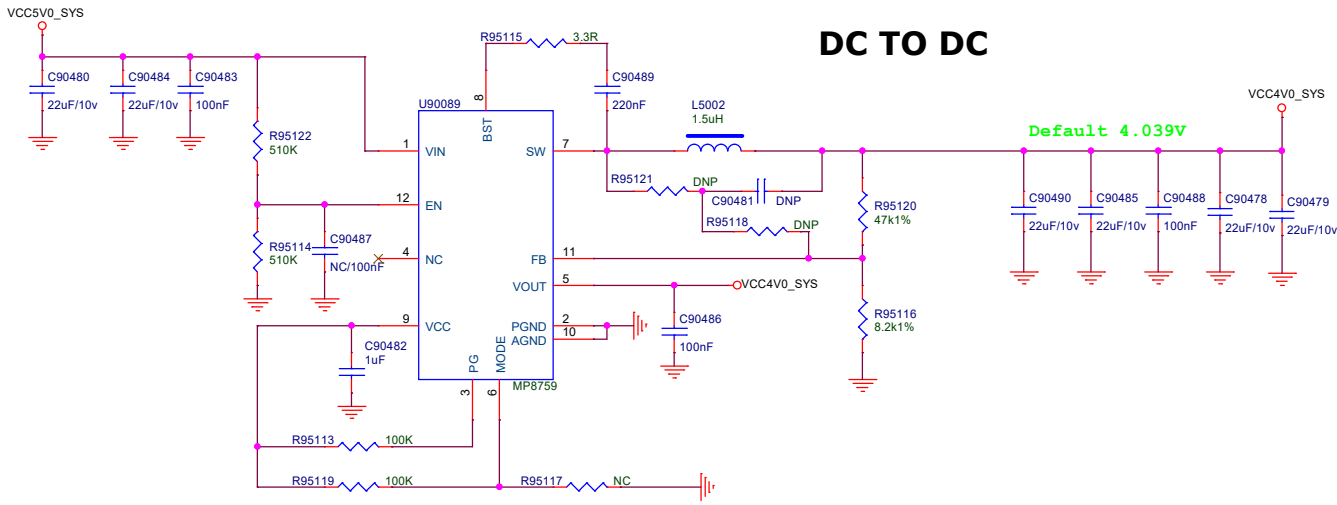


12V/3A DCIN



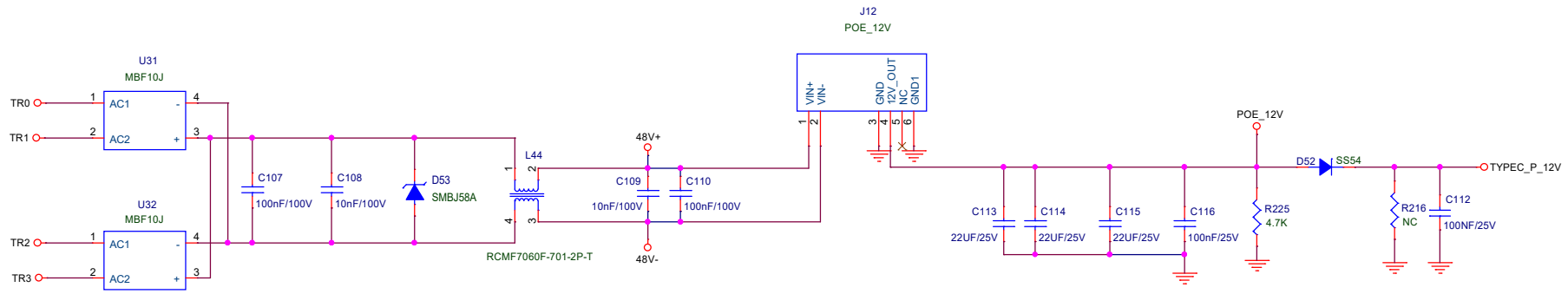
radxa

Size	Title: ROCK 5T	REV
Custom Page Name:	Power TYPEC IN	1.2
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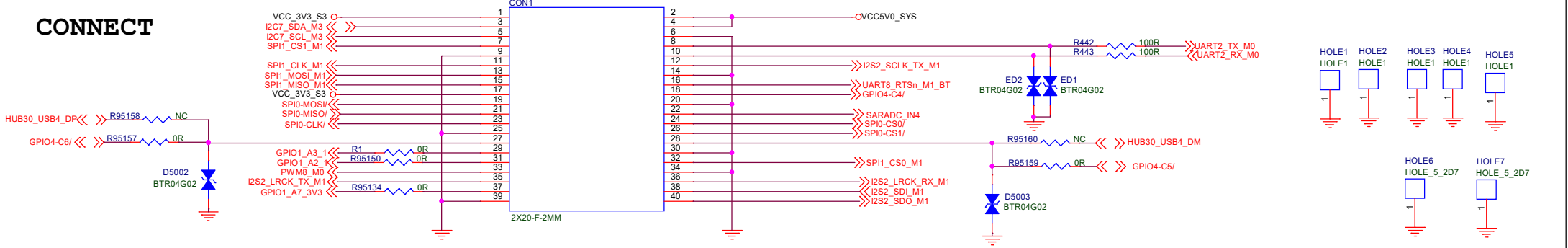


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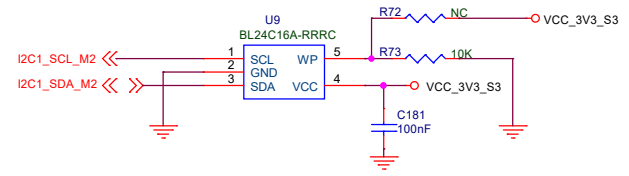
POE POWER



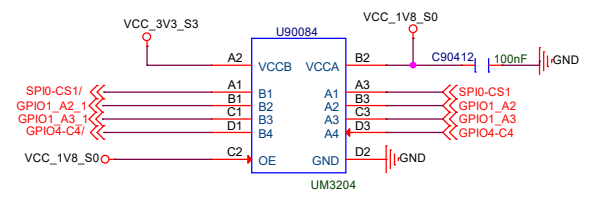
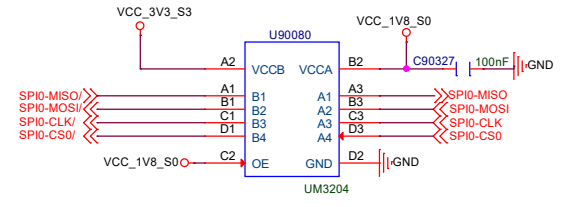
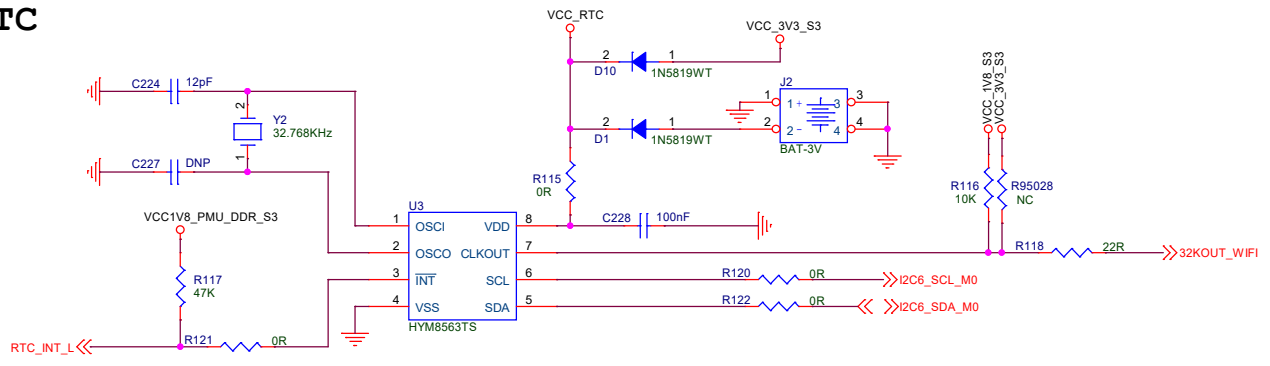
CONNECT



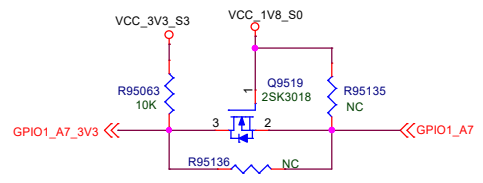
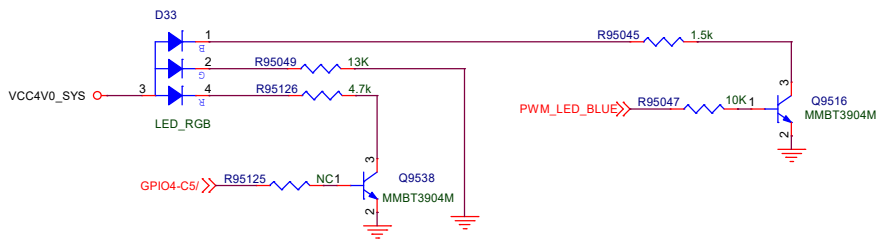
EEPROM




RTC



LED





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