

5	4	3	2	1
D				
C				
B				
A				

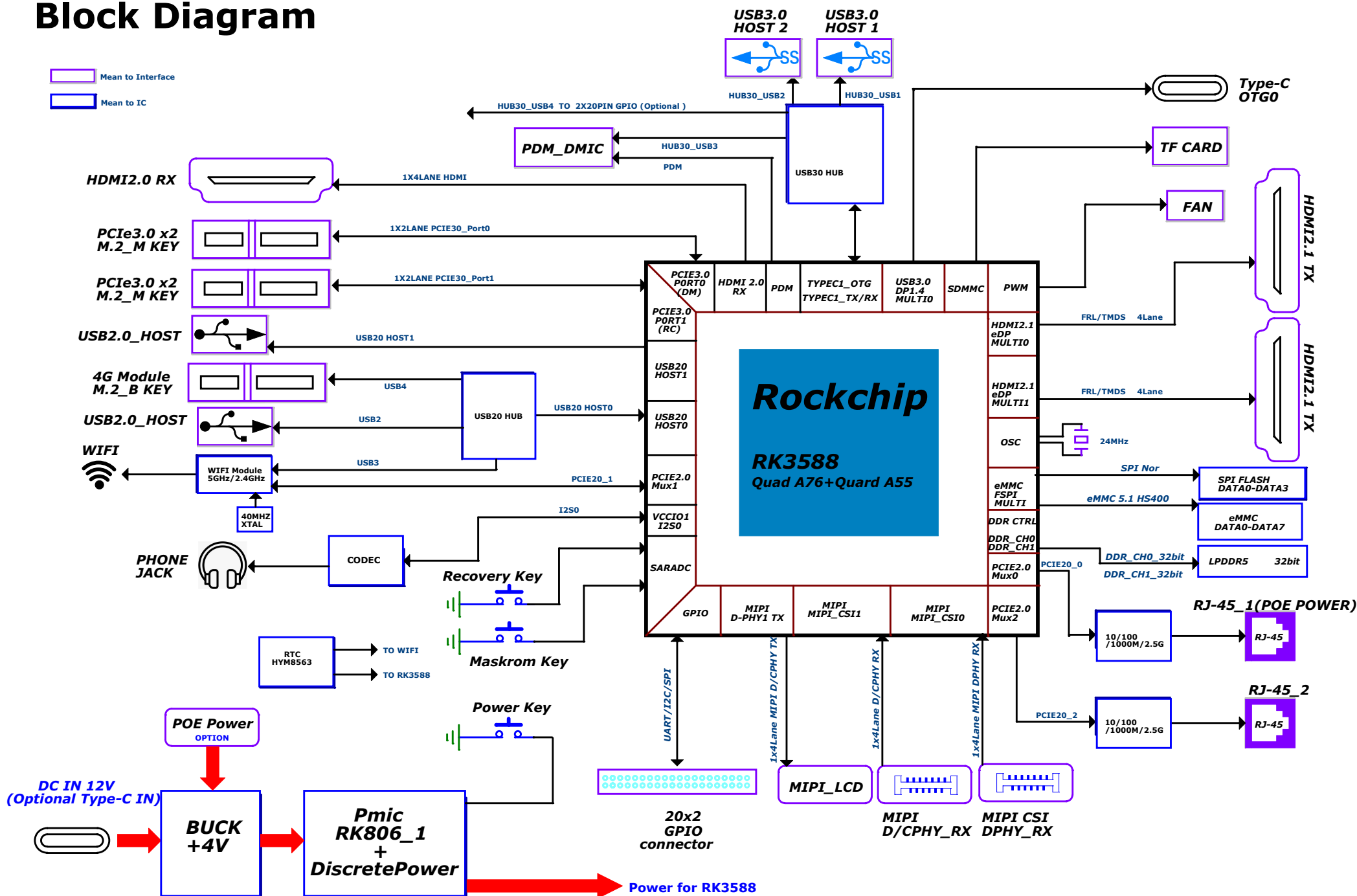


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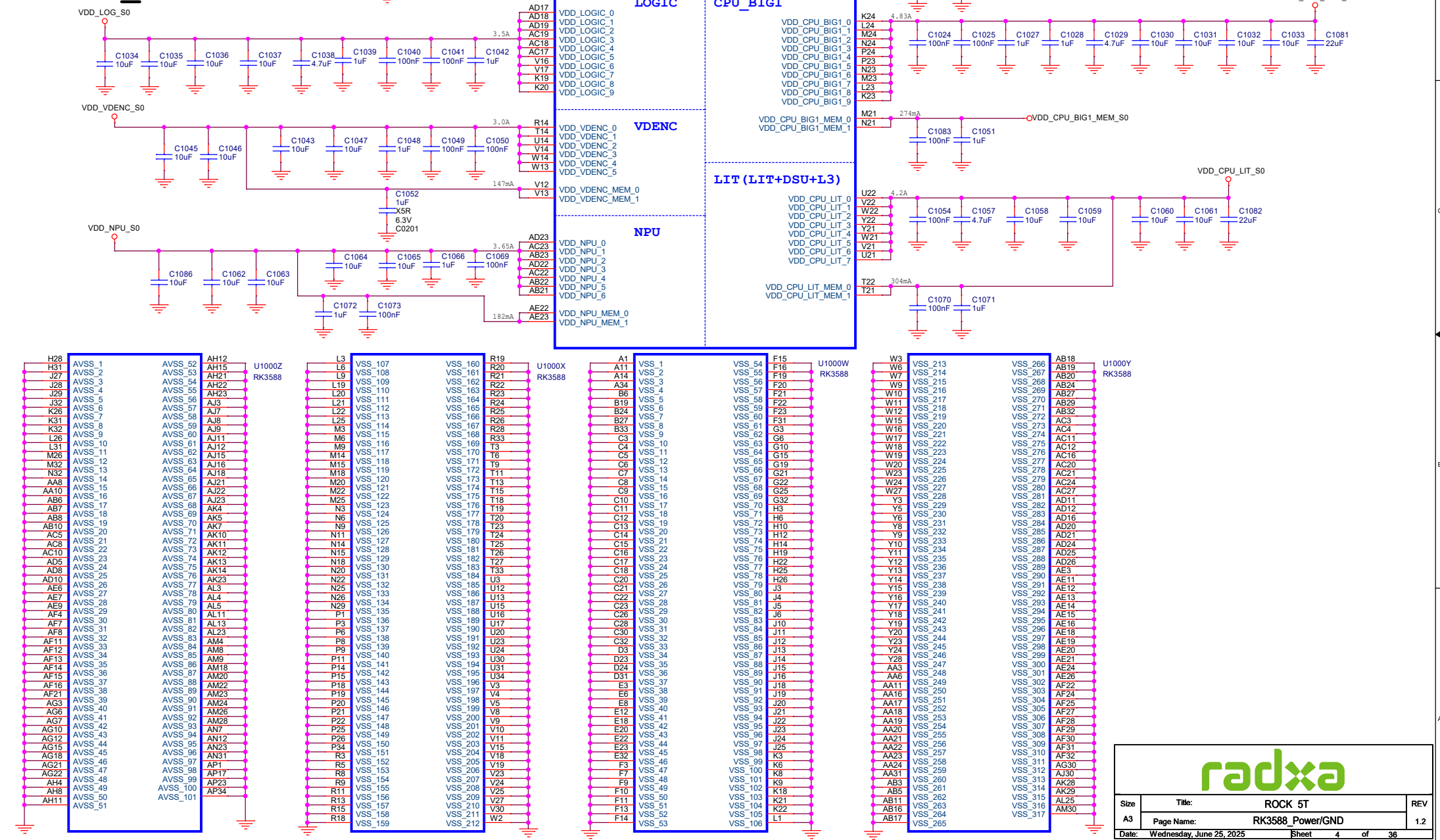
Table of Content

- 01.cover
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- 05.RK3588_DDR Controler
- 06.RK3588_OSC/PLL/PMUIO
- 07.RK3588_USB30/USB20_Ctrl
- 08.RK3588_HDMI/eDP Interface
- 09.RK3588_Flash/SD Controller
- 10.RK3588_MIPI/DSI/CSI
- 11.RK3588_MIPI CSI
- 12.RK3588_PCIE30/PCIE20/SATA30
- 13.RK3588_SARADC_GPIO
- 14.RK3588_GPIO
- 15.LPDDR5_315P_2X32bit
- 16.VI-HDMI2.0_RX
- 17.VO-HDMI2.1_TX
- 18.Camera_MIPI-CSI
- 19.VO-LCM_MIPI
- 20.Audio_Codec
- 21.SPI/eMMC Flash
- 22.PCIE_WIFI
- 23.M.2_B key_4G
- 24.PCIE3.0_M key_X2
- 25.PCIE TO RJ45_1
- 26.PCIE TO RJ45_2
- 27.USB30/20 Port
- 28.USB20/30 HUB
- 29.Flash-TF Card/DMIC
- 30.Type-C Port
- 31.Power_Ext Discrete
- 32.Power-PMIC RK806-1
- 33.Power_TYPEC_IN
- 34.Power_DC 5V/FAN
- 35.POE_IN
- 36.40pin/LED/RTC/EEPROM

Block Diagram

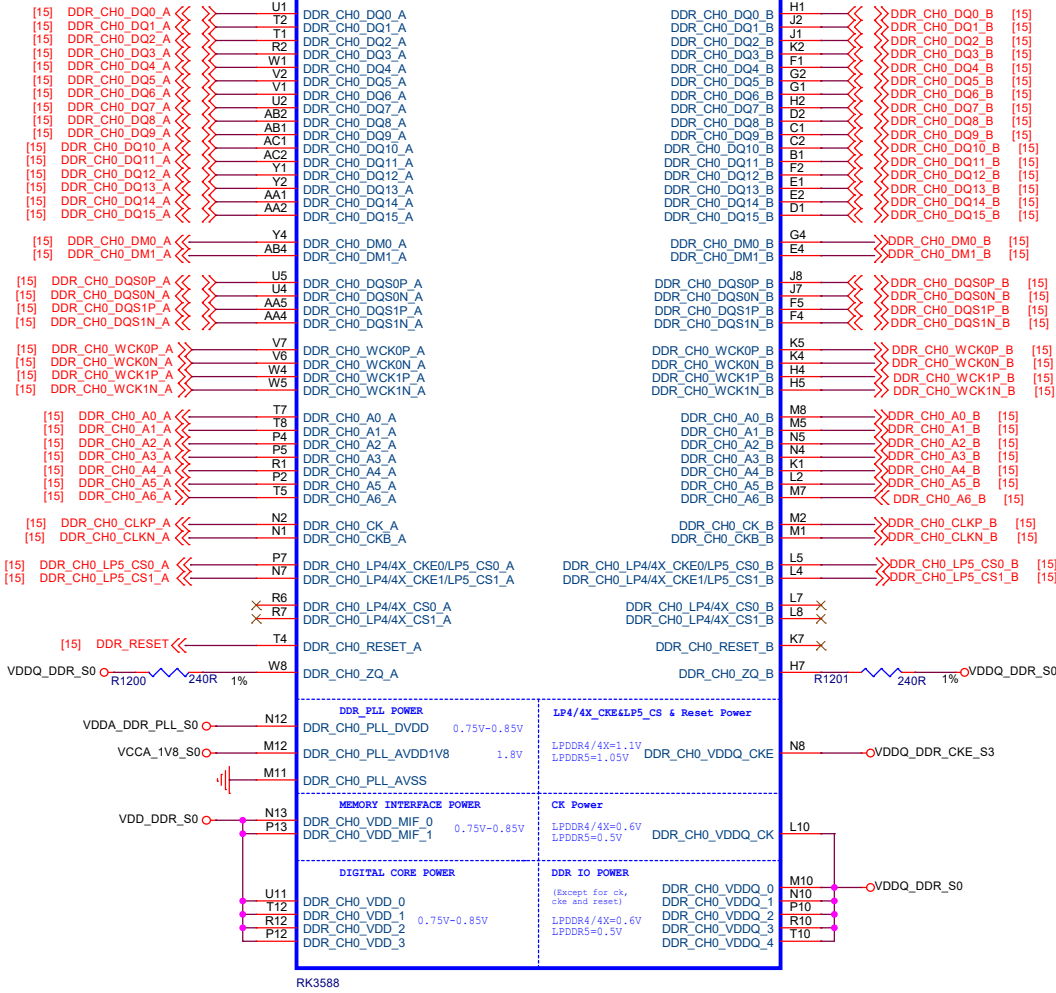


RK3588_Power/GND

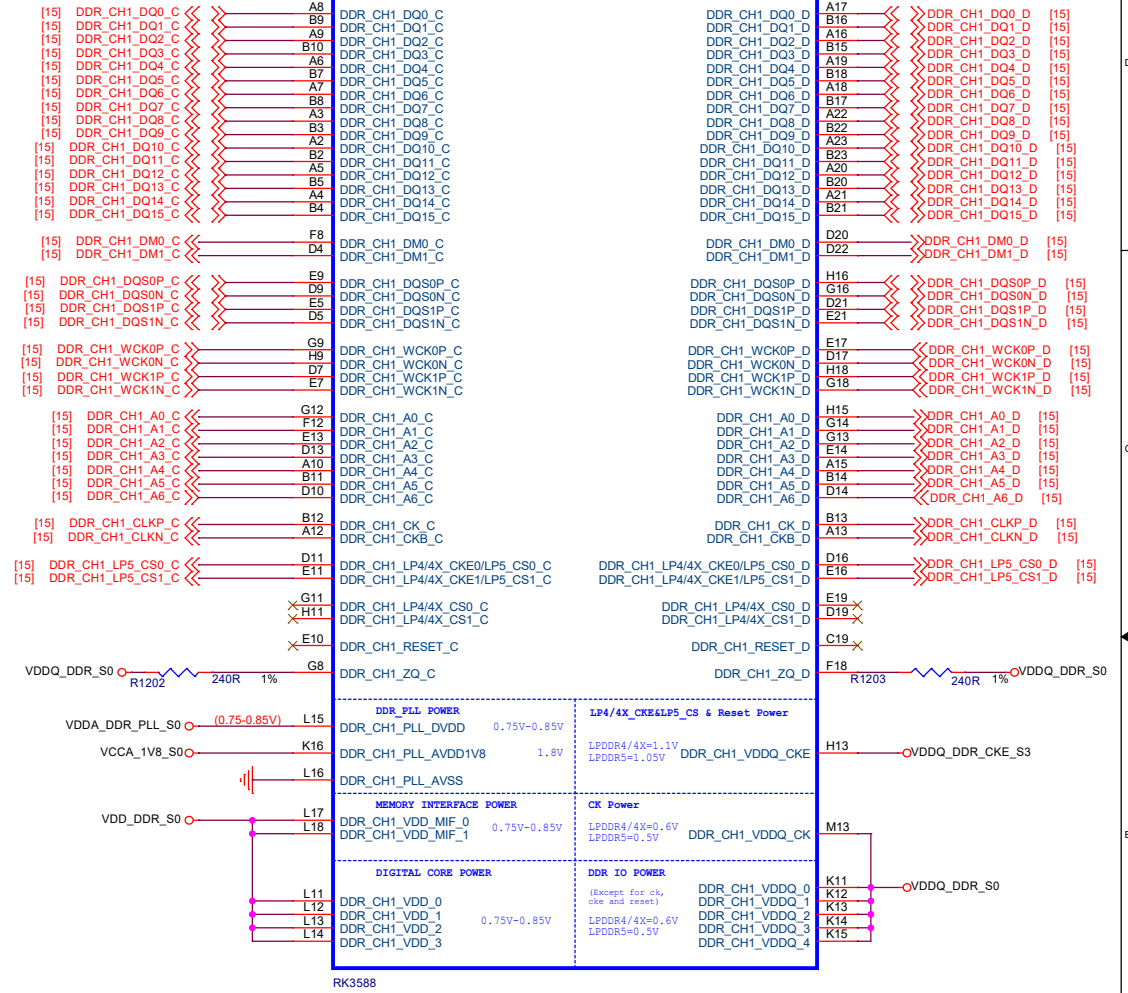


RK3588 DDR Controller

U1000A

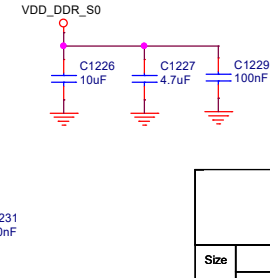
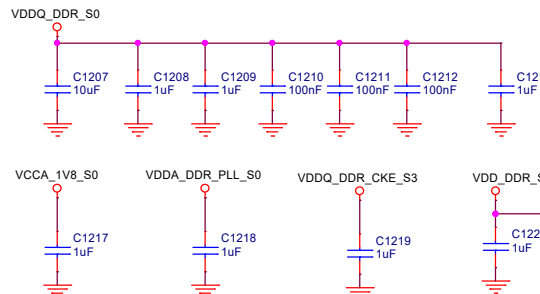
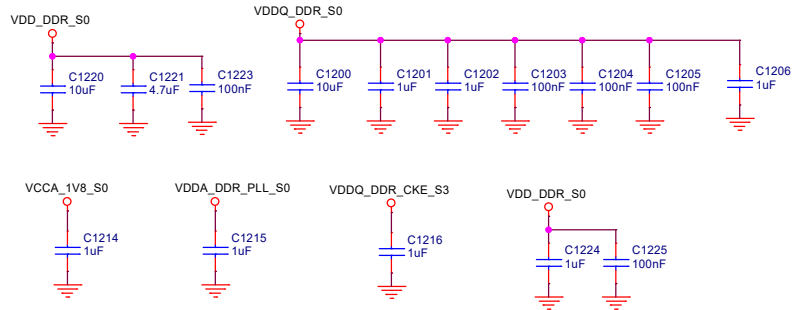


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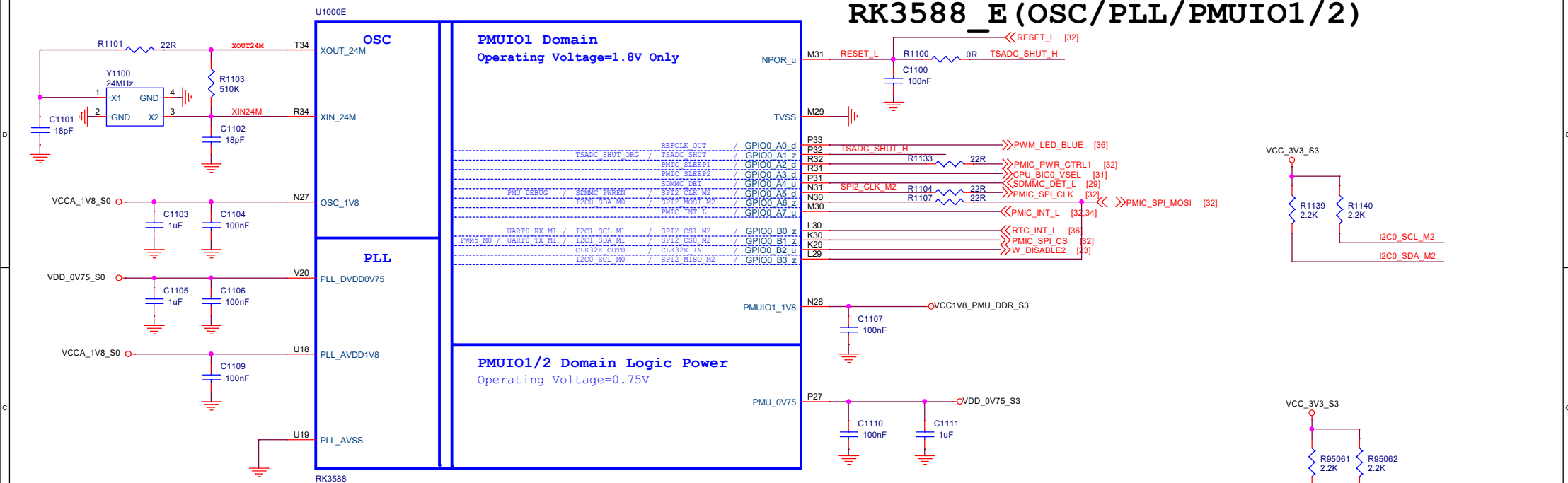
RK3588

RK3588

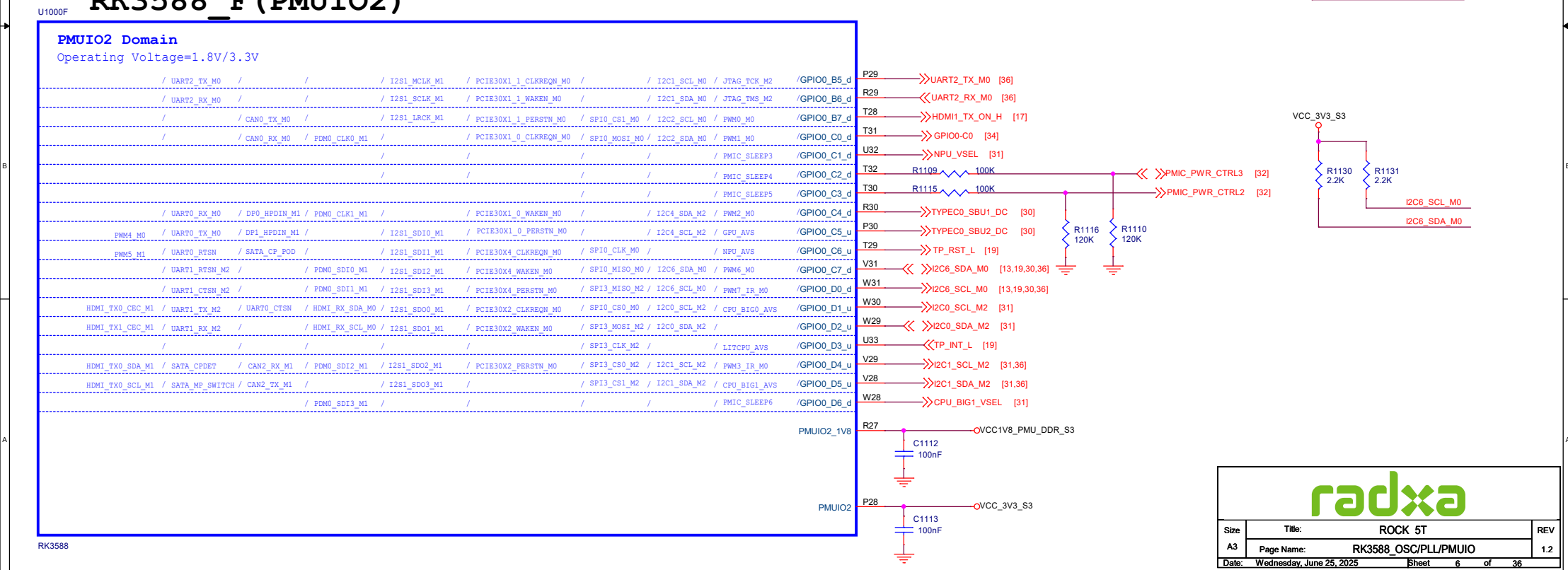


Size A3	Title:	ROCK 5T	REV 1.2
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RK3588 E (OSC/PLL/PMUIO1/2)



RK3588 F (PMUIO2)



RK3588_M (TYPEC/DP)

U1000M

USB3.0 OTG/DP1.4 Alt of TYPEC0

USB:U3/Gen1----Controller0
DP:RBR/HBR/HBR2/HBR3

TYPEC0_SBU1/DP0_AUXP
TYPEC0_SBU2/DP0_AUXN
TYPEC0_SSRX1P/DP0_TX0P
TYPEC0_SSRX1N/DP0_TX0N
TYPEC0_SSTX1P/DP0_TX1P
TYPEC0_SSTX1N/DP0_TX1N
TYPEC0_SSRX2P/DP0_TX2P
TYPEC0_SSRX2N/DP0_TX2N
TYPEC0_SSTX2P/DP0_TX3P
TYPEC0_SSTX2N/DP0_TX3N

TYPEC0_DP0_REXT
TYPEC0_DP0_VDD_0V85
TYPEC0_DP0_VDDA_0V85
TYPEC0_DP0_VDDH_1V8

USB3.0 OTG/DP1.4 Alt of TYPEC1

USB:U3/Gen1----Controller1
DP:RBR/HBR/HBR2/HBR3

TYPEC1_SBU1/DP1_AUXP
TYPEC1_SBU2/DP1_AUXN
TYPEC1_SSRX1P/DP1_TX0P
TYPEC1_SSRX1N/DP1_TX0N
TYPEC1_SSTX1P/DP1_TX1P
TYPEC1_SSTX1N/DP1_TX1N
TYPEC1_SSRX2P/DP1_TX2P
TYPEC1_SSRX2N/DP1_TX2N
TYPEC1_SSTX2P/DP1_TX3P
TYPEC1_SSTX2N/DP1_TX3N

TYPEC1_DP1_REXT
TYPEC1_DP1_VDD_0V85
TYPEC1_DP1_VDDA_0V85
TYPEC1_DP1_VDDH_1V8

RK3588

RK3588_L (USB2.0 HOST/OTG)

U1000L

USB2.0 of TYPEC0 (OTG/HOST/DEVICE)

HS/FS/LS

Download Port

TYPEC0_USB20_OTG_DP
TYPEC0_USB20_OTG_DM
TYPEC0_USB20_OTG_ID
TYPEC0_USB20_VBUSDET
TYPEC0_USB20_OTG0_REXT

USB2.0 of TYPEC1 (OTG/HOST/DEVICE)

HS/FS/LS

TYPEC1_USB20_OTG_DP
TYPEC1_USB20_OTG_DM
TYPEC1_USB20_OTG_ID
TYPEC1_USB20_VBUSDET
TYPEC1_USB20_OTG1_REXT

USB2.0 HOST0

HS/FS/LS

USB20_HOST0_DP
USB20_HOST0_DM
USB20_HOST0_REXT

USB2.0 HOST1

HS/FS/LS

USB20_HOST1_DP
USB20_HOST1_DM
USB20_HOST1_REXT

USB2.0 POWER

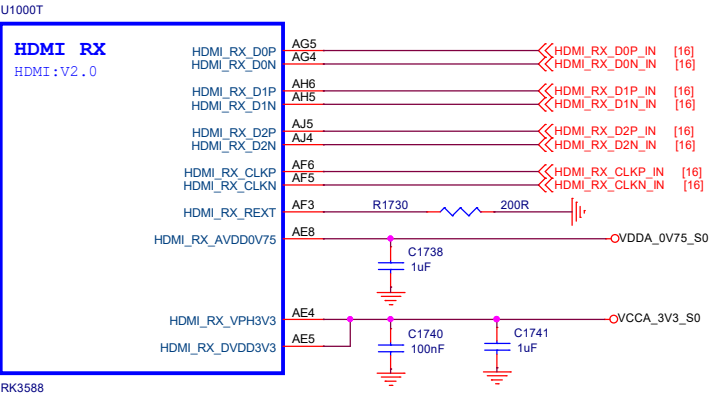
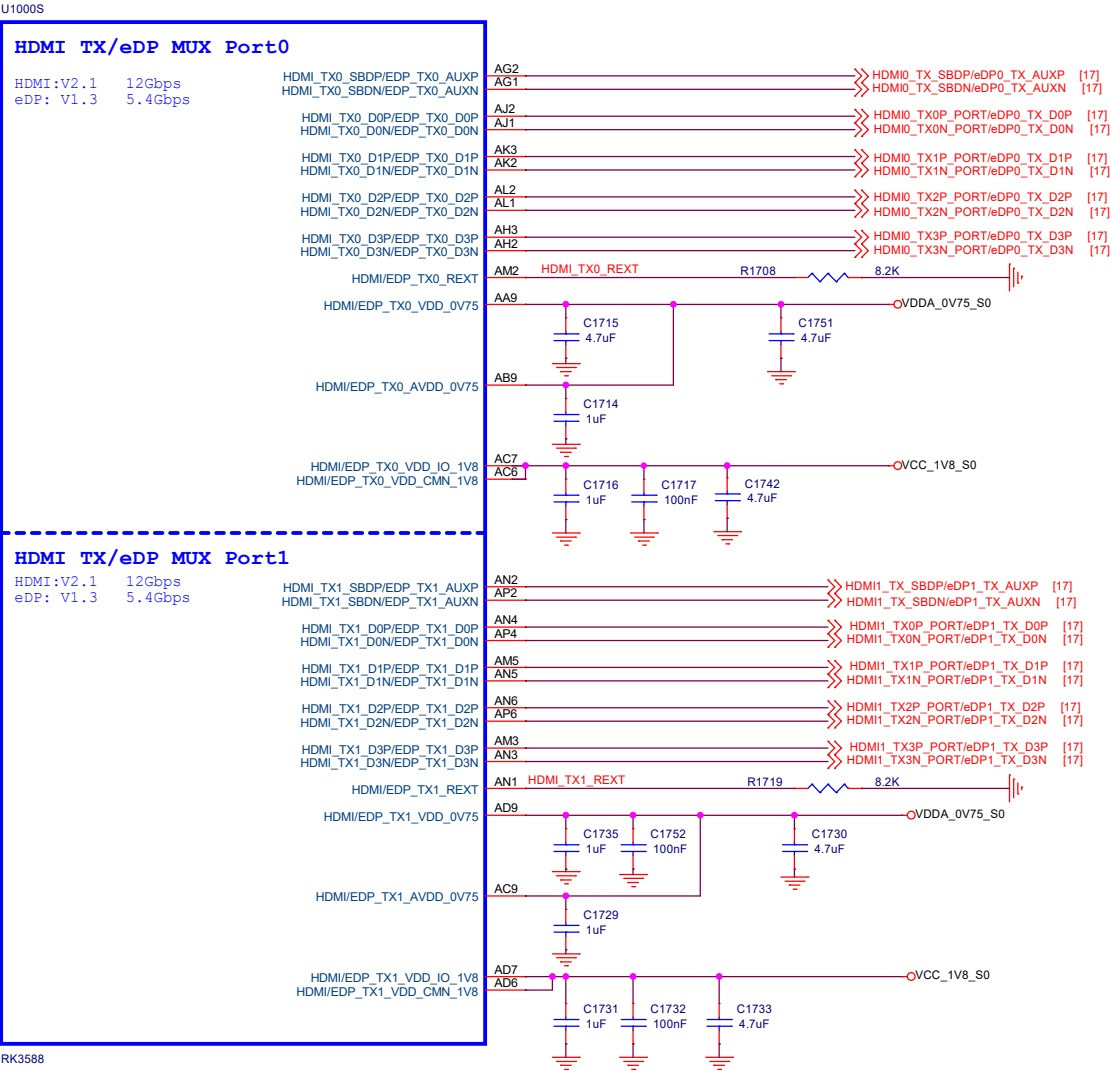
USB20_DVDD_0V75
USB20_AVDD_1V8
USB20_AVDD_3V3

RK3588

radxa

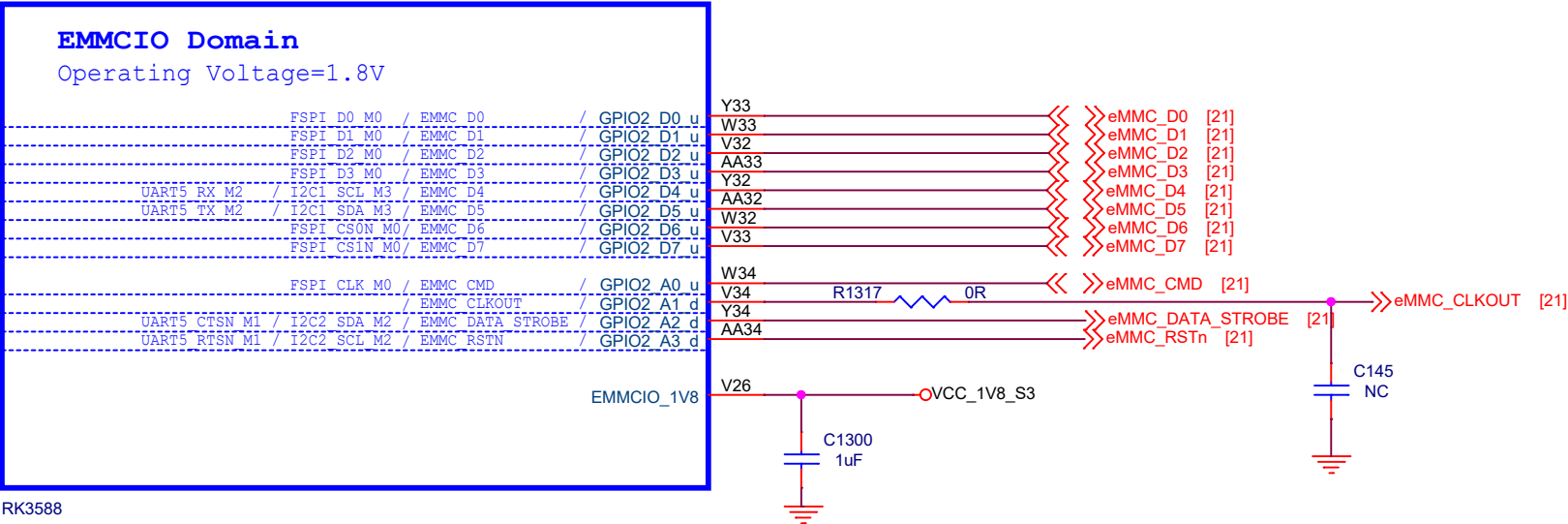
RK3588_S (HDMI2.1 TX)

RK3588_T (HDMI20 RX)



RK3588_C (EMMC)

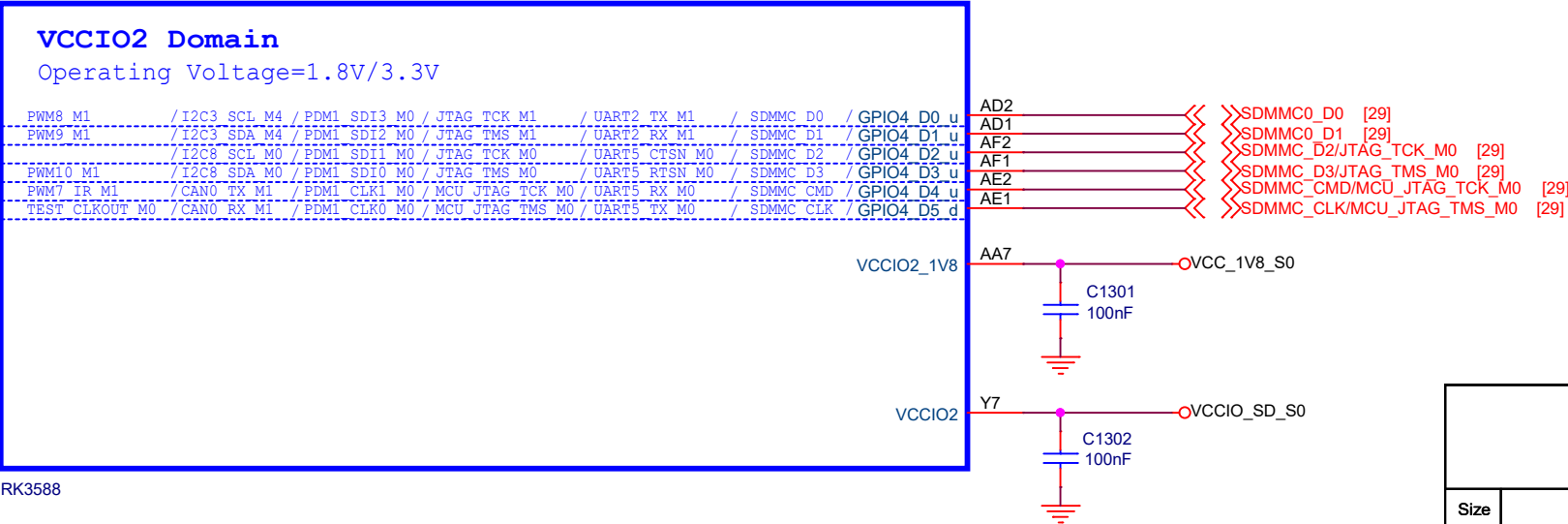
U1000C



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

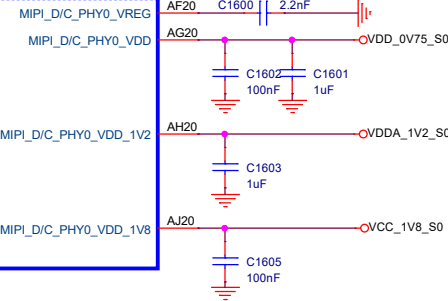
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MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B
MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B
MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A
MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A
MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C
MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B
MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A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

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

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

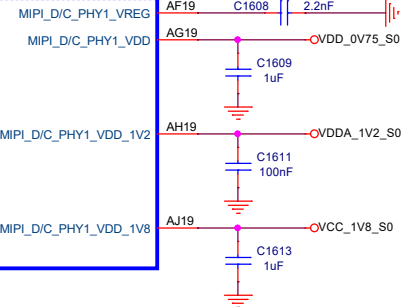
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MIPI_DPHY1_TX_CLKN/MIPI_CPHY1_TX_TRIO1_B
MIPI_DPHY1_TX_D0P/MIPI_CPHY1_TX_TRIO0_B
MIPI_DPHY1_TX_D0N/MIPI_CPHY1_TX_TRIO0_A
MIPI_DPHY1_TX_D1P/MIPI_CPHY1_TX_TRIO1_A
MIPI_DPHY1_TX_D1N/MIPI_CPHY1_TX_TRIO0_C
MIPI_DPHY1_TX_D2P/MIPI_CPHY1_TX_TRIO2_B
MIPI_DPHY1_TX_D2N/MIPI_CPHY1_TX_TRIO2_A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

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

MIPI D/C-PHY POWER



RK3588

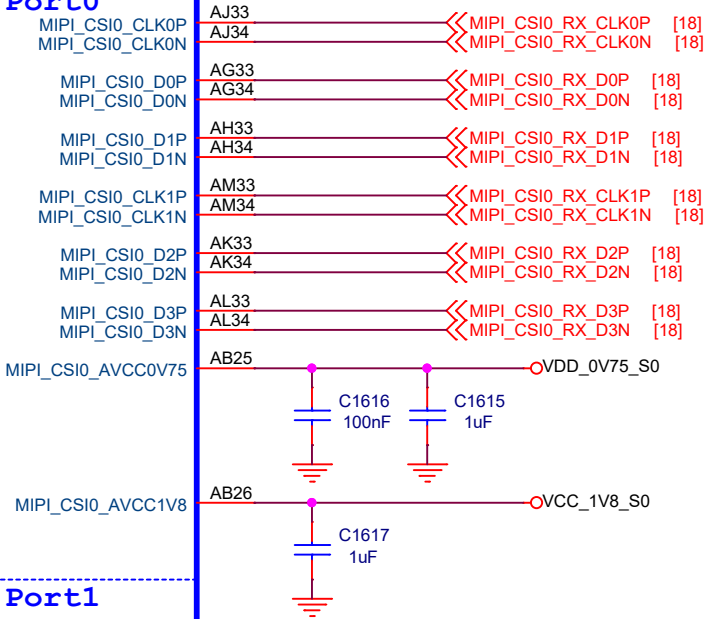


RK3588_P (MIPI_CSI_RX_PHY)

U1000P

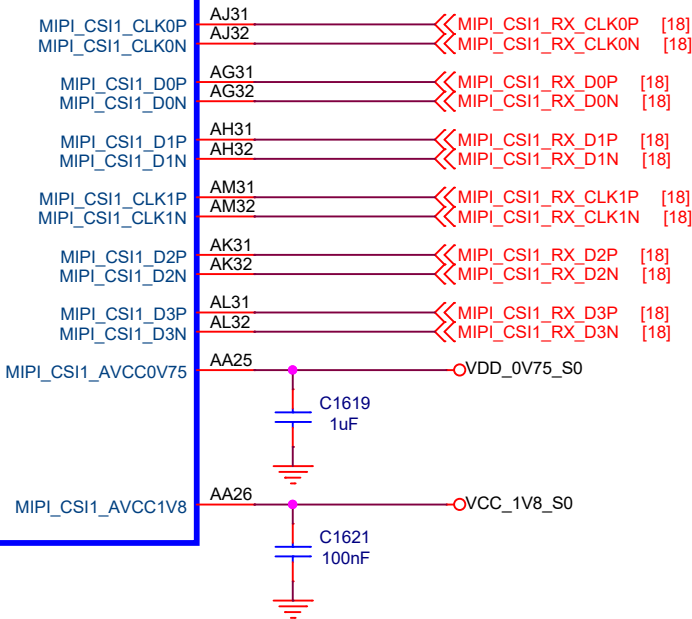
MIPI DPHY CSI_RX Port0

MIPI V1.2/2.5Gbps



MIPI DPHY CSI_RX Port1

MIPI V1.2/2.5Gbps

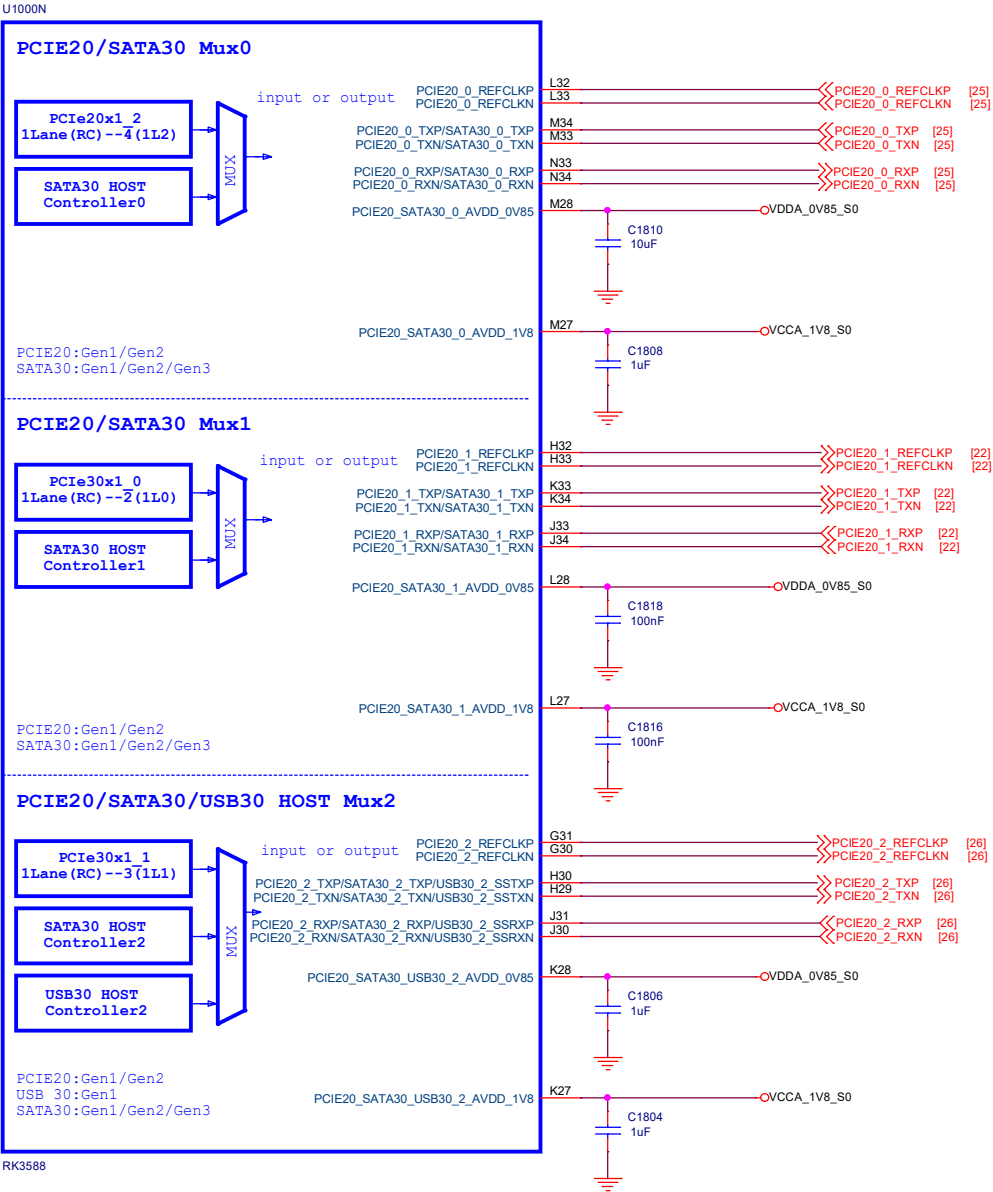


RK3588

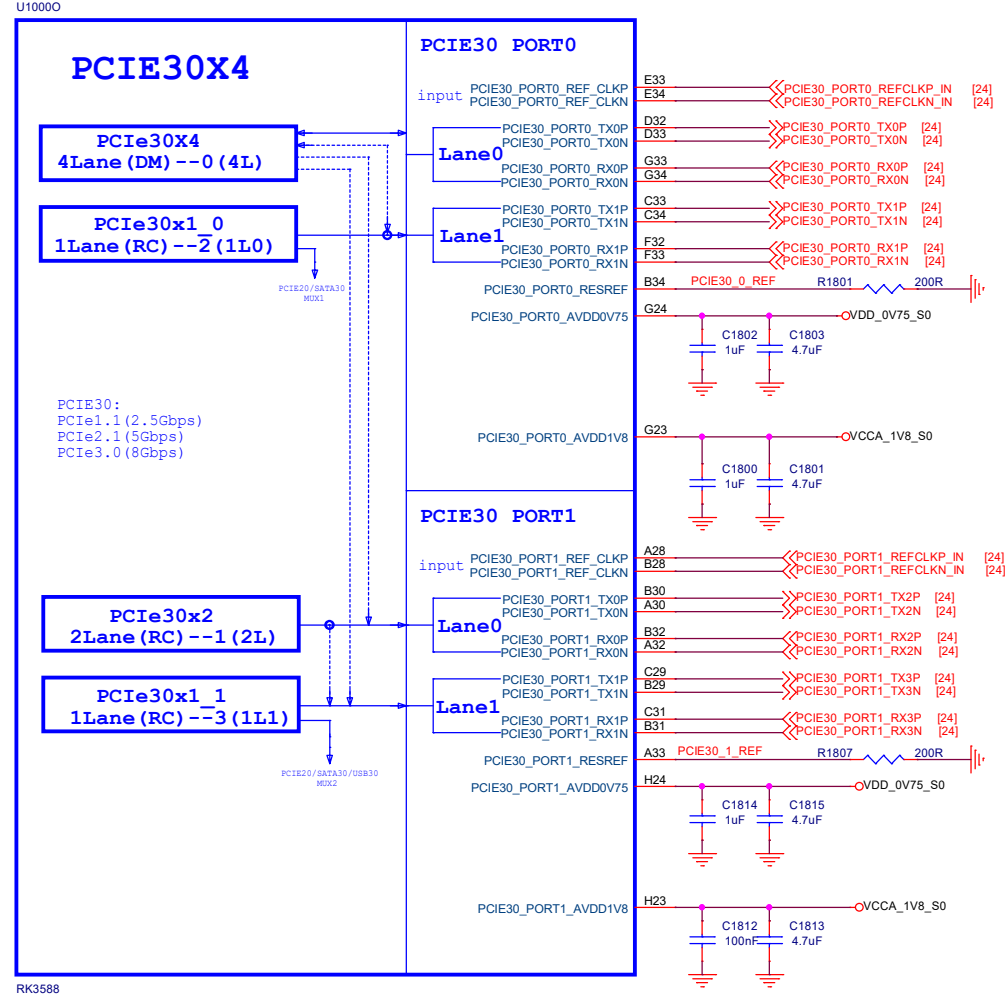


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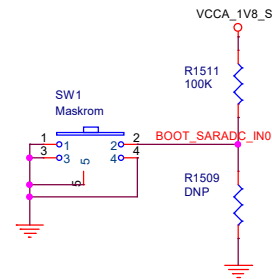
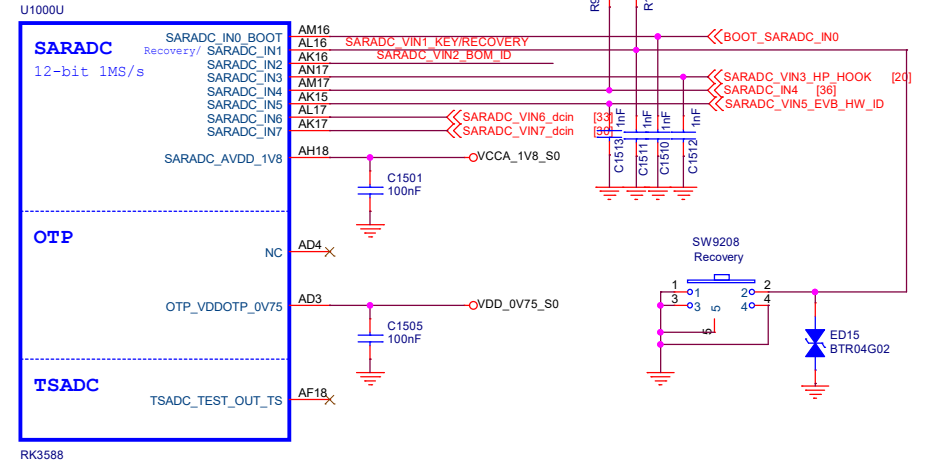
RK3588_N (PCIE20)



RK3588_O (PCIE30)

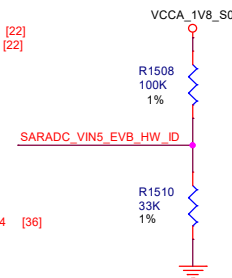


RK3588 U (SARADC/OTP)



<i>Item</i>	<i>Rup</i>	<i>Rdown</i>	<i>ADC</i>	<i>VOL</i>	<i>BOOT MODE</i>
LEVEL1	DNP	100K	0	0V	USB (Maskrom mode)
LEVEL2	100K	20K	682	0.3V	SD Card-USB
LEVEL3	100K	51K	1365	0.6V	MMC-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

BOARD ID CONFIG



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

radxa

Size	Title: ROCK 5T	REV
A3	Page Name: RK3588_SARADC_GPIO	1.2
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RK3588_K (VCCIO6)

U1000K

VCCIO6 Domain
Operating Voltage=1.8V/3.3V

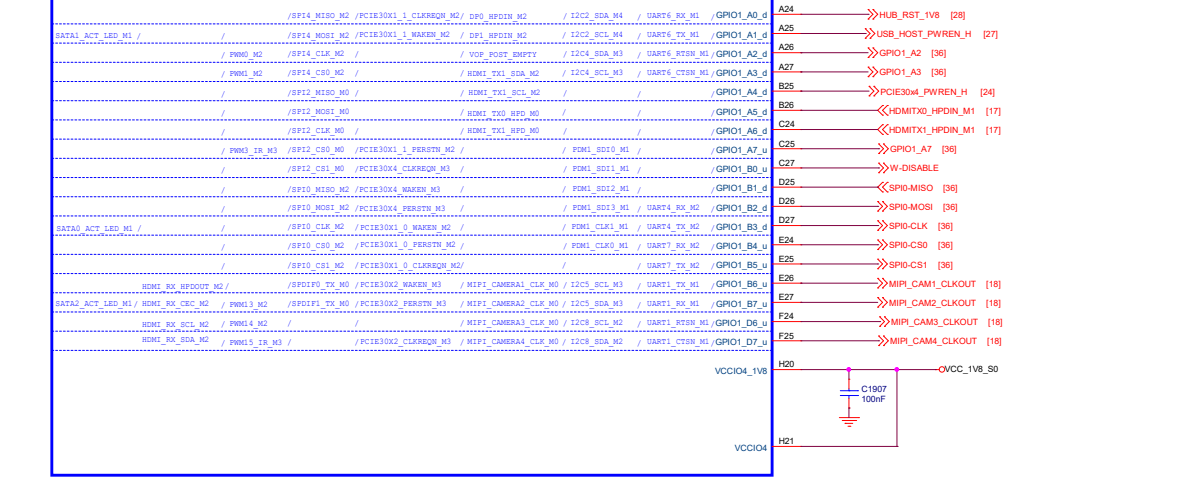


RK3588

RK3588_I (VCCIO4)

U1000I

VCCIO4 Domain
Operating Voltage=1.8V/3.3V

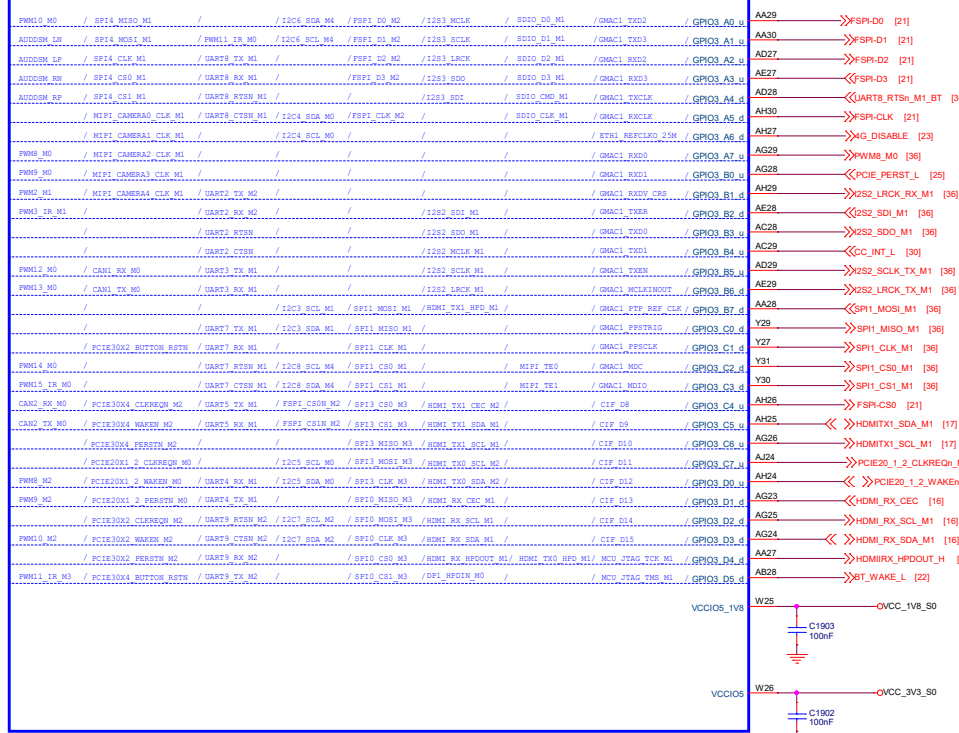


RK3588

RK3588_J (VCCIO5)

U1000J

VCCIO5 Domain
Operating Voltage=1.8V/3.3V



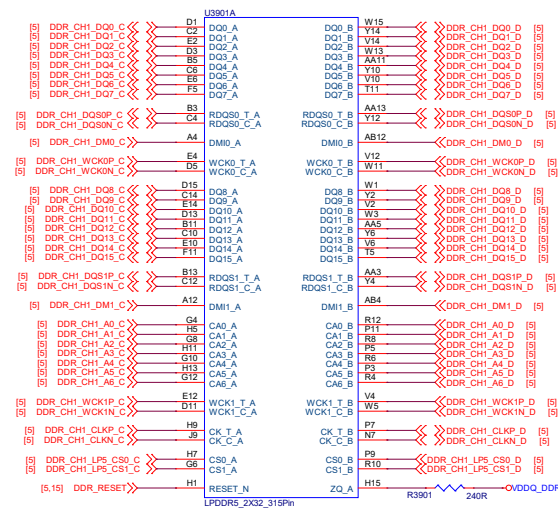
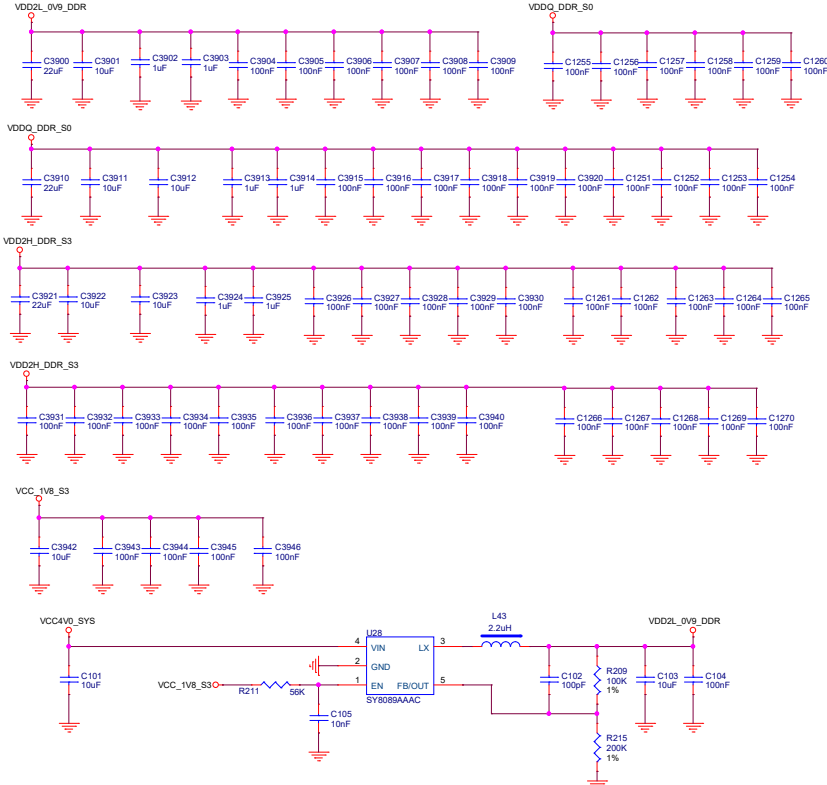
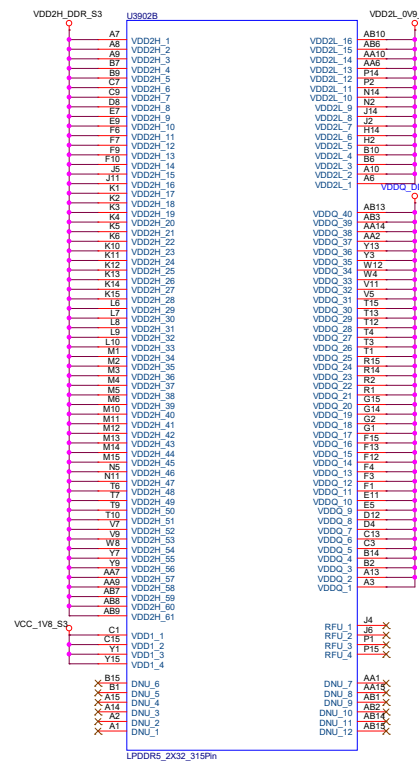
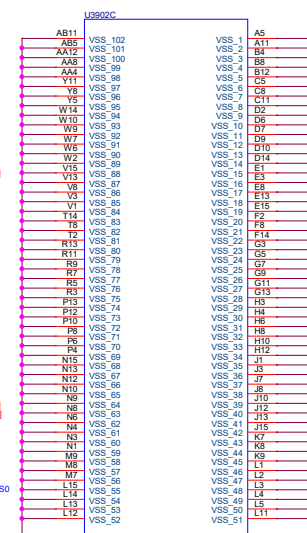
RK3588

radxa

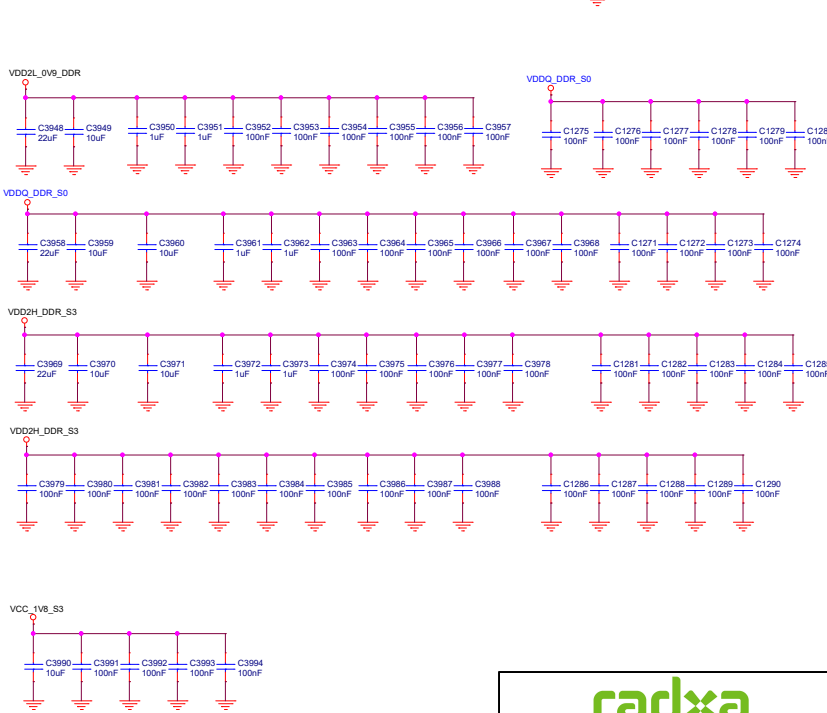
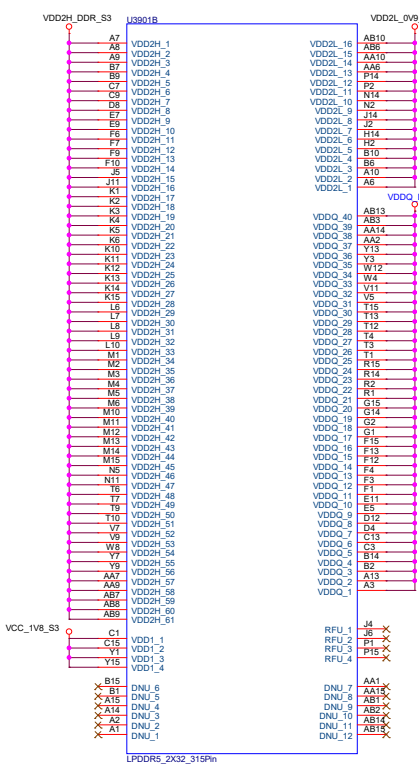
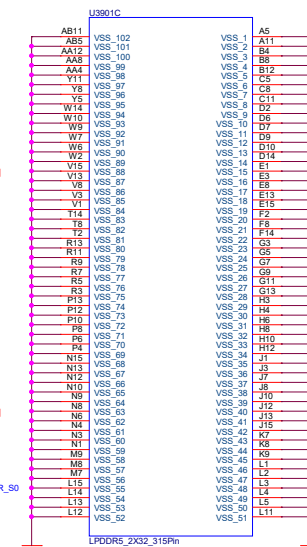
LPDDR5



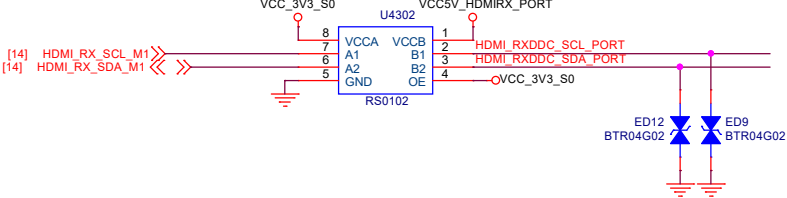
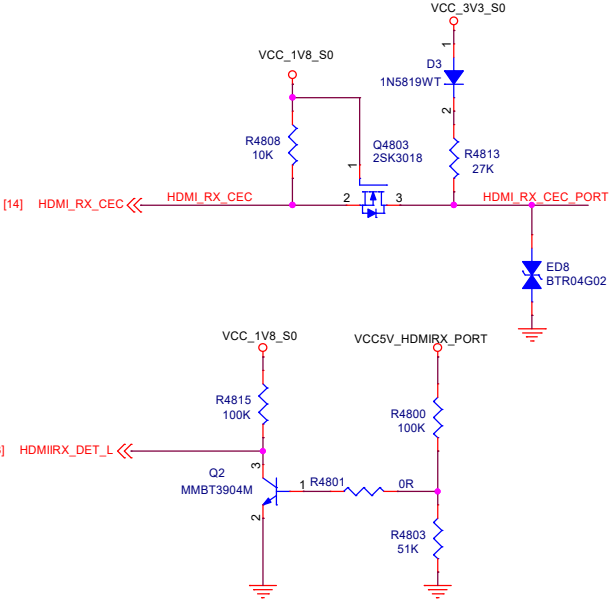
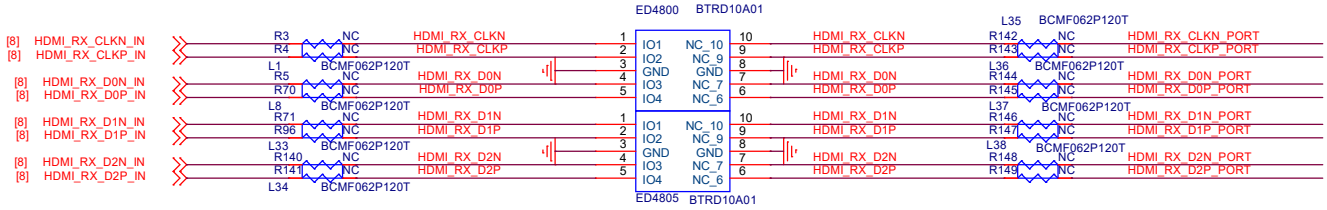
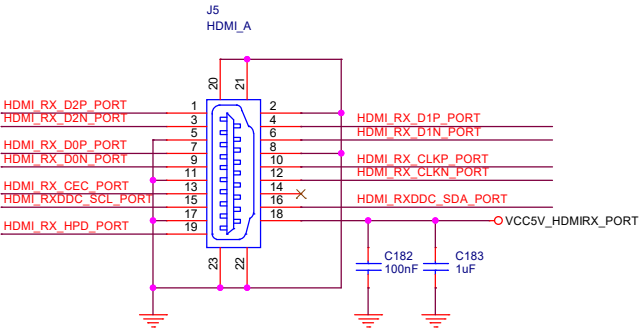
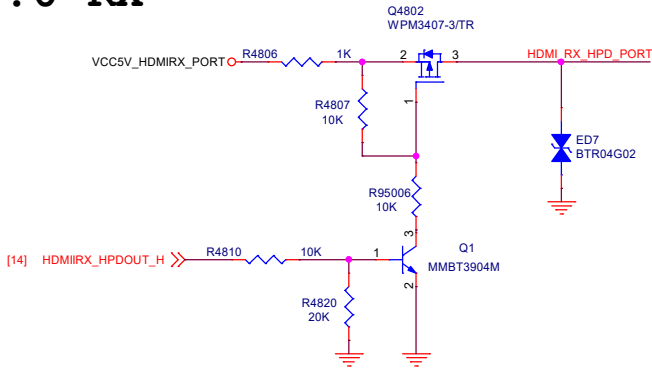
MT62F1G32D4DS-031 WT 4GB



LPDDR5_2X32_315Pin

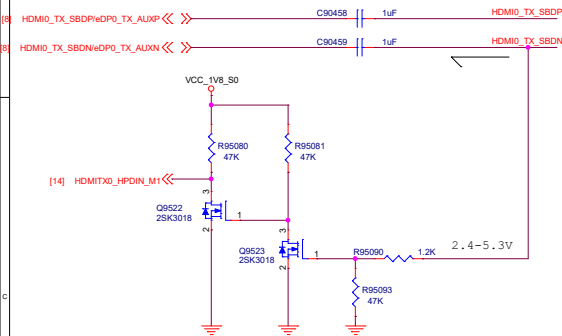


HDMI2.0 RX

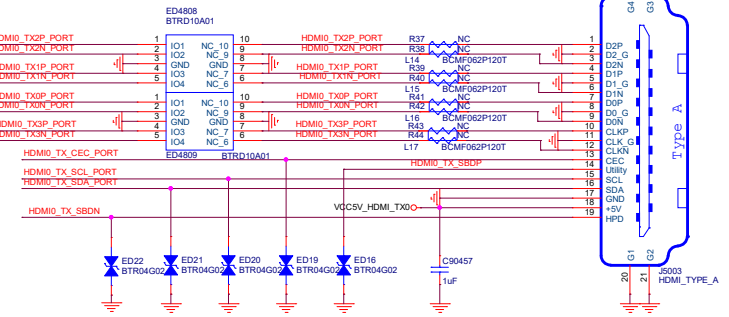
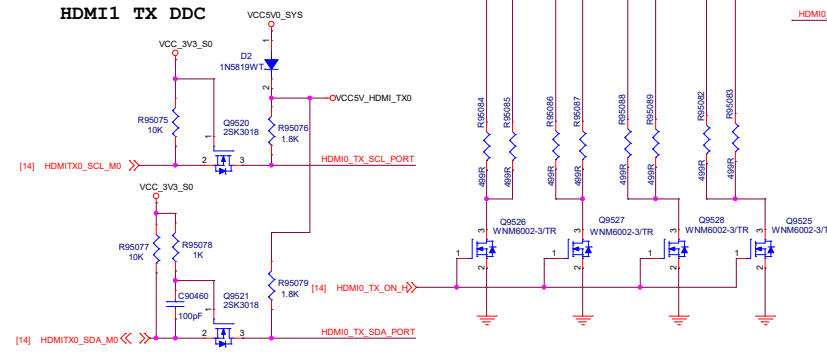


HDMI 1

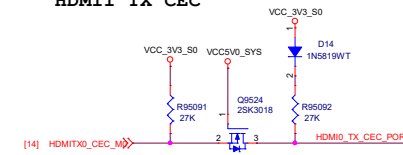
HDMI1 TX eARC



HDMI1 TX DDC

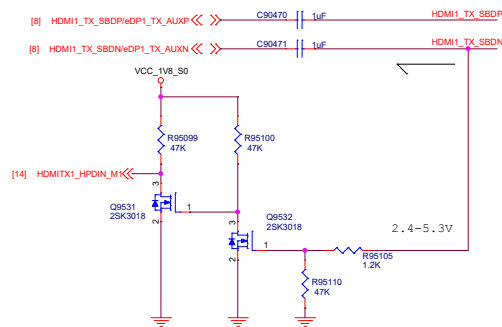


HDMI1 TX CEC

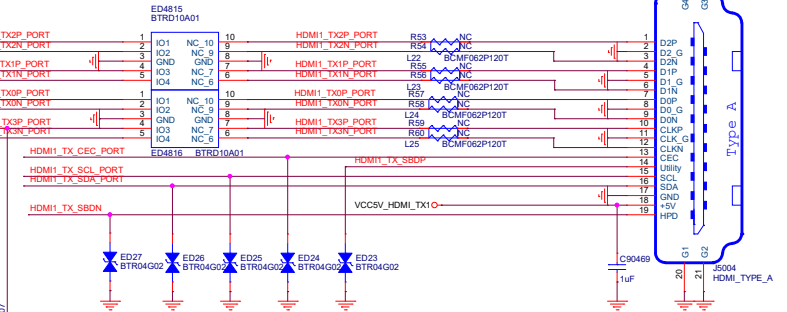
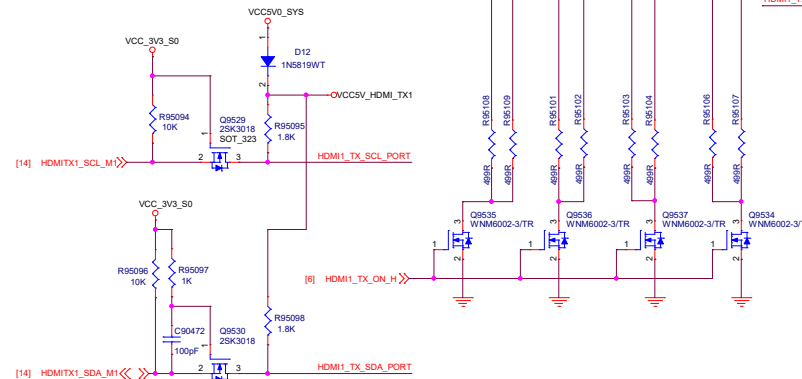


HDMI 2

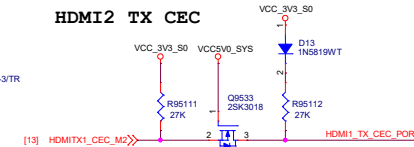
HDMI2 TX eARC



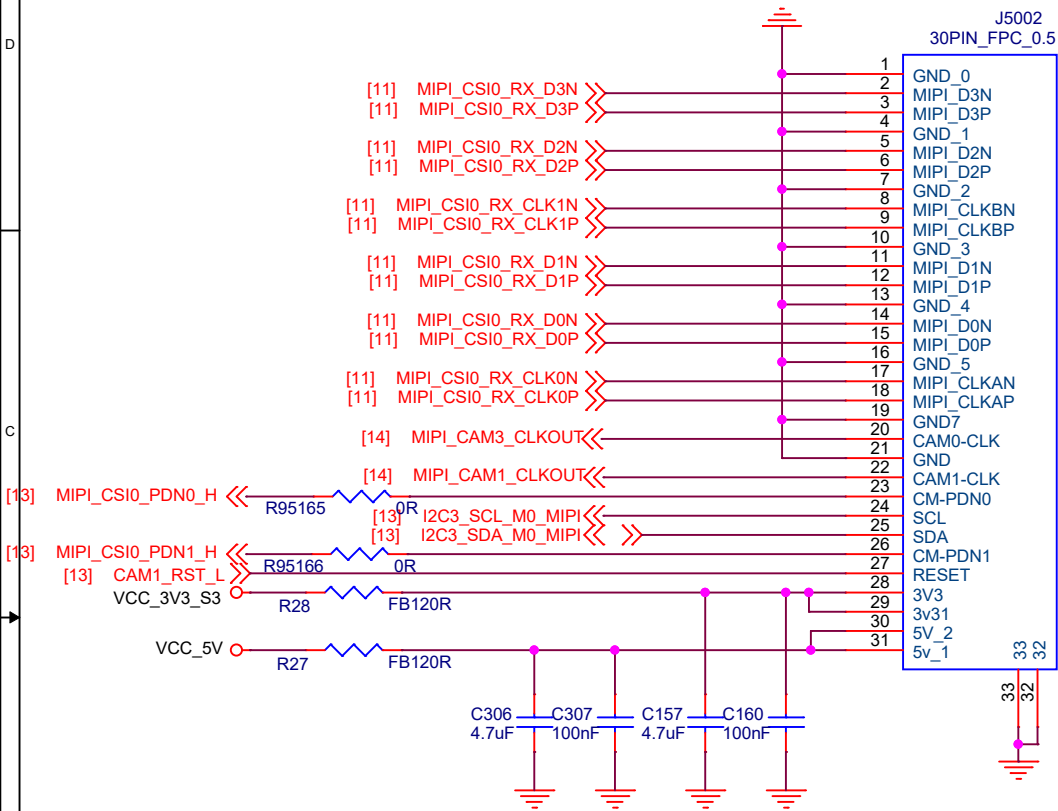
HDMI2 TX DDC



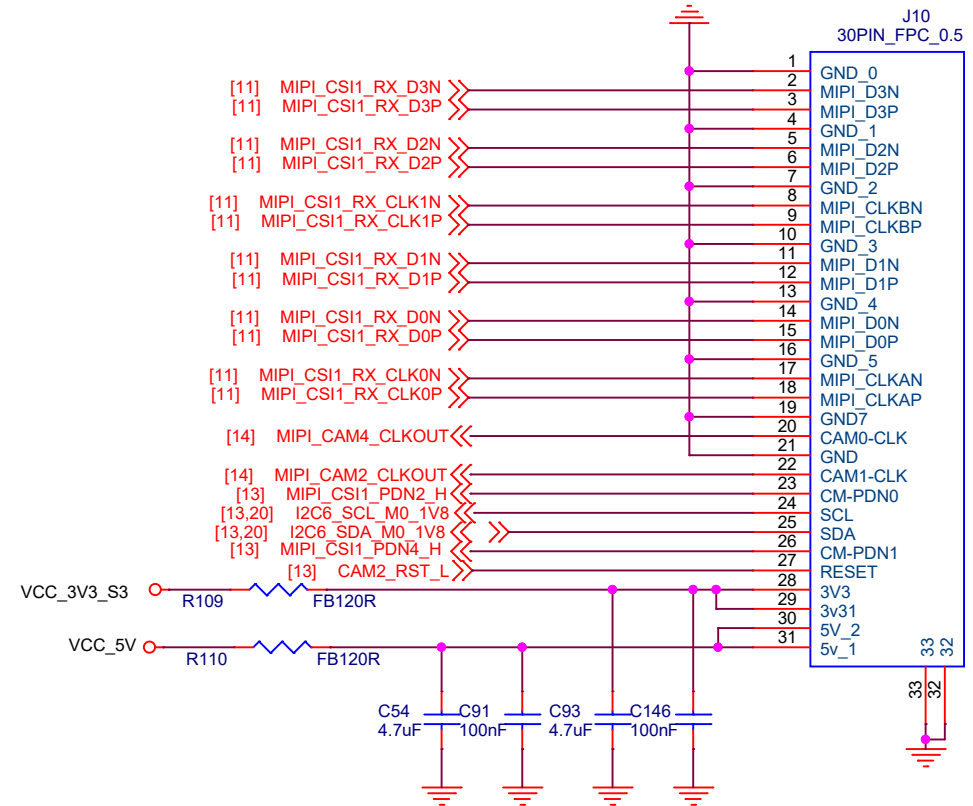
HDMI2 TX CEC



CAM1



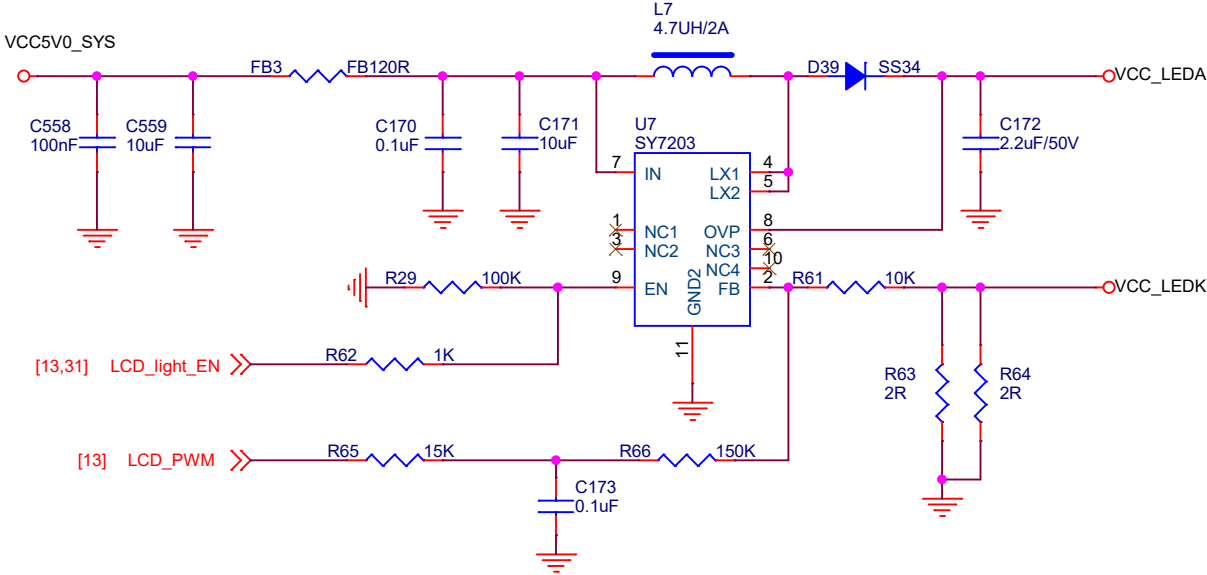
CAM2



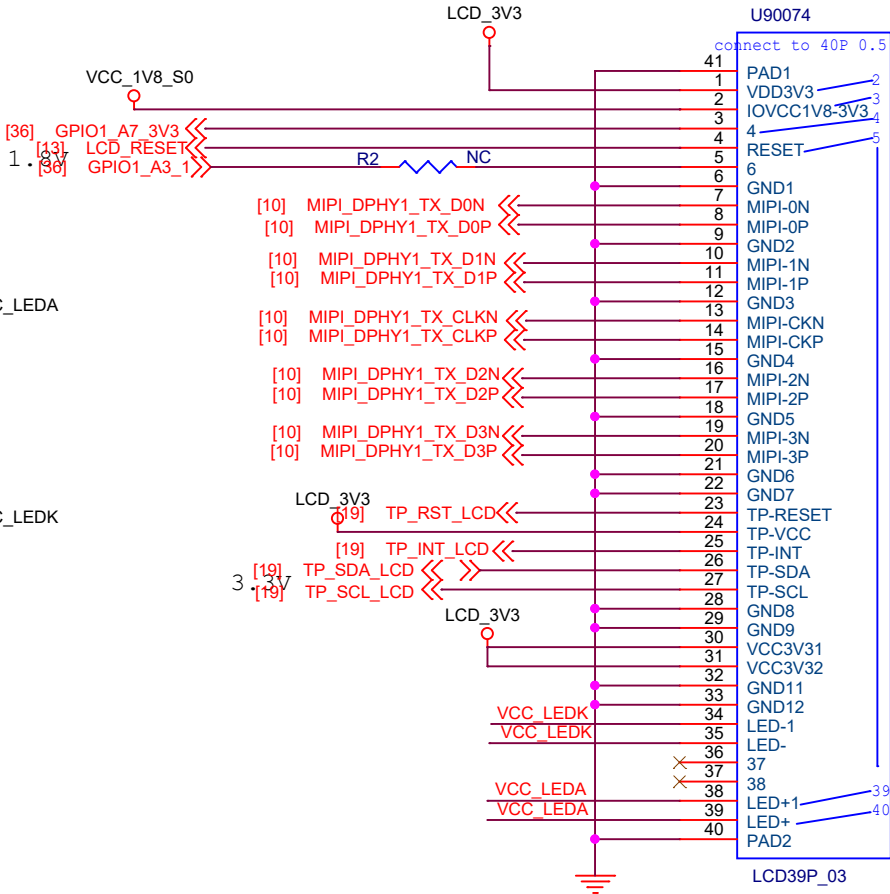
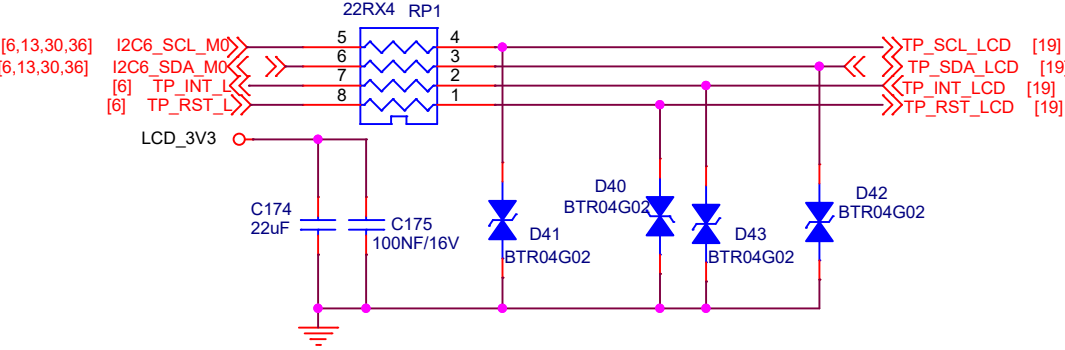
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Size	Title: ROCK 5T	REV
A4	Page Name: Camera_MIPI-CSI	1.2
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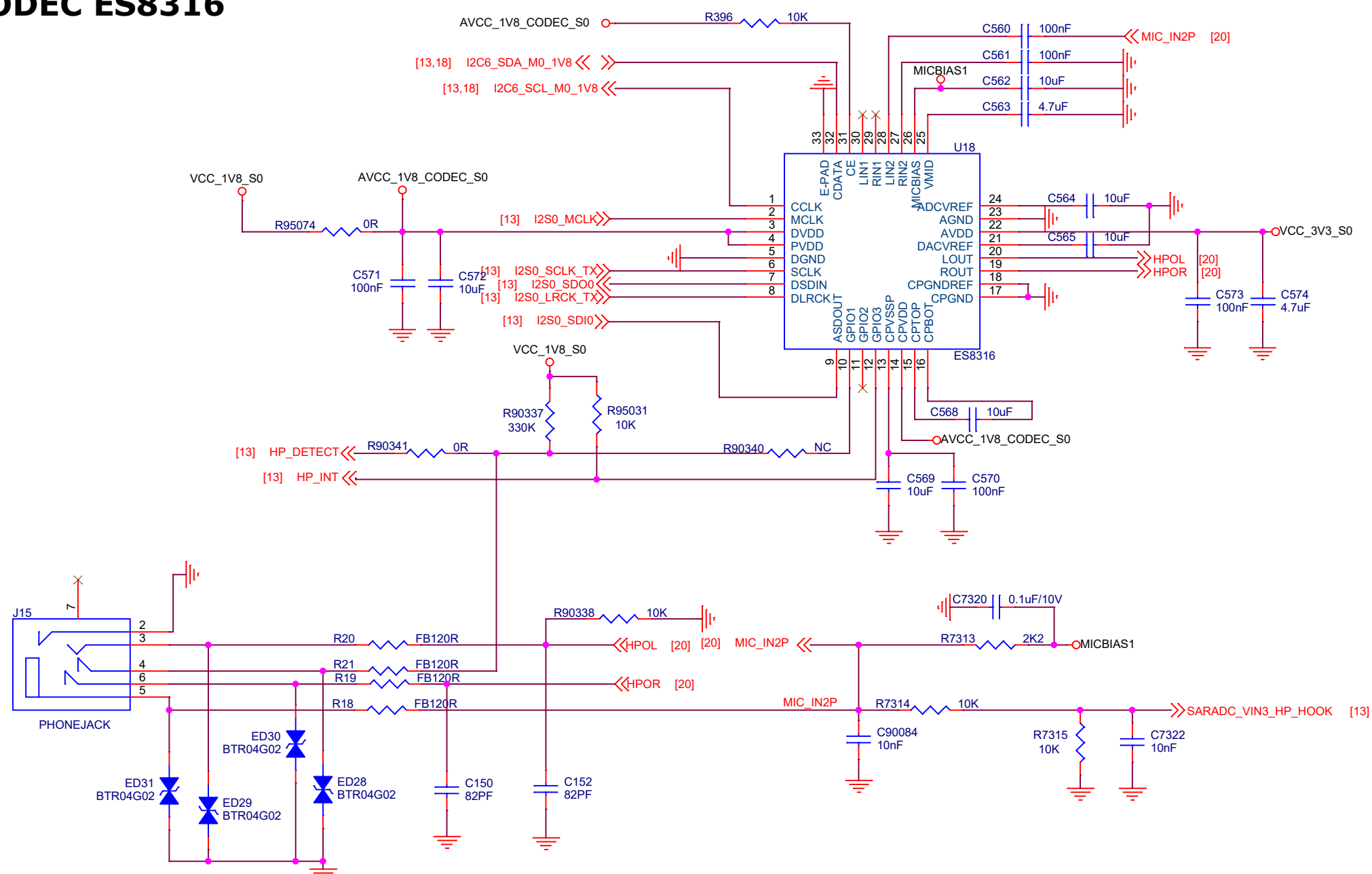
MIPI DPHY1 TX



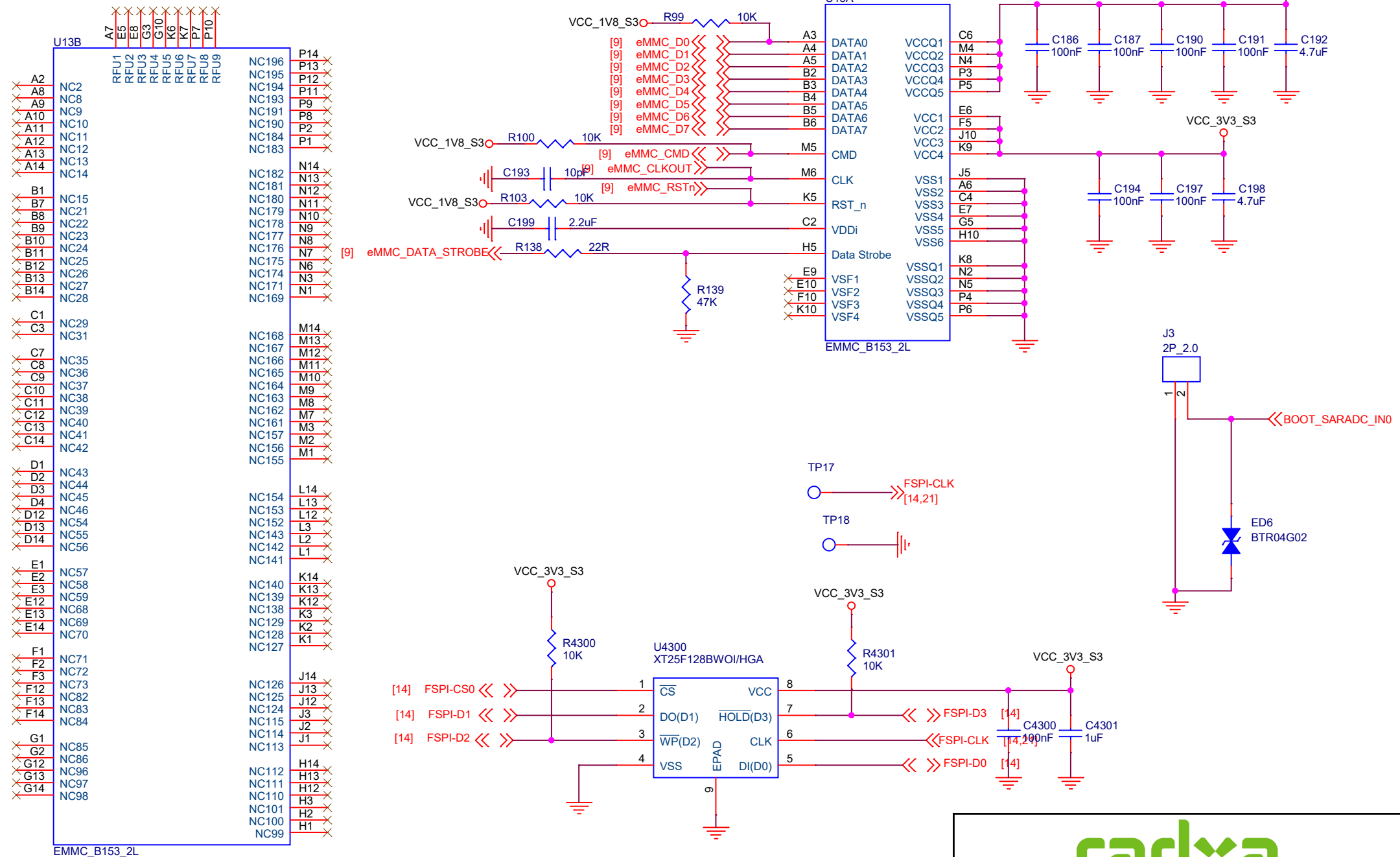
LCD_TP



CODEC ES8316



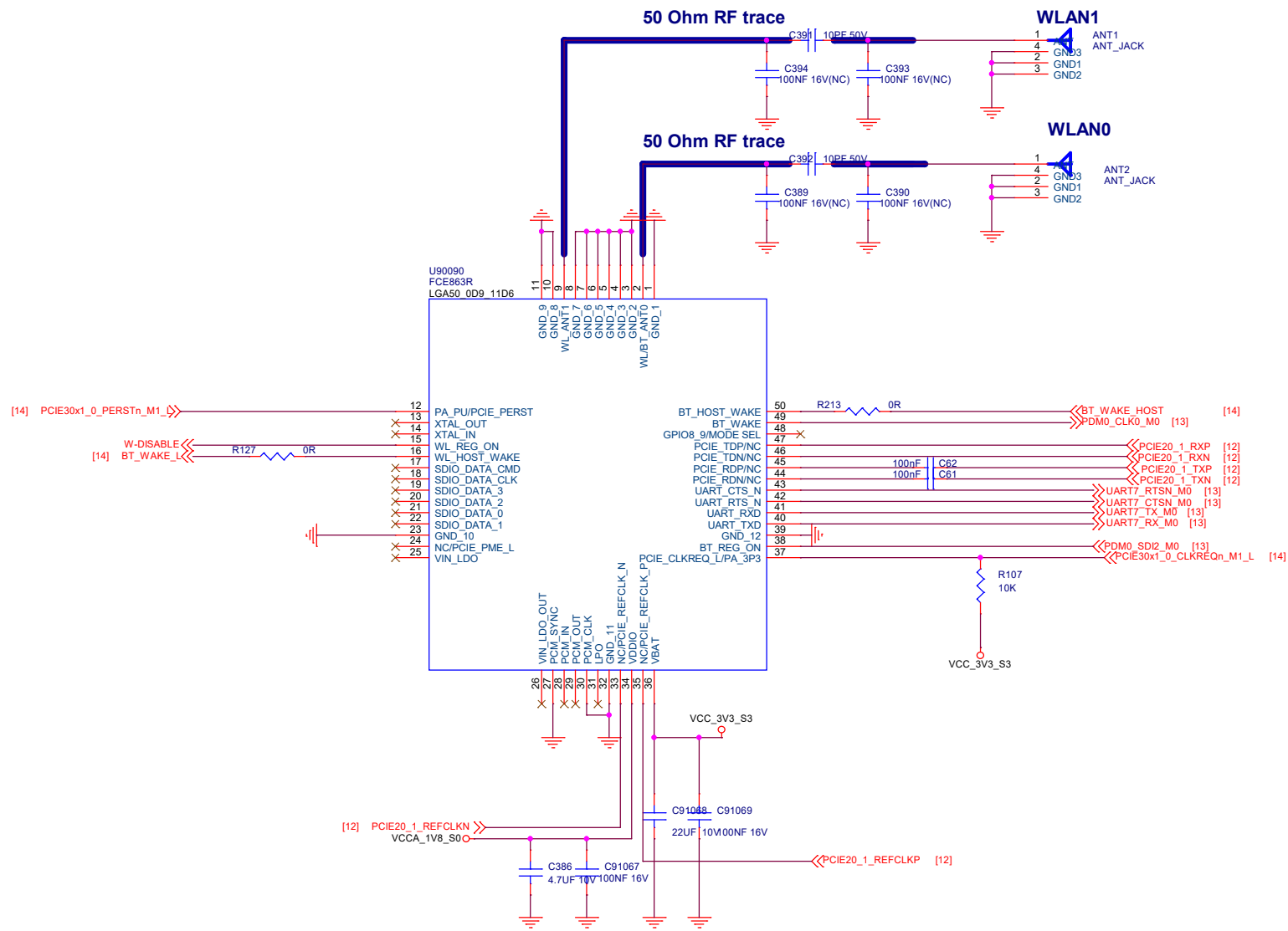
eMMC FLASH

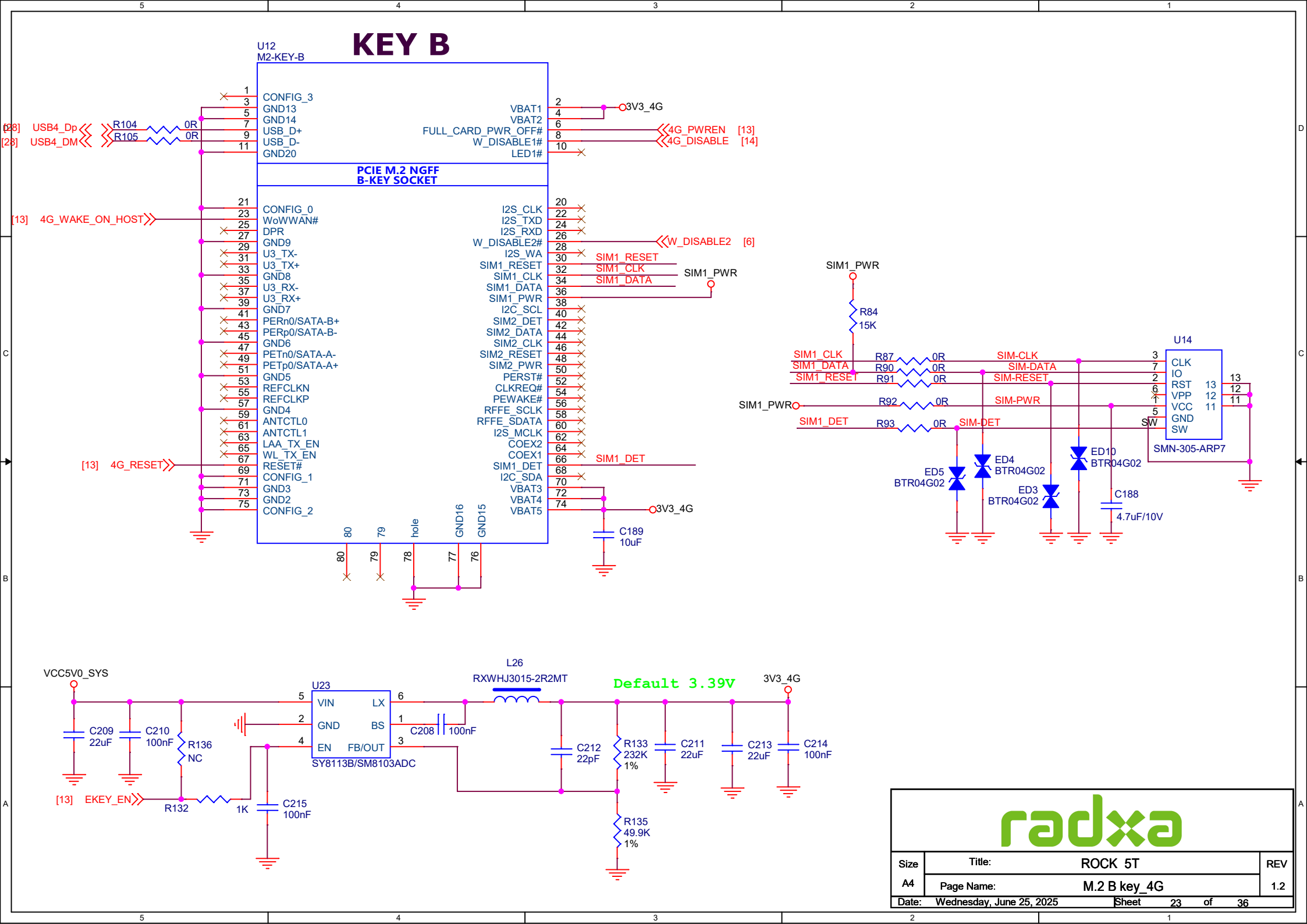


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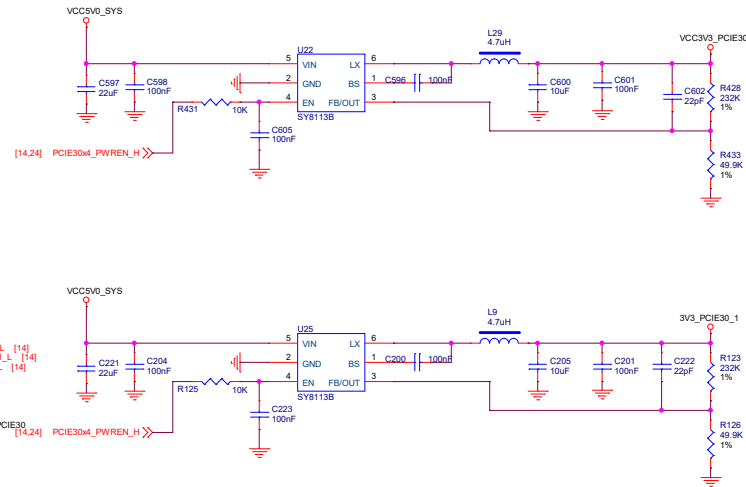
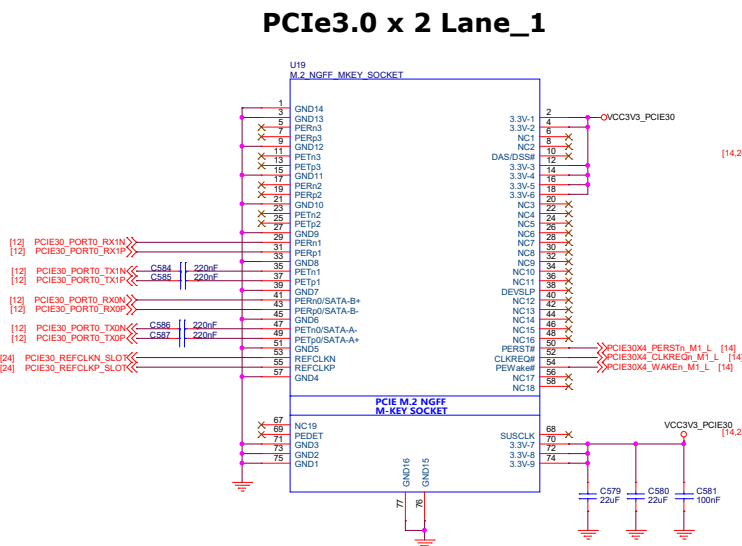
Size	Title:	ROCK 5T	REV
A4	Page Name:	SPI/eMMC Flash	1.2
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PCIE WIFI

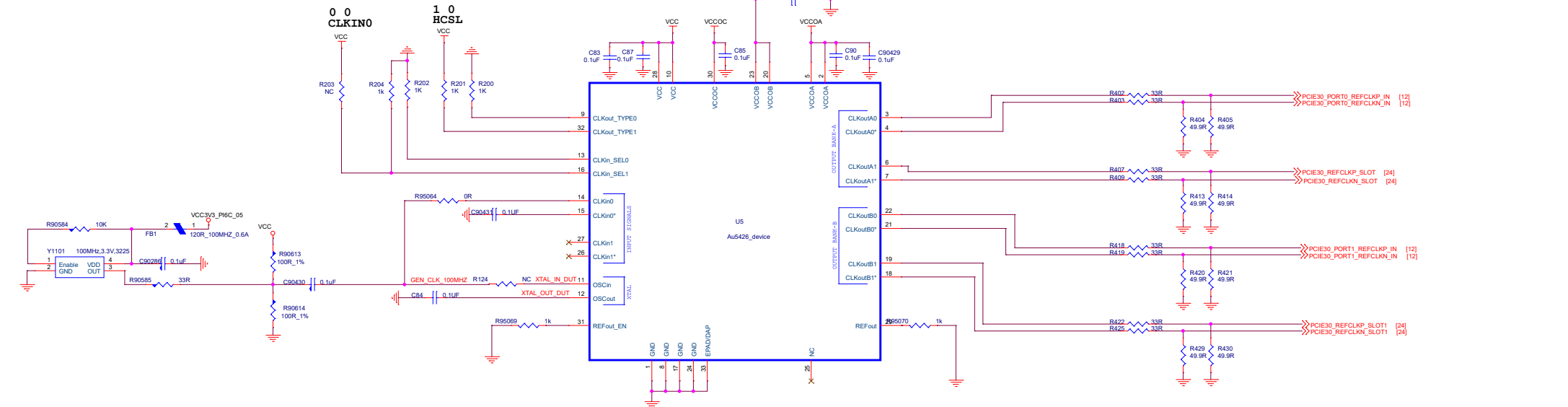
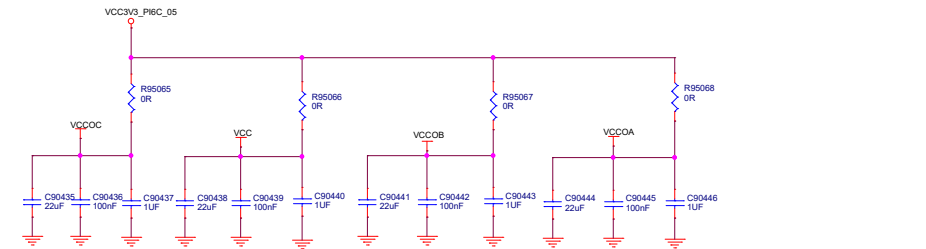
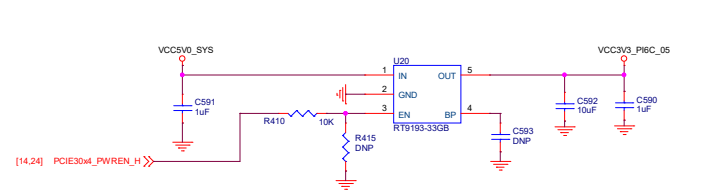
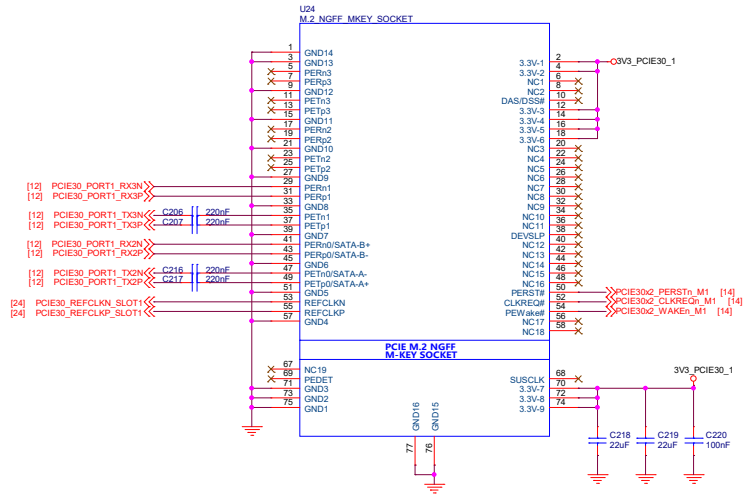




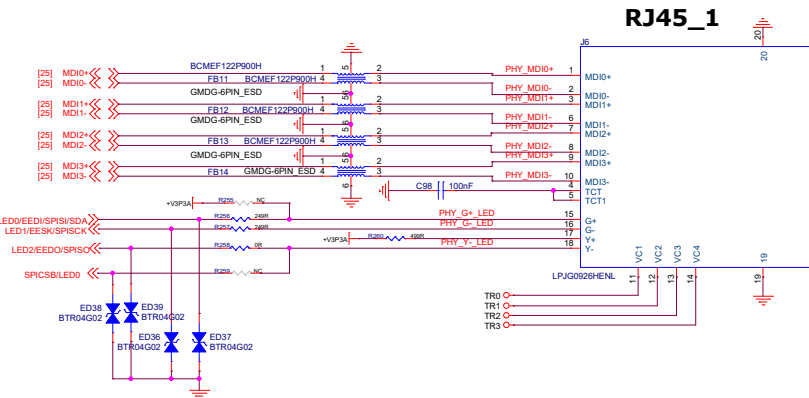
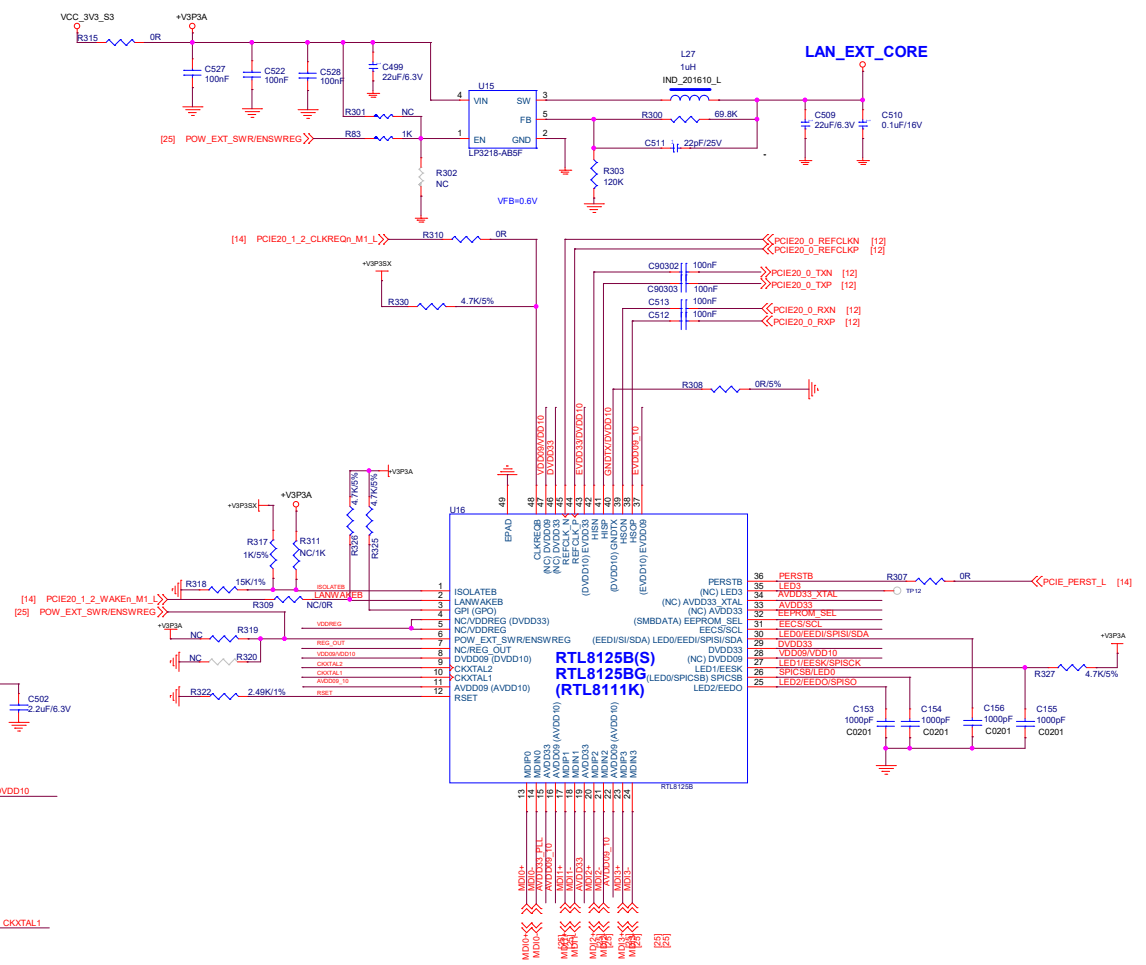
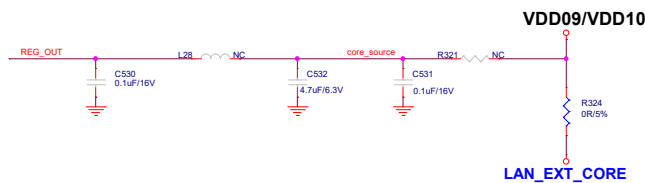
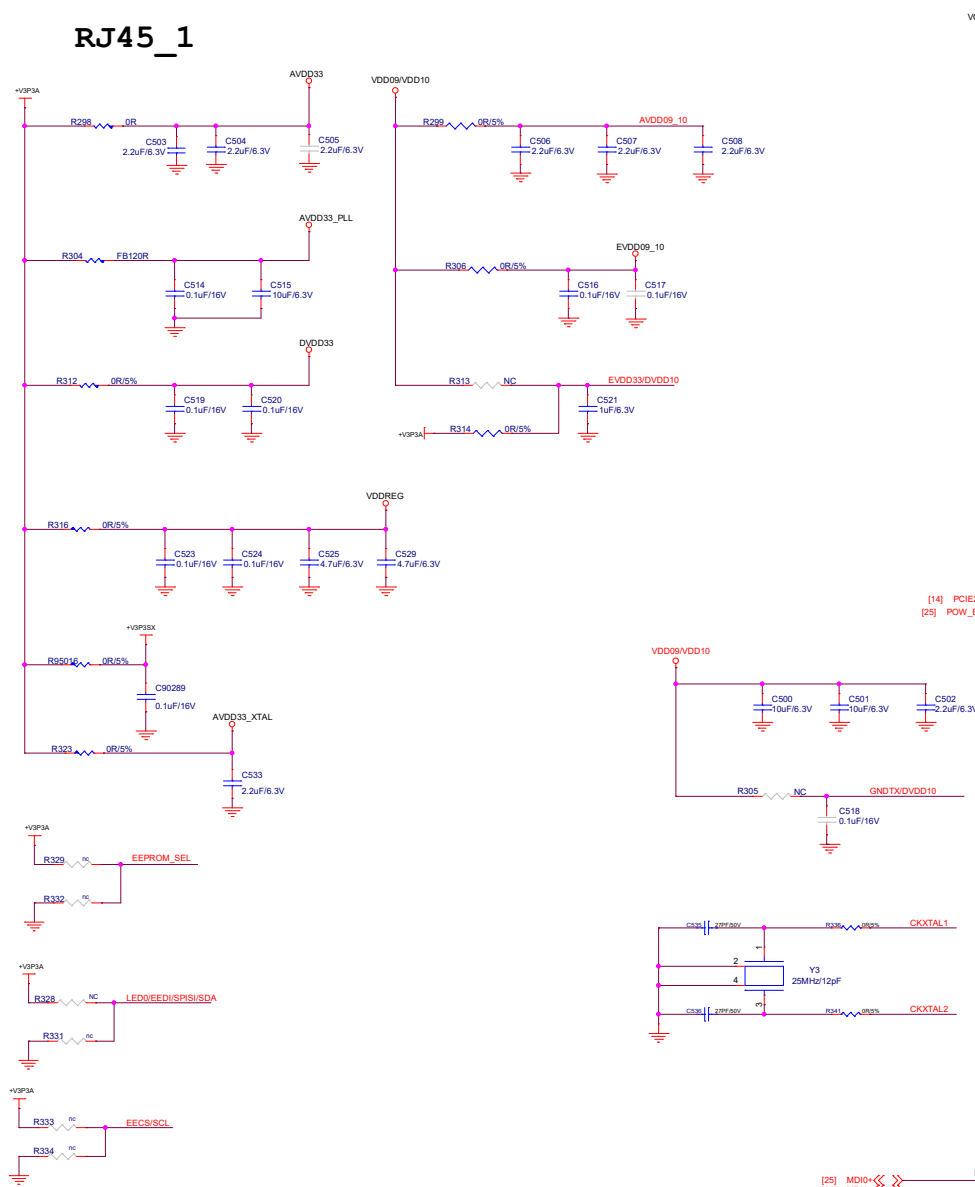
PCIe3.0 x 2 Lane_1



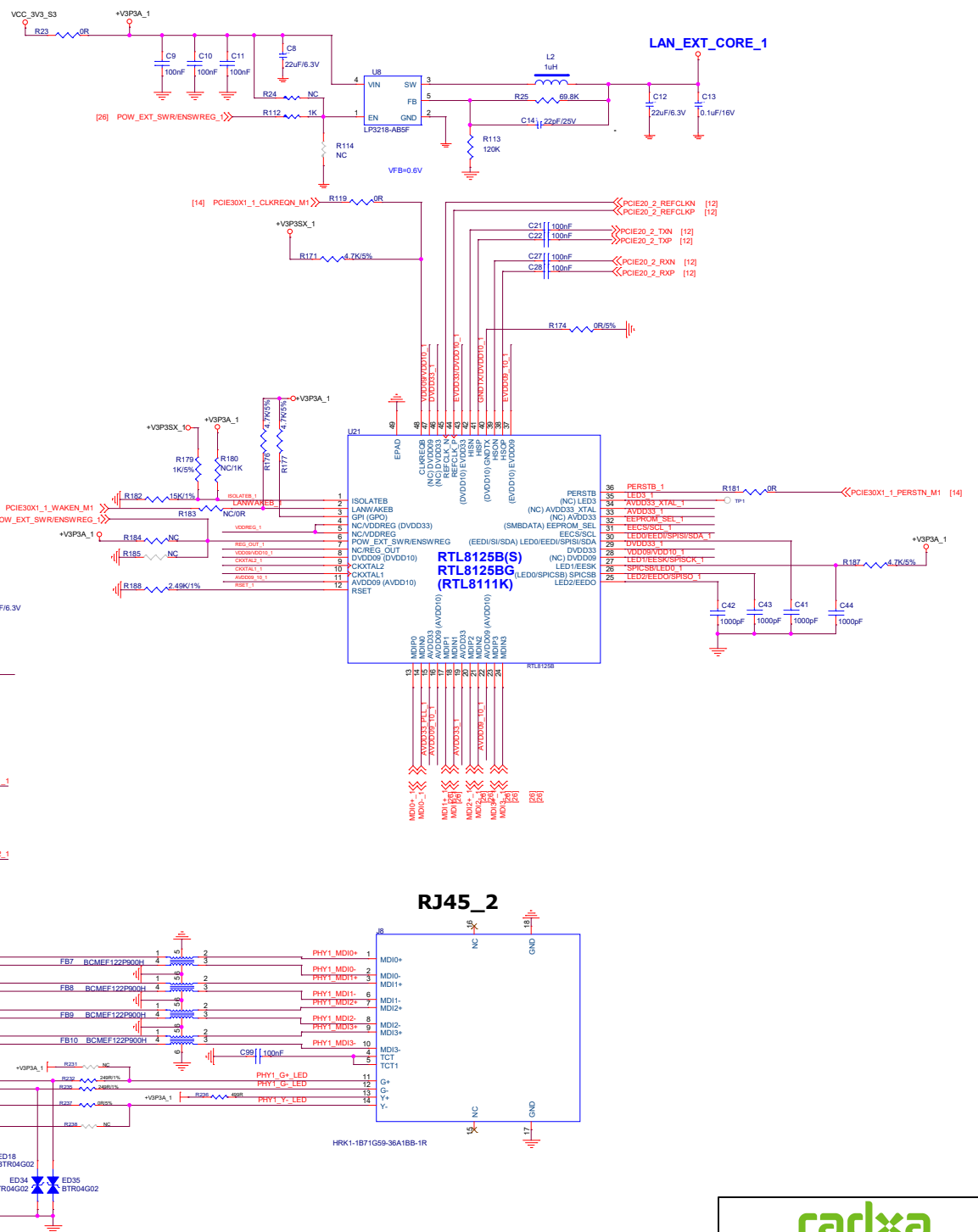
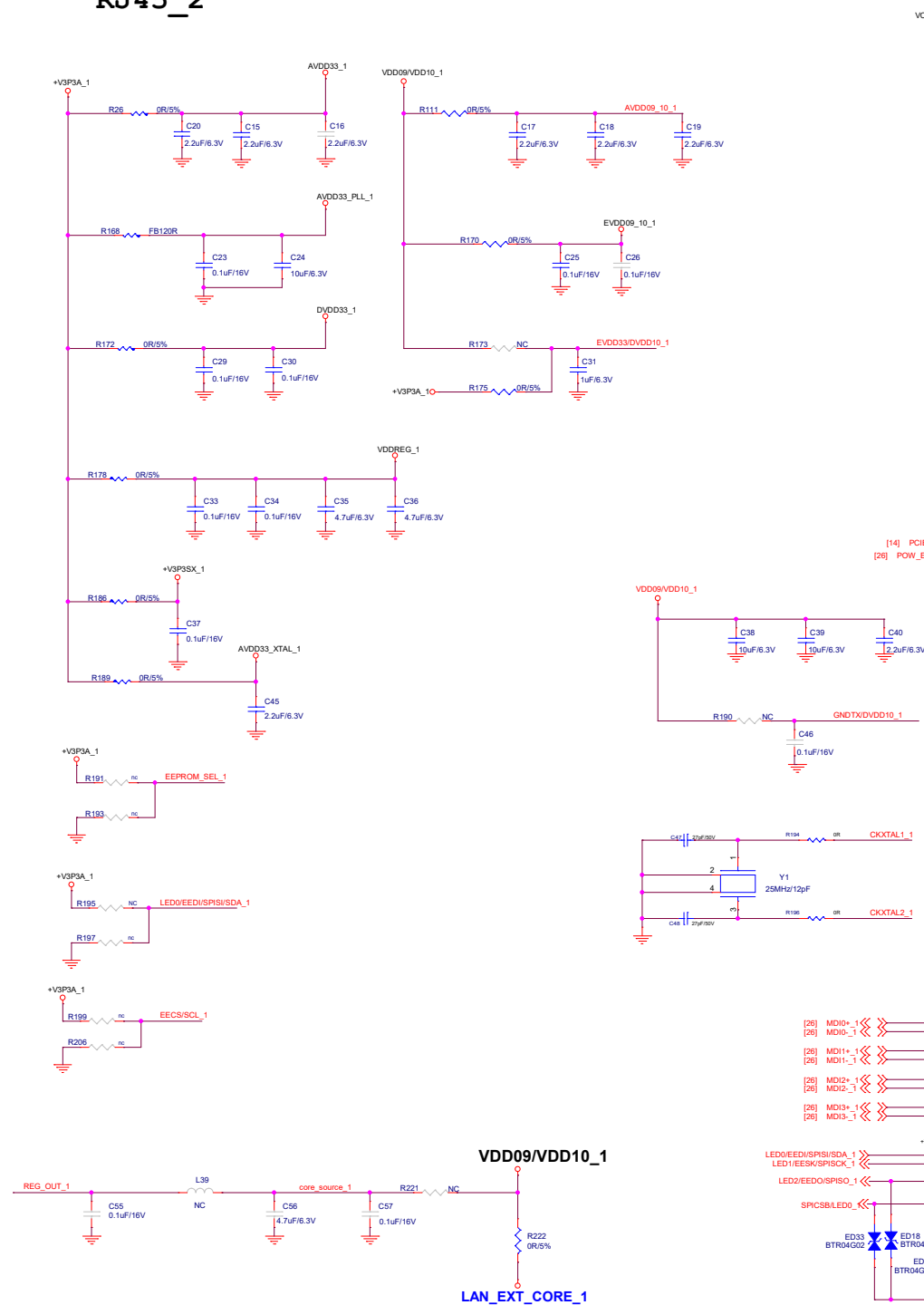
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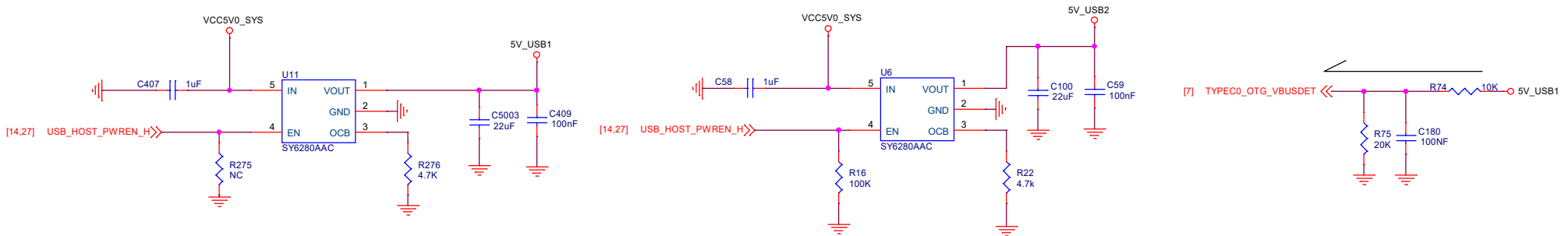
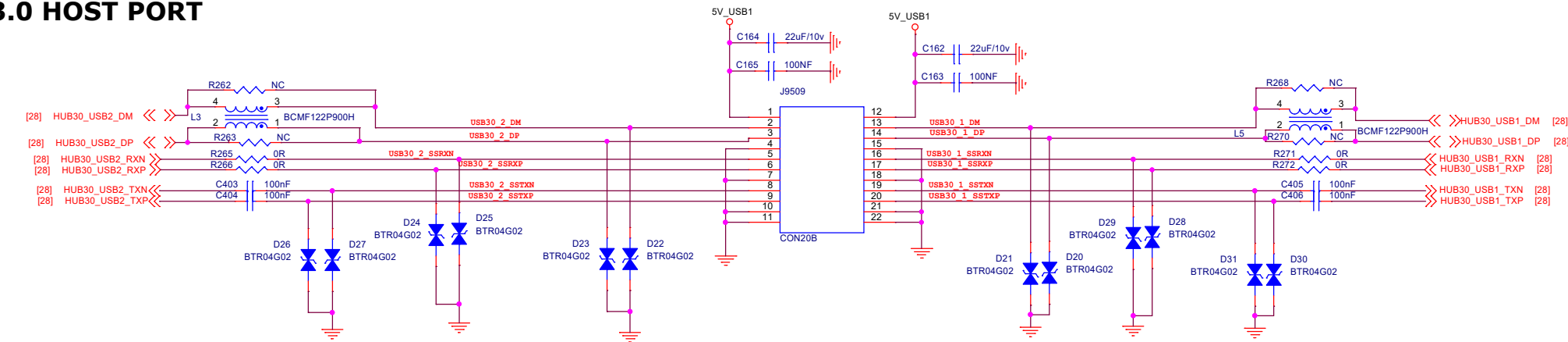
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RJ45_2

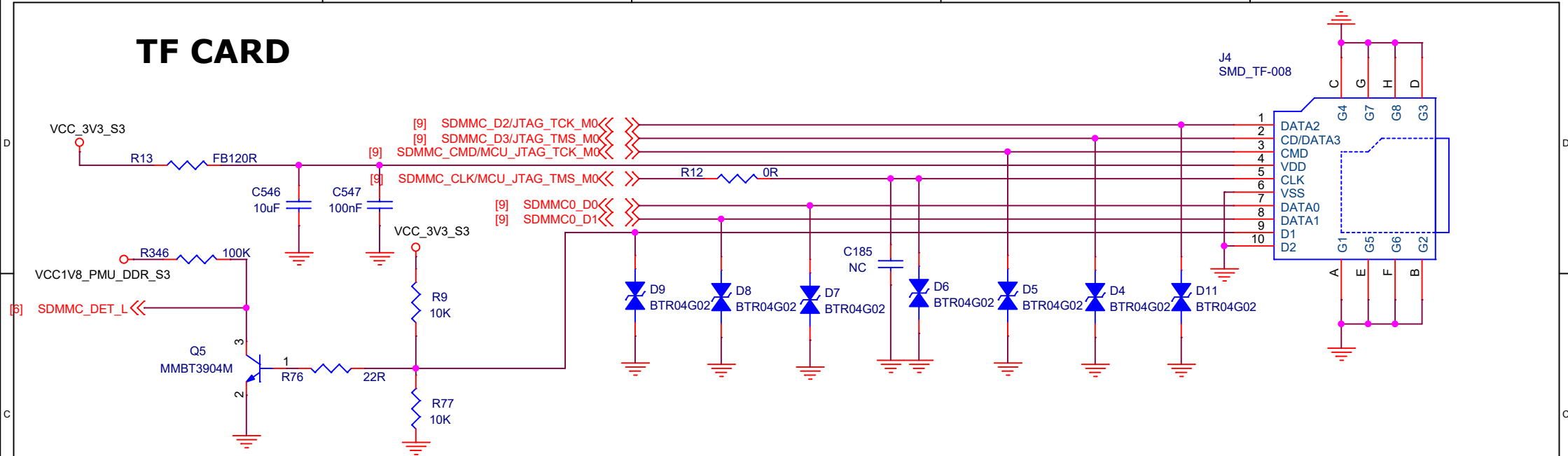


USB3.0 HOST PORT



USB2.0

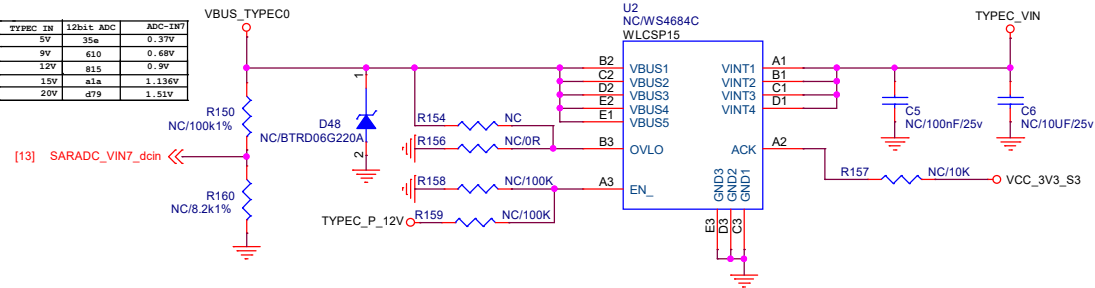
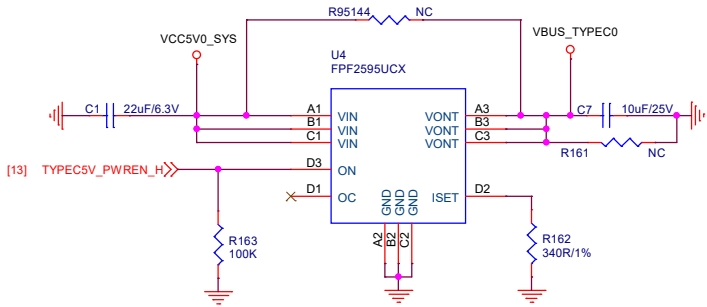
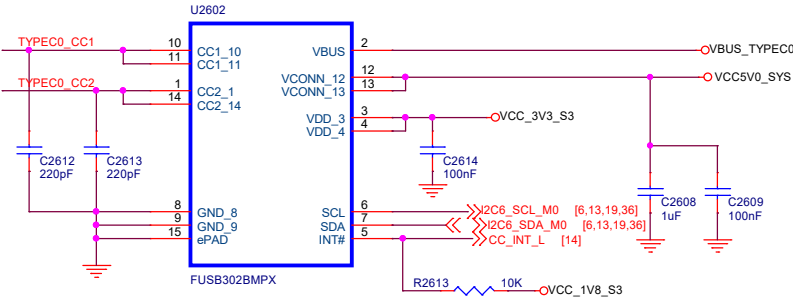
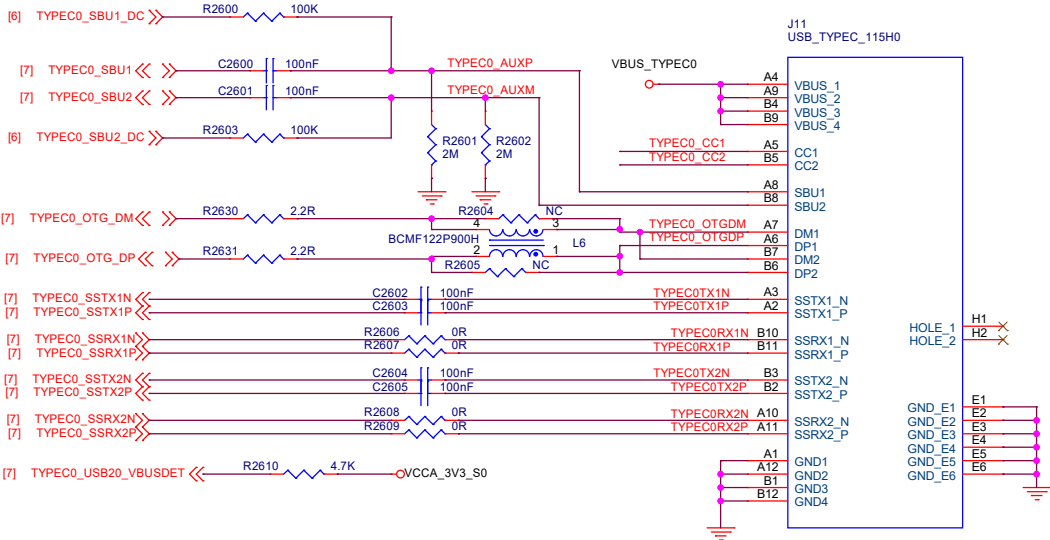
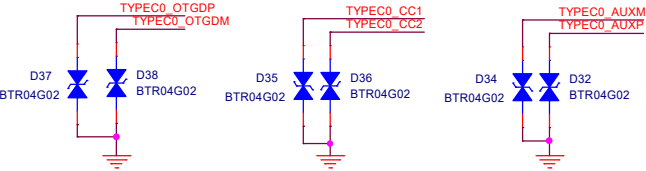
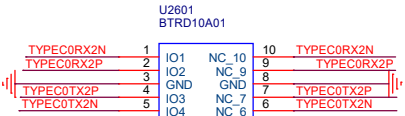
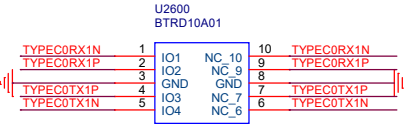
TF CARD



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A4	Page Name: Flash-TF Card/DMIC	1.2
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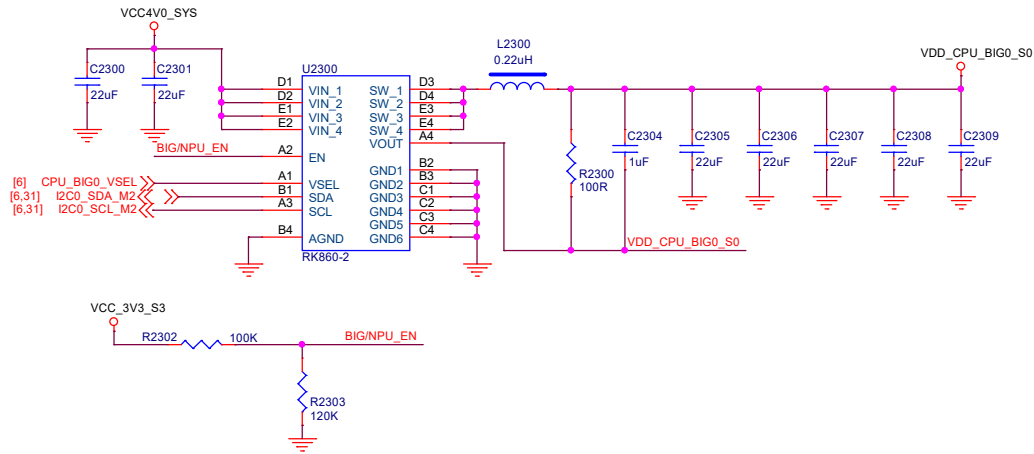
Type-C PORT



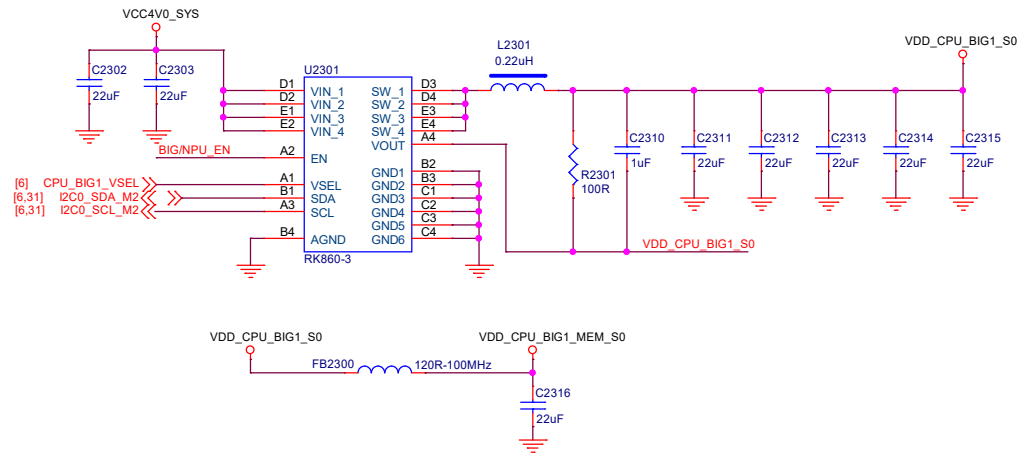
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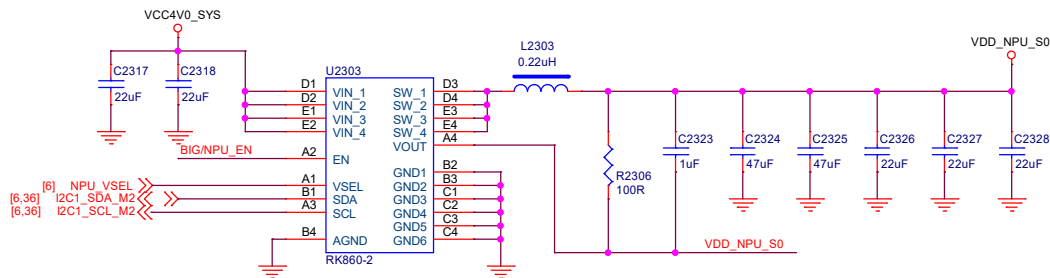
VDD_CPU_BIG0



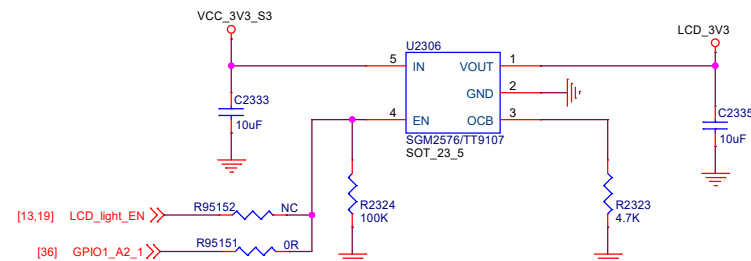
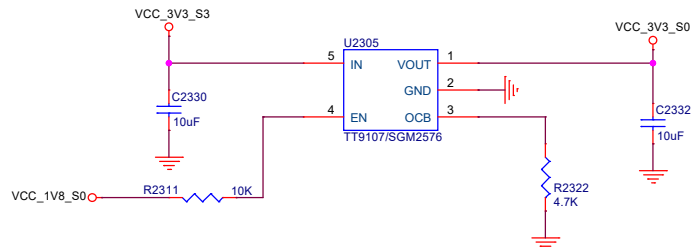
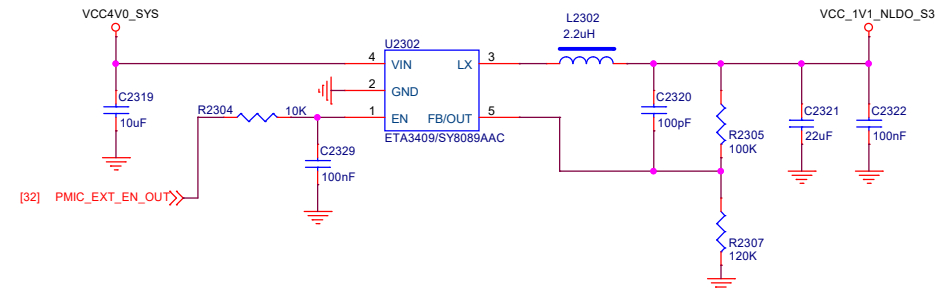
VDD_CPU_BIG1



VDD_NPU



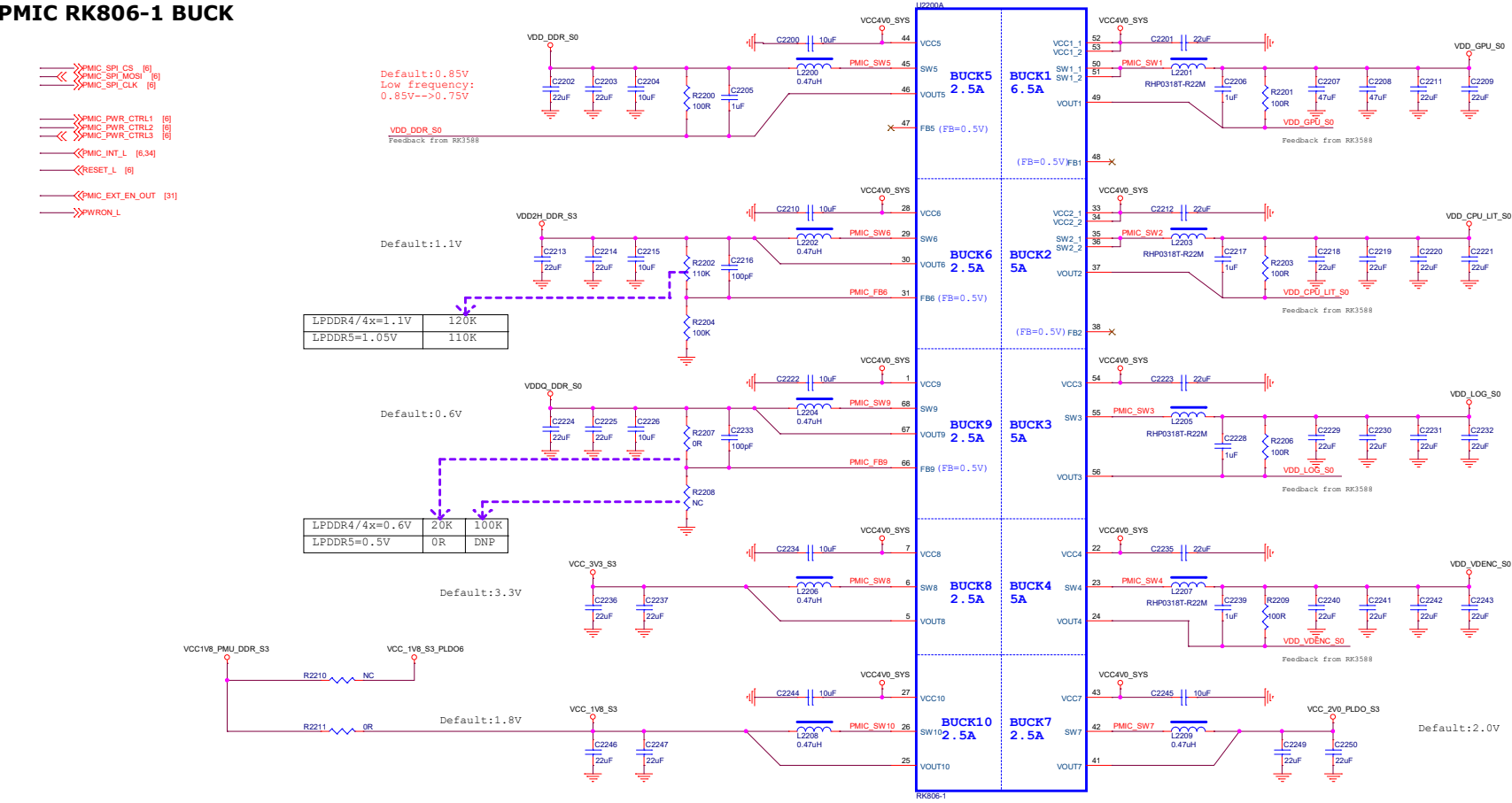
VCC_1V1_NLDO_S3



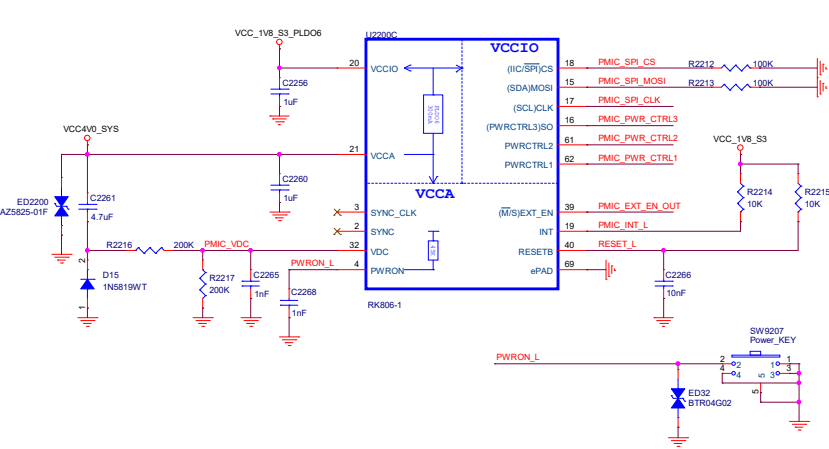
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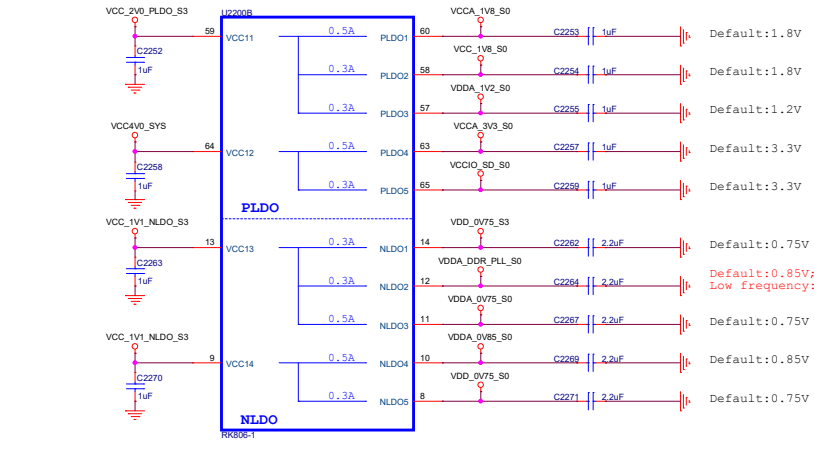
PMIC RK806-1 BUCK



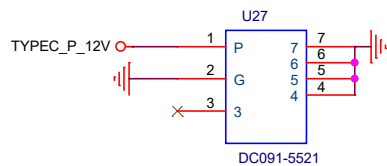
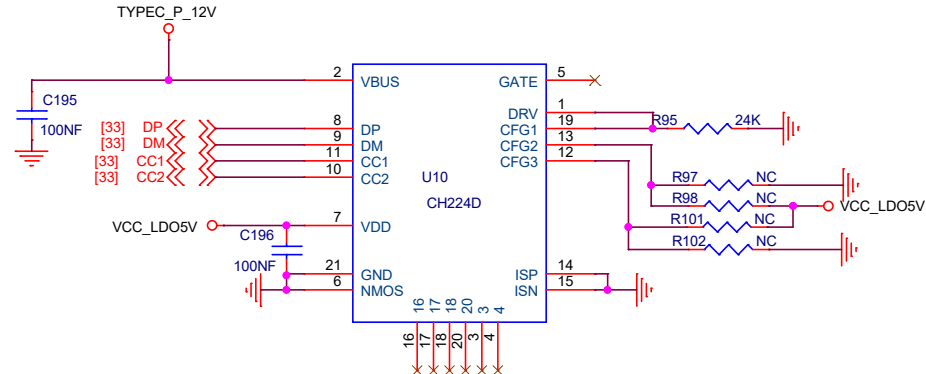
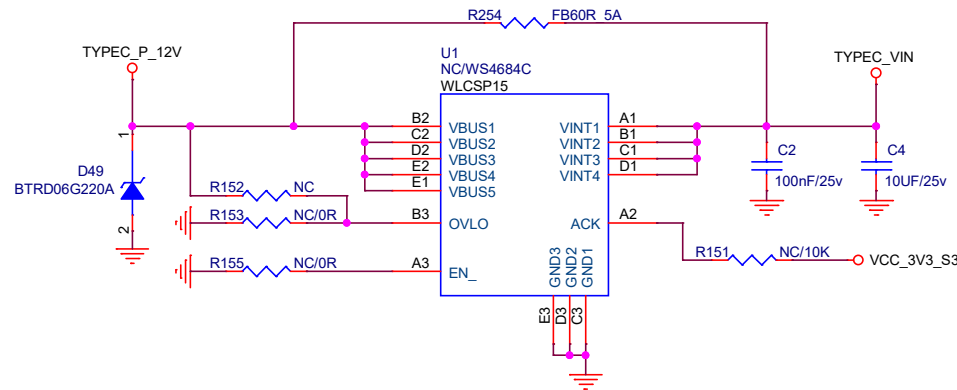
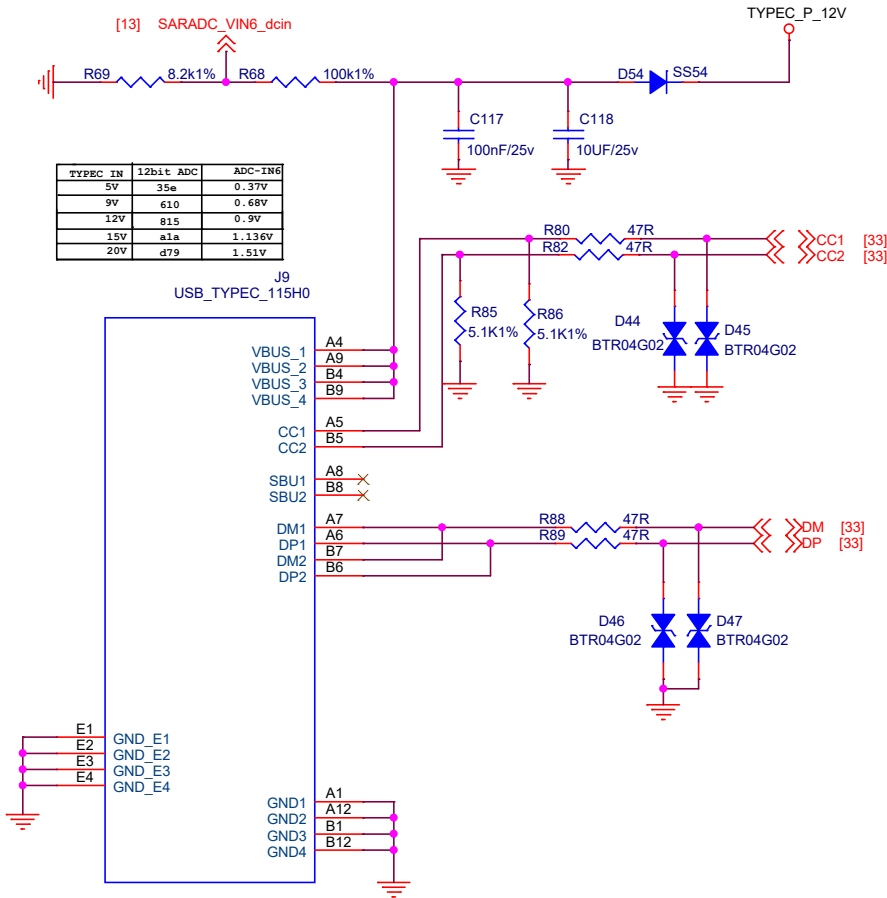
PMIC RK806-1 Managerment

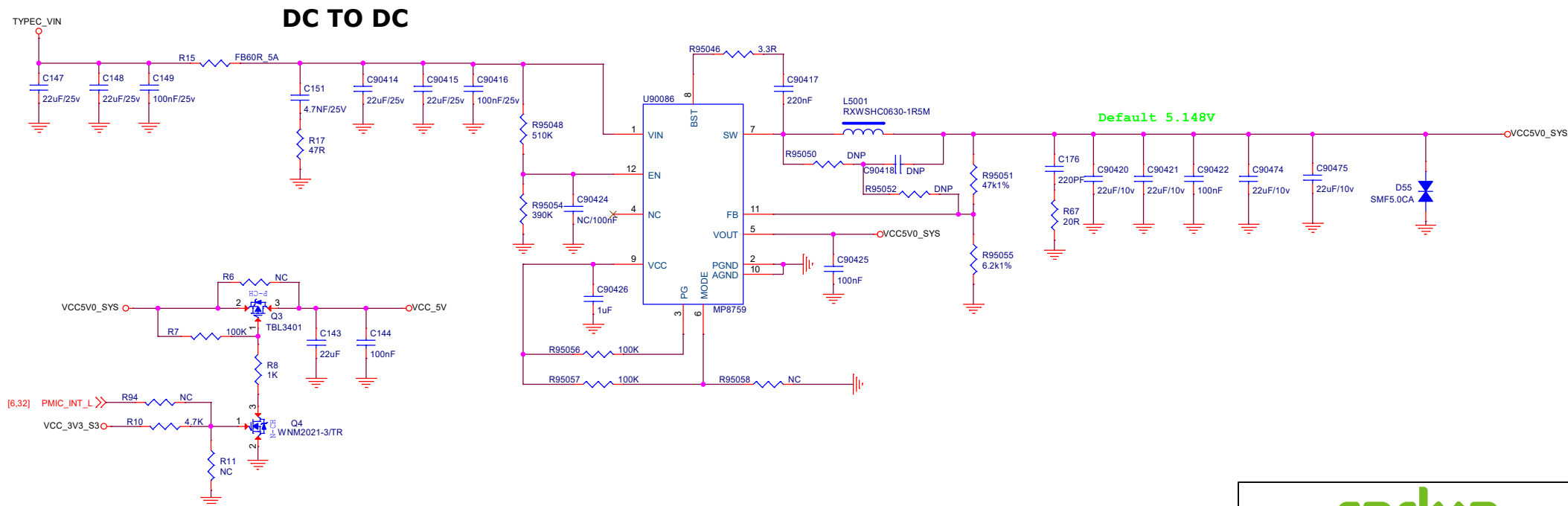
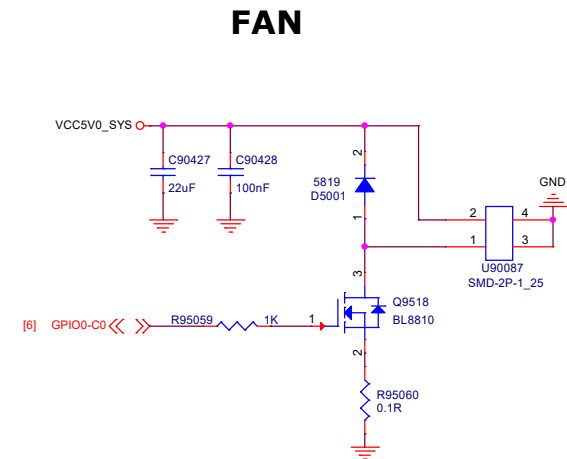
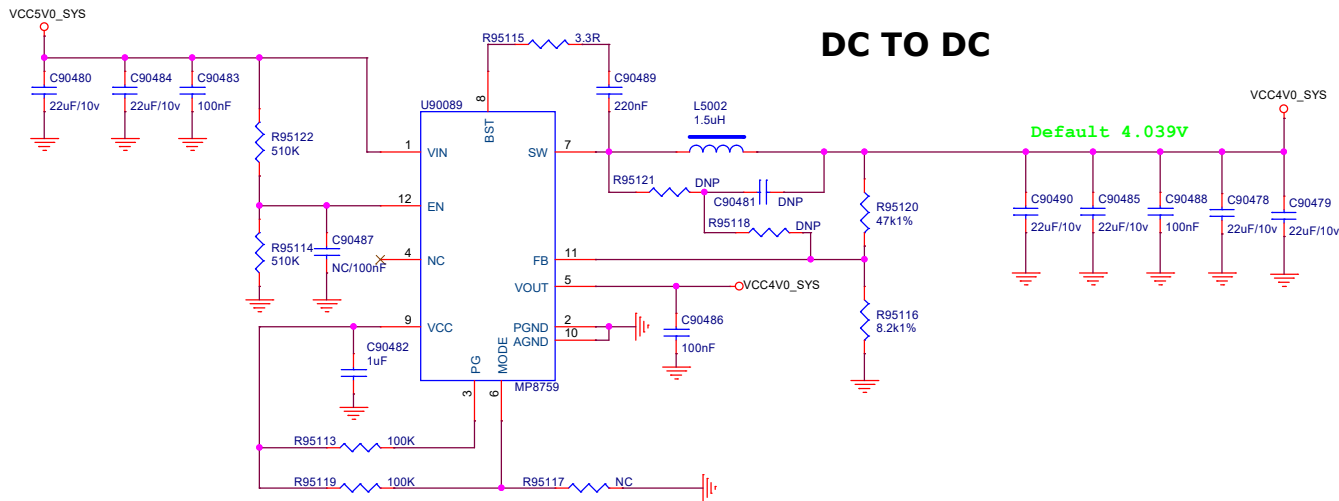


PMIC RK806-1 LDO



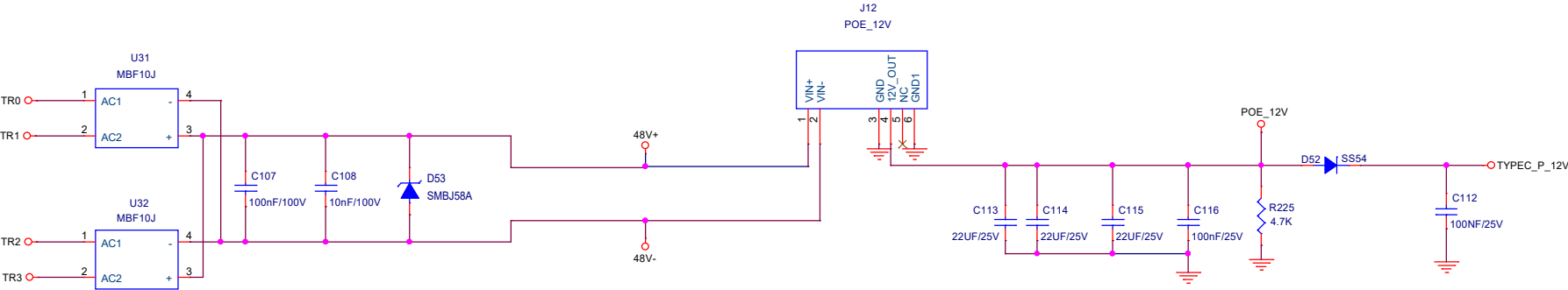
12V/3A DCIN



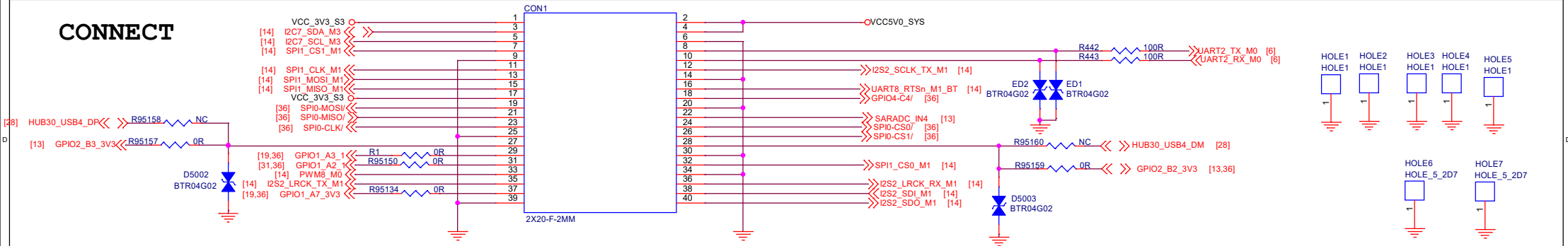


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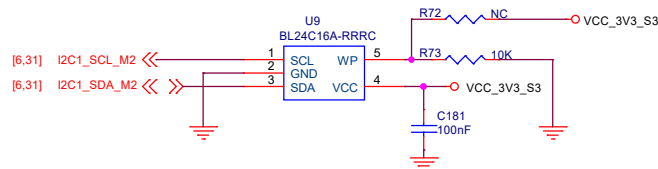
POE POWER



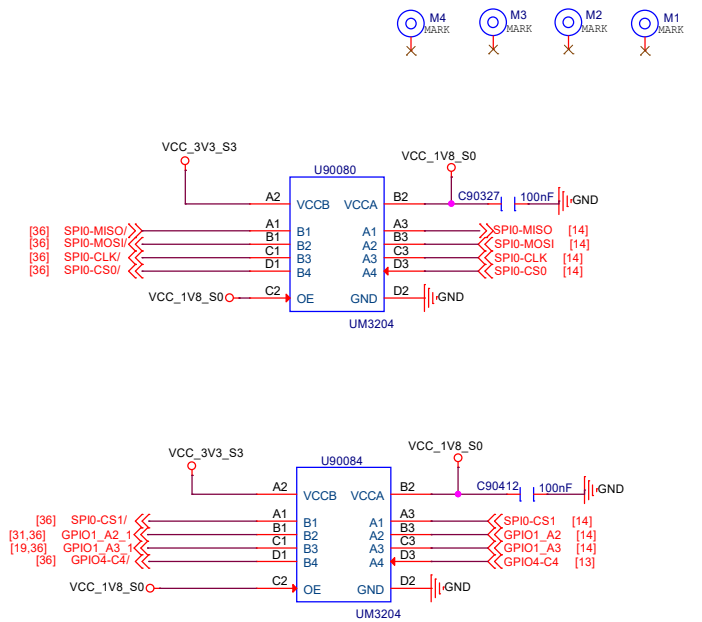
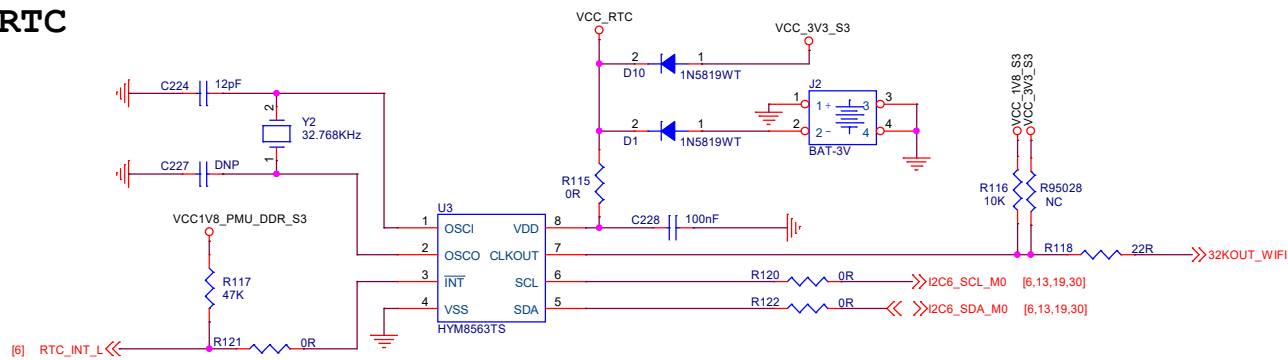
CONNECT



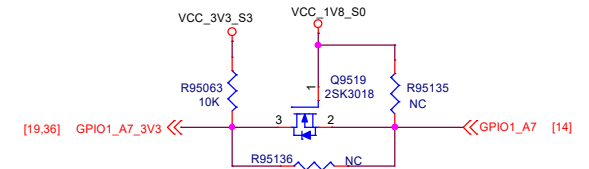
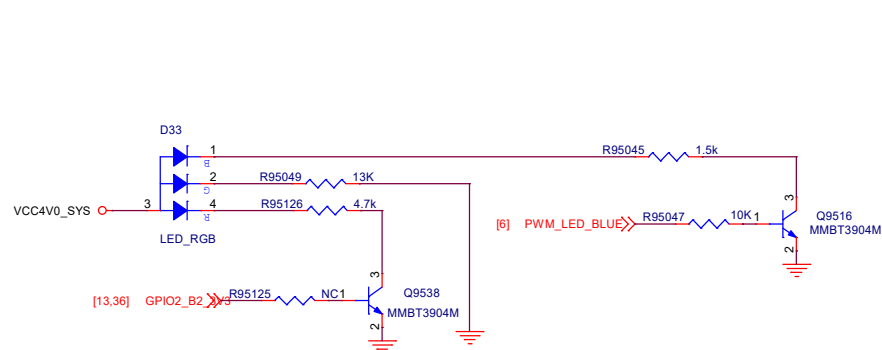
EEPROM



RTC



LED



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