



Radxa Rock 4D schematic

V1.11

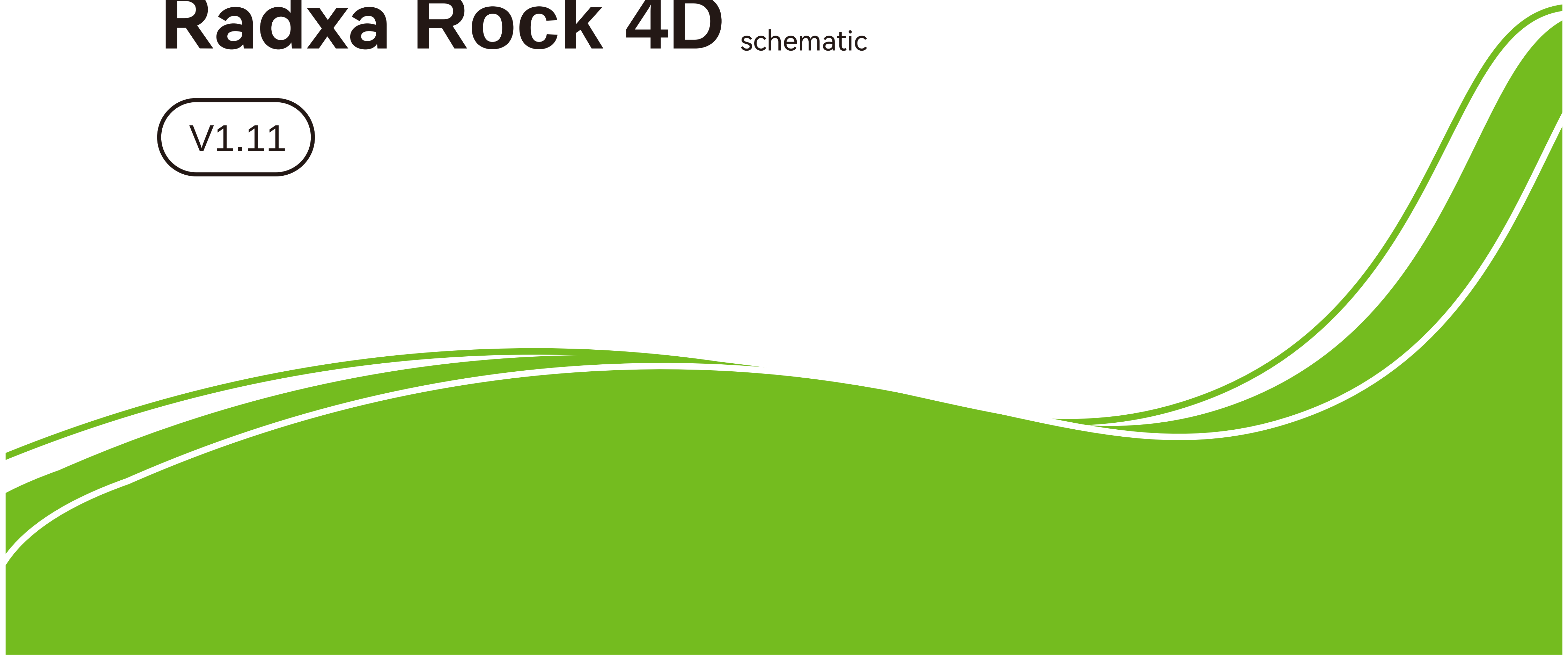


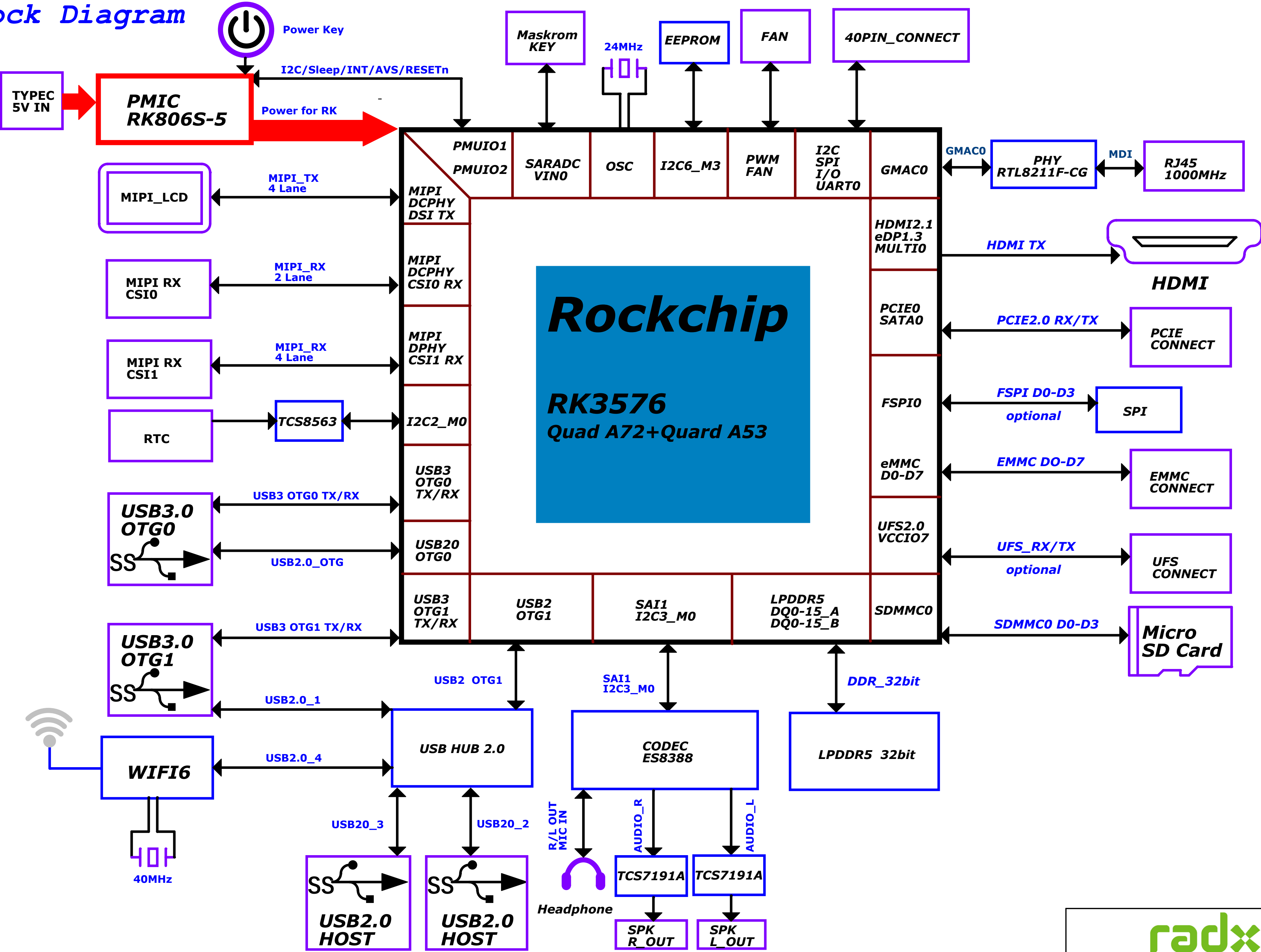
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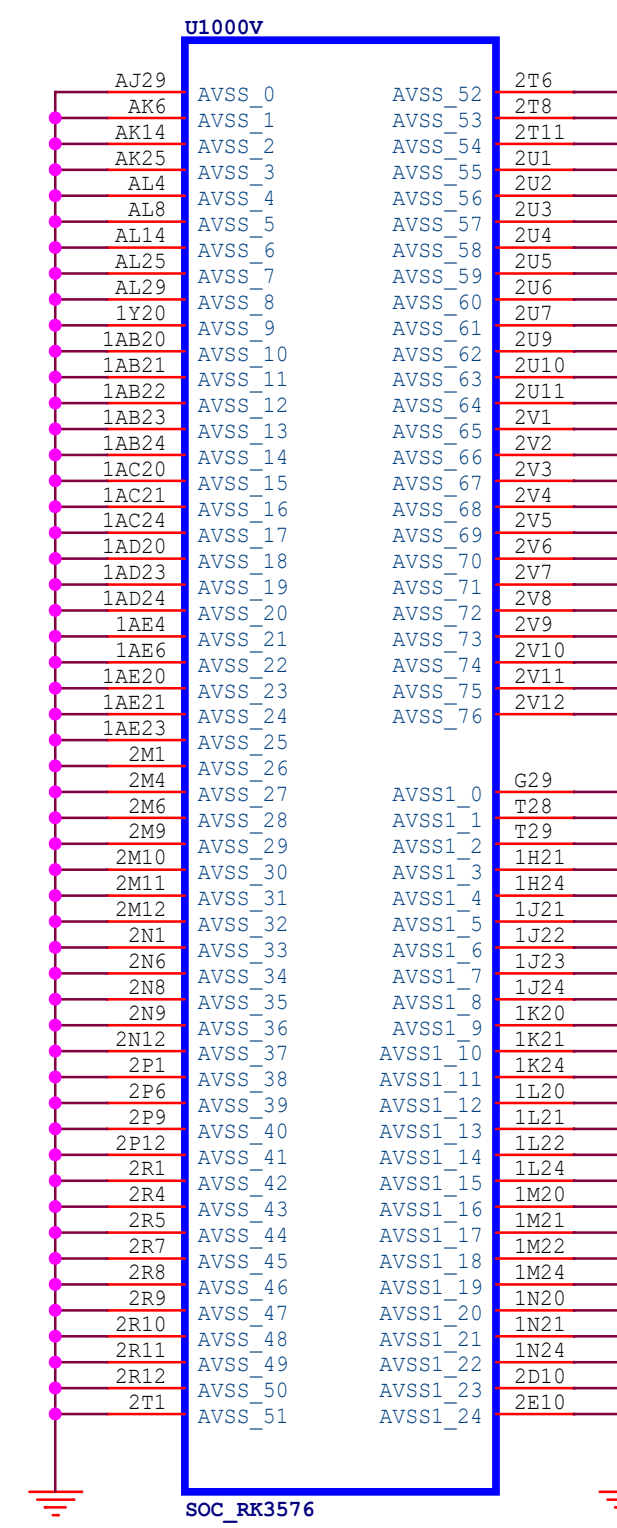
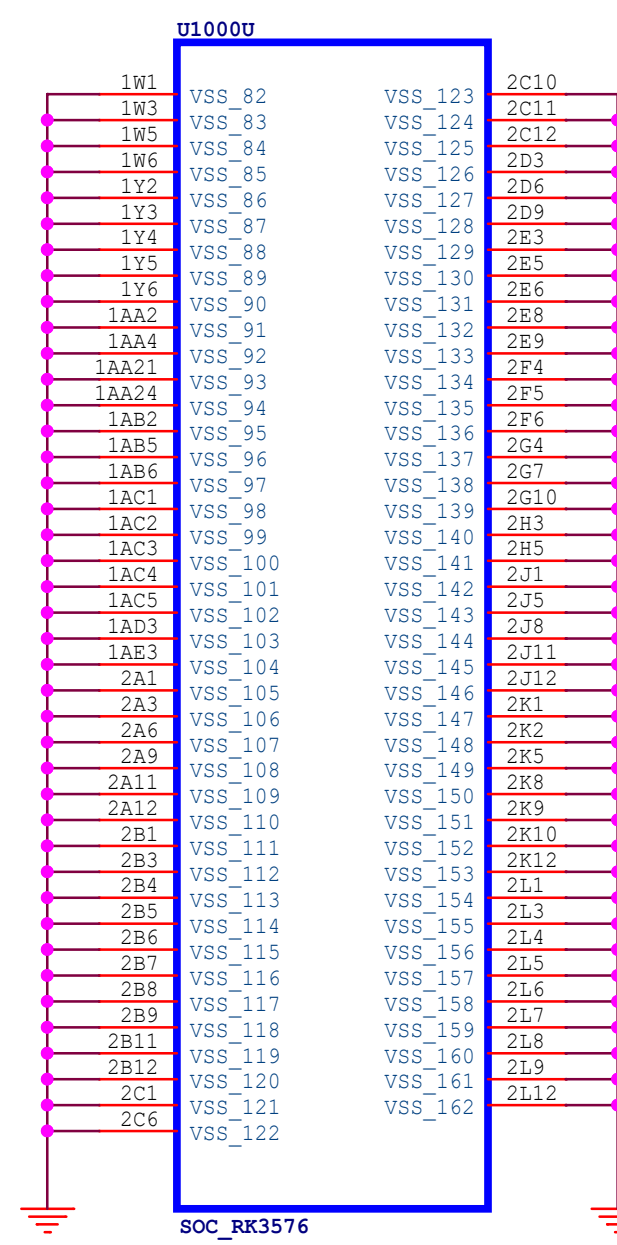
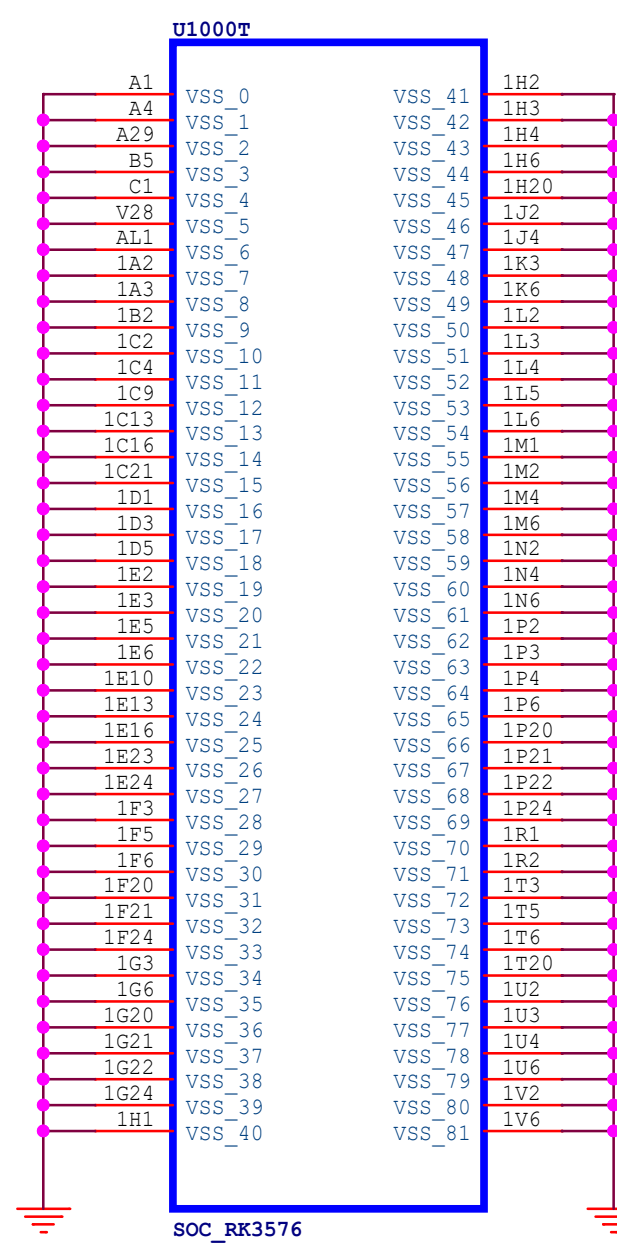
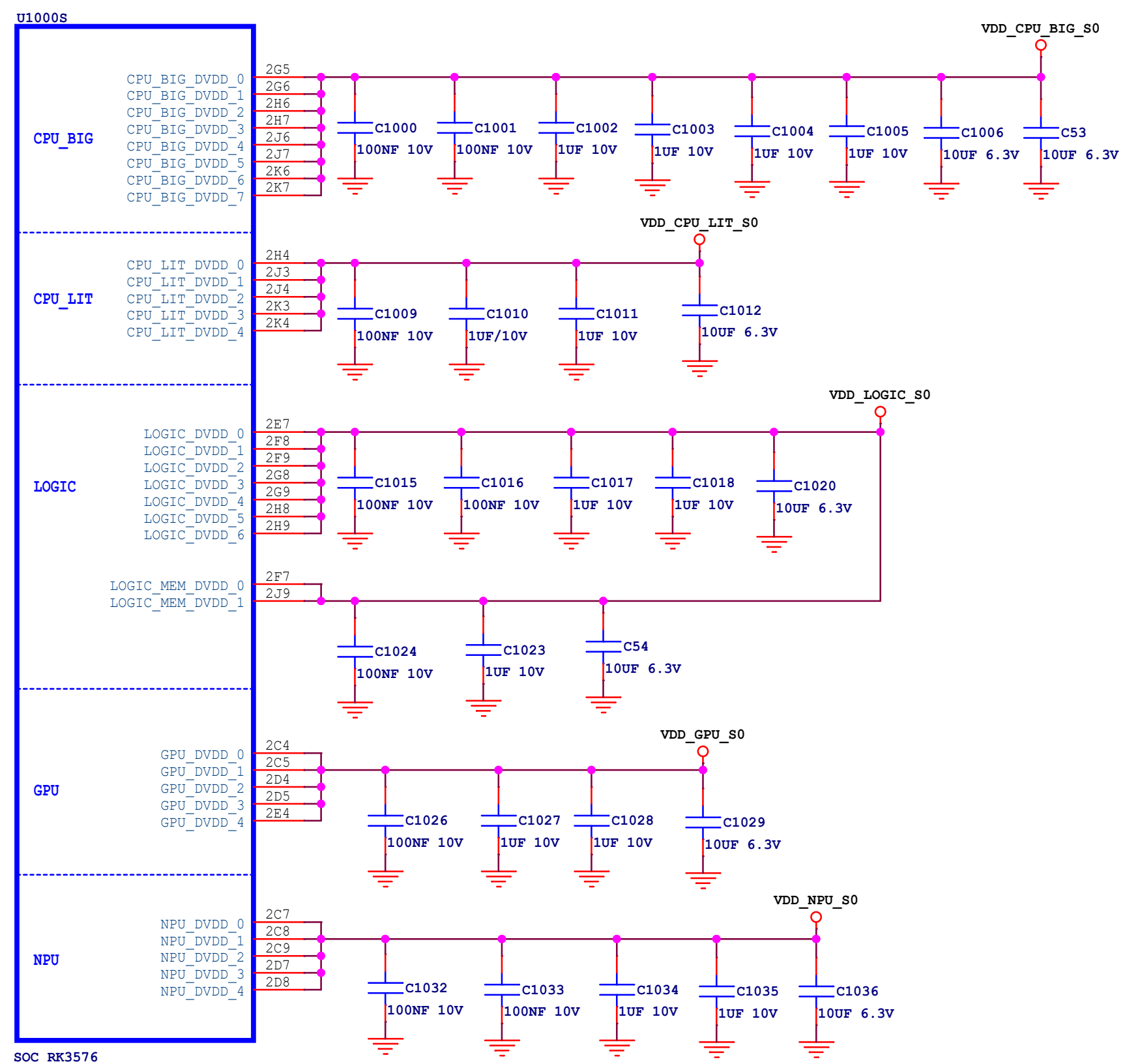


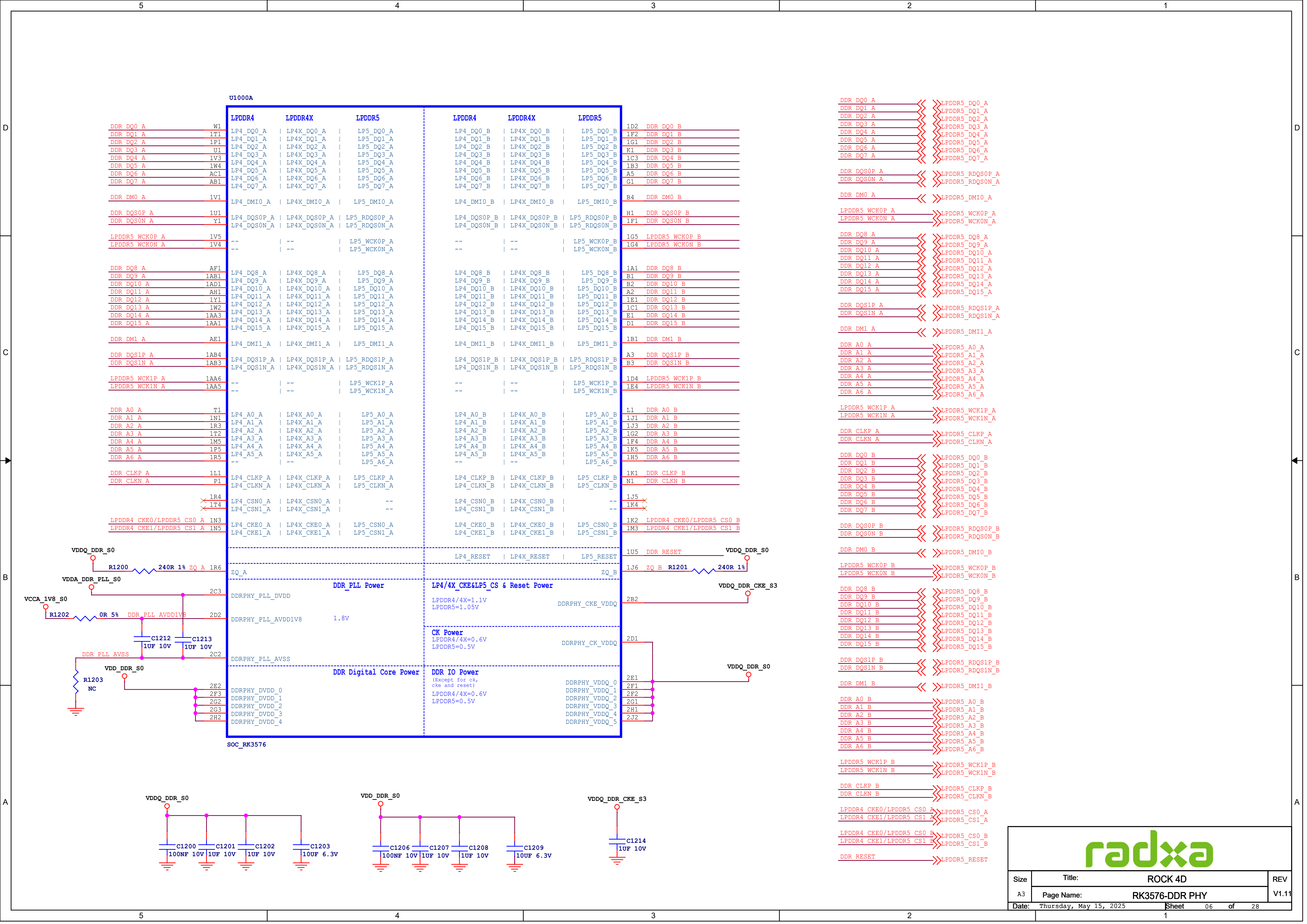
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Block Diagram



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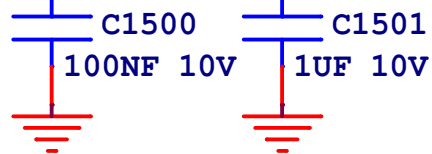
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MIPI DPHY CSI1/2 RX

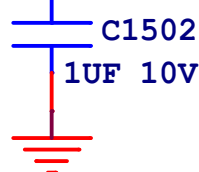
MIPI V1.2/2.5Gbps

MIPI_DPHY_CSI1_RX_D0N		--	AE28	⟷	MIPI_DPHY_CSI1_RX_D0N
MIPI_DPHY_CSI1_RX_D0P		--	AE29	⟷	MIPI_DPHY_CSI1_RX_D0P
MIPI_DPHY_CSI1_RX_D1N		--	AF28	⟷	MIPI_DPHY_CSI1_RX_D1N
MIPI_DPHY_CSI1_RX_D1P		--	AF29	⟷	MIPI_DPHY_CSI1_RX_D1P
MIPI_DPHY_CSI1_RX_CLKN		--	1AC23	⟷	MIPI_DPHY_CSI1_RX_CLKN
MIPI_DPHY_CSI1_RX_CLKP		--	1AC22	⟷	MIPI_DPHY_CSI1_RX_CLKP
MIPI_DPHY_CSI1_RX_D2N		MIPI_DPHY_CSI2_RX_D0N	AG28	⟷	MIPI_DPHY_CSI1_RX_D2N
MIPI_DPHY_CSI1_RX_D2P		MIPI_DPHY_CSI2_RX_D0P	AG29	⟷	MIPI_DPHY_CSI1_RX_D2P
MIPI_DPHY_CSI1_RX_D3N		MIPI_DPHY_CSI2_RX_D1N	AH28	⟷	MIPI_DPHY_CSI1_RX_D3N
MIPI_DPHY_CSI1_RX_D3P		MIPI_DPHY_CSI2_RX_D1P	AH29	⟷	MIPI_DPHY_CSI1_RX_D3P
--		MIPI_DPHY_CSI2_RX_CLKN	1AD22	⟷	MIPI_DPHY_CSI2_RX_CLKN
--		MIPI_DPHY_CSI2_RX_CLKP	1AD21	⟷	MIPI_DPHY_CSI2_RX_CLKP

MIPI_DPHY_CSI1/2_RX_AVDD0V75 2L11 VDDA_0V75_S0



MIPI_DPHY_CSI1/2_RX_AVDD1V8 1W20 VCCA_1V8_S0

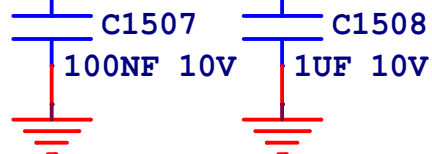


MIPI DPHY CSI3/4 RX

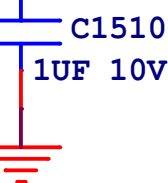
MIPI V1.2/2.5Gbps

MIPI_DPHY_CSI3_RX_D0N		--	H29	✗	
MIPI_DPHY_CSI3_RX_D0P		--	H28	✗	
MIPI_DPHY_CSI3_RX_D1N		--	J29	✗	
MIPI_DPHY_CSI3_RX_D1P		--	J28	✗	
MIPI_DPHY_CSI3_RX_CLKN		--	1H23	✗	
MIPI_DPHY_CSI3_RX_CLKP		--	1H22	✗	
MIPI_DPHY_CSI3_RX_D2N		MIPI_DPHY_CSI4_RX_D0N	K29	✗	
MIPI_DPHY_CSI3_RX_D2P		MIPI_DPHY_CSI4_RX_D0P	K28	✗	
MIPI_DPHY_CSI3_RX_D3N		MIPI_DPHY_CSI4_RX_D1N	L29	✗	
MIPI_DPHY_CSI3_RX_D3P		MIPI_DPHY_CSI4_RX_D1P	L28	✗	
--		MIPI_DPHY_CSI4_RX_CLKN	1K23	✗	
--		MIPI_DPHY_CSI4_RX_CLKP	1K22	✗	

MIPI_DPHY_CSI3/4_RX_AVDD0V75 2D11 VDDA_0V75_S0



MIPI_DPHY_CSI3/4_RX_AVDD1V8 2D12 VCCA_1V8_S0



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MIPI DCPHY DSI TX

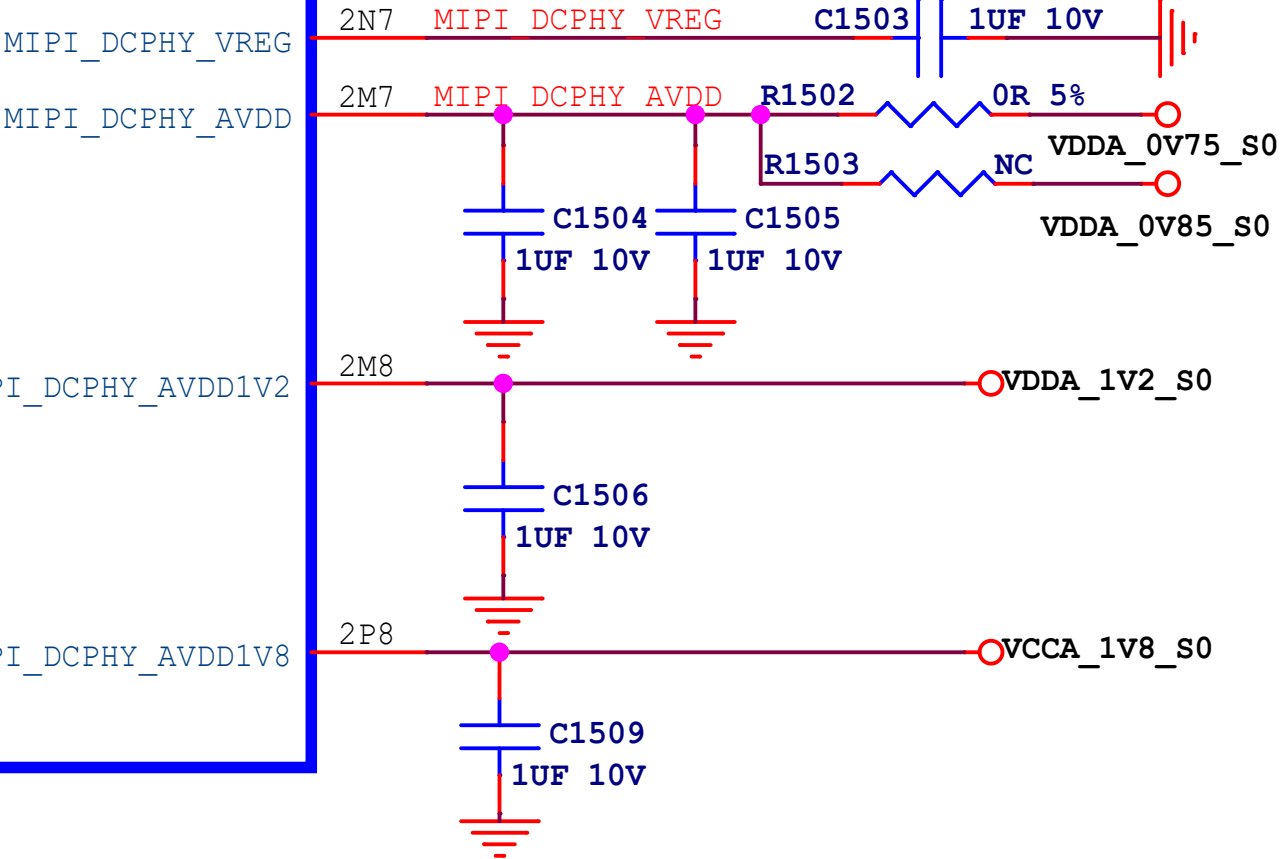
D-PHY:V2.0 2.5Gbps/Lane
C-PHY:V1.1 1.7Gsps/Trio

MIPI_DPHY_DSI_TX_D0N		MIPI_CPHY_DSI_TX_TRIO0_A	AK15	⟷	MIPI_DPHY_DSI_TX_D0N
MIPI_DPHY_DSI_TX_D0P		MIPI_CPHY_DSI_TX_TRIO0_B	AL15	⟷	MIPI_DPHY_DSI_TX_D0P
MIPI_DPHY_DSI_TX_D1N		MIPI_CPHY_DSI_TX_TRIO0_C	AK16	⟷	MIPI_DPHY_DSI_TX_D1N
MIPI_DPHY_DSI_TX_D1P		MIPI_CPHY_DSI_TX_TRIO1_A	AL16	⟷	MIPI_DPHY_DSI_TX_D1P
MIPI_DPHY_DSI_TX_CLKN		MIPI_CPHY_DSI_TX_TRIO1_B	AK17	⟷	MIPI_DPHY_DSI_TX_CLKN
MIPI_DPHY_DSI_TX_CLKP		MIPI_CPHY_DSI_TX_TRIO1_C	AL17	⟷	MIPI_DPHY_DSI_TX_CLKP
MIPI_DPHY_DSI_TX_D2N		MIPI_CPHY_DSI_TX_TRIO2_A	AK18	⟷	MIPI_DPHY_DSI_TX_D2N
MIPI_DPHY_DSI_TX_D2P		MIPI_CPHY_DSI_TX_TRIO2_B	AL18	⟷	MIPI_DPHY_DSI_TX_D2P
MIPI_DPHY_DSI_TX_D3N		MIPI_CPHY_DSI_TX_TRIO2_C	AK19	⟷	MIPI_DPHY_DSI_TX_D3N
MIPI_DPHY_DSI_TX_D3P		NO_USE	AL19	⟷	MIPI_DPHY_DSI_TX_D3P

MIPI DCPHY CSI RX

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 2.5Gsps/Trio

MIPI_DPHY_CSI0_RX_D0N		MIPI_CPHY_CSI_RX_TRIO0_A	AL20	⟷	MIPI_DPHY_CSI0_RX_D0N
MIPI_DPHY_CSI0_RX_D0P		MIPI_CPHY_CSI_RX_TRIO0_B	AK20	⟷	MIPI_DPHY_CSI0_RX_D0P
MIPI_DPHY_CSI0_RX_D1N		MIPI_CPHY_CSI_RX_TRIO0_C	AL21	⟷	MIPI_DPHY_CSI0_RX_D1N
MIPI_DPHY_CSI0_RX_D1P		MIPI_CPHY_CSI_RX_TRIO1_A	AK21	⟷	MIPI_DPHY_CSI0_RX_D1P
MIPI_DPHY_CSI0_RX_CLKN		MIPI_CPHY_CSI_RX_TRIO1_B	AL22	⟷	MIPI_DPHY_CSI0_RX_CLK0N
MIPI_DPHY_CSI0_RX_CLKP		MIPI_CPHY_CSI_RX_TRIO1_C	AK22	⟷	MIPI_DPHY_CSI0_RX_CLK0P
MIPI_DPHY_CSI0_RX_D2N		MIPI_CPHY_CSI_RX_TRIO2_A	AL23	✗	
MIPI_DPHY_CSI0_RX_D2P		MIPI_CPHY_CSI_RX_TRIO2_B	AK23	✗	
MIPI_DPHY_CSI0_RX_D3N		MIPI_CPHY_CSI_RX_TRIO2_C	AL24	✗	
MIPI_DPHY_CSI0_RX_D3P		NO_USE	AK24	✗	

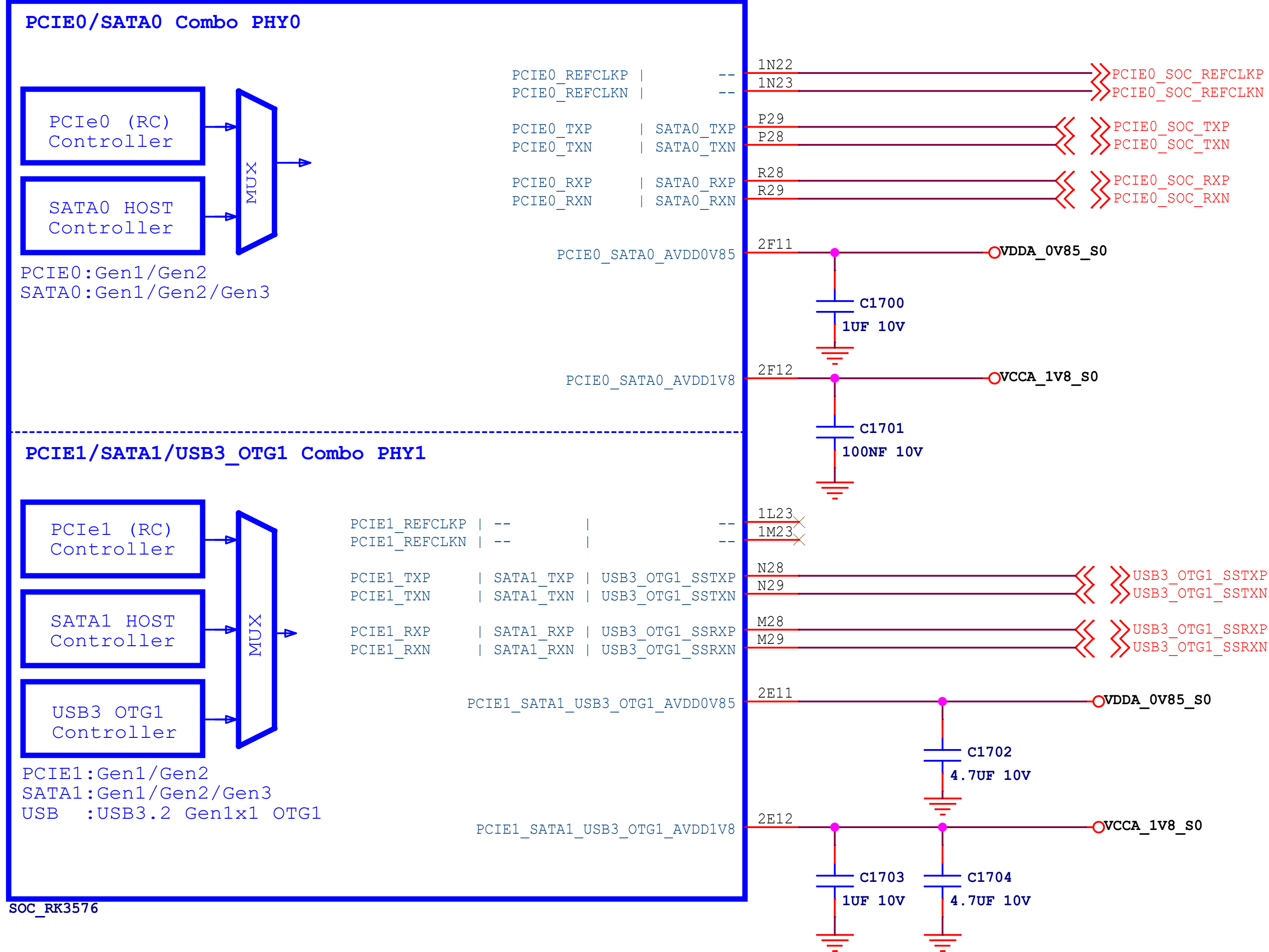


SOC_RK3576

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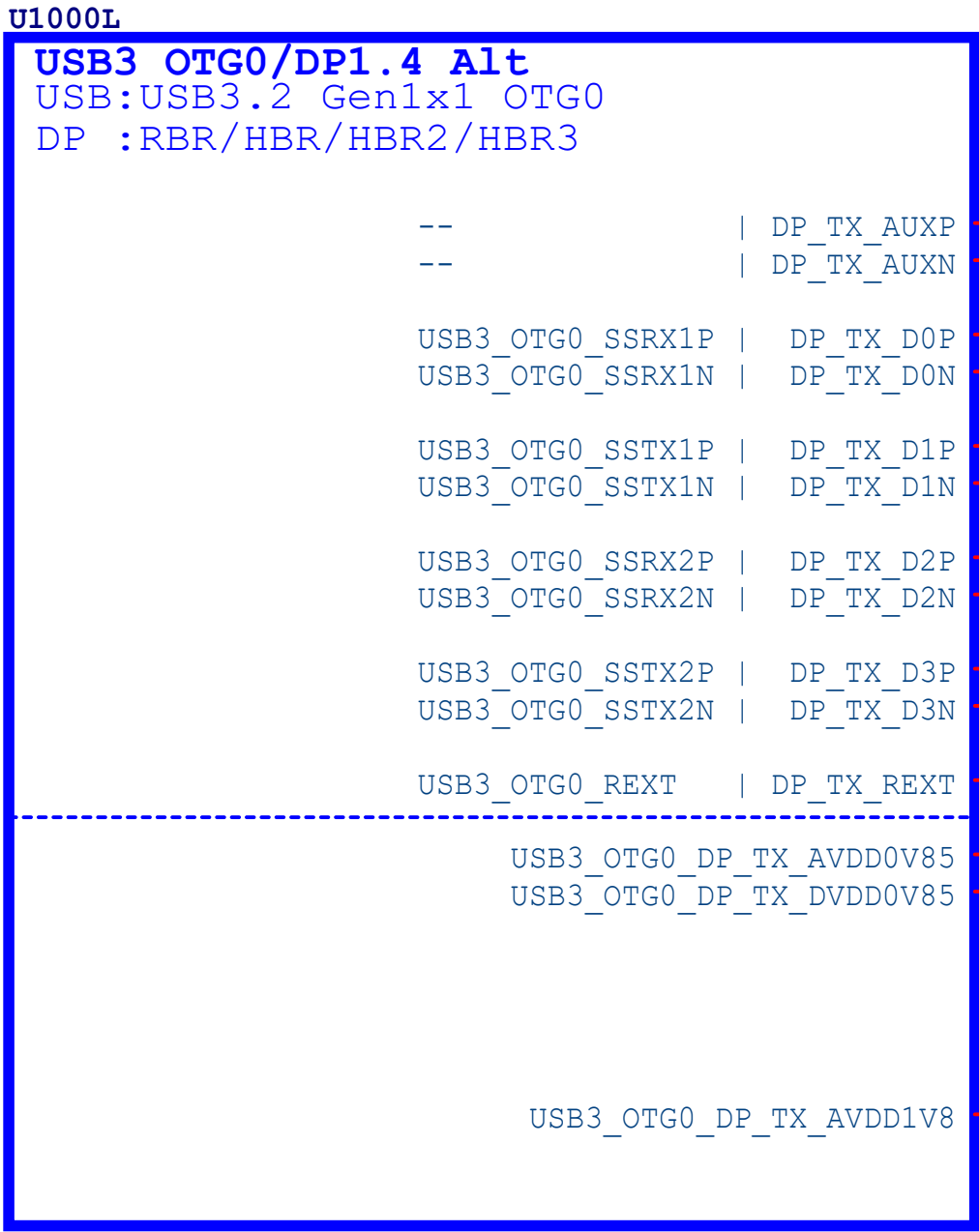
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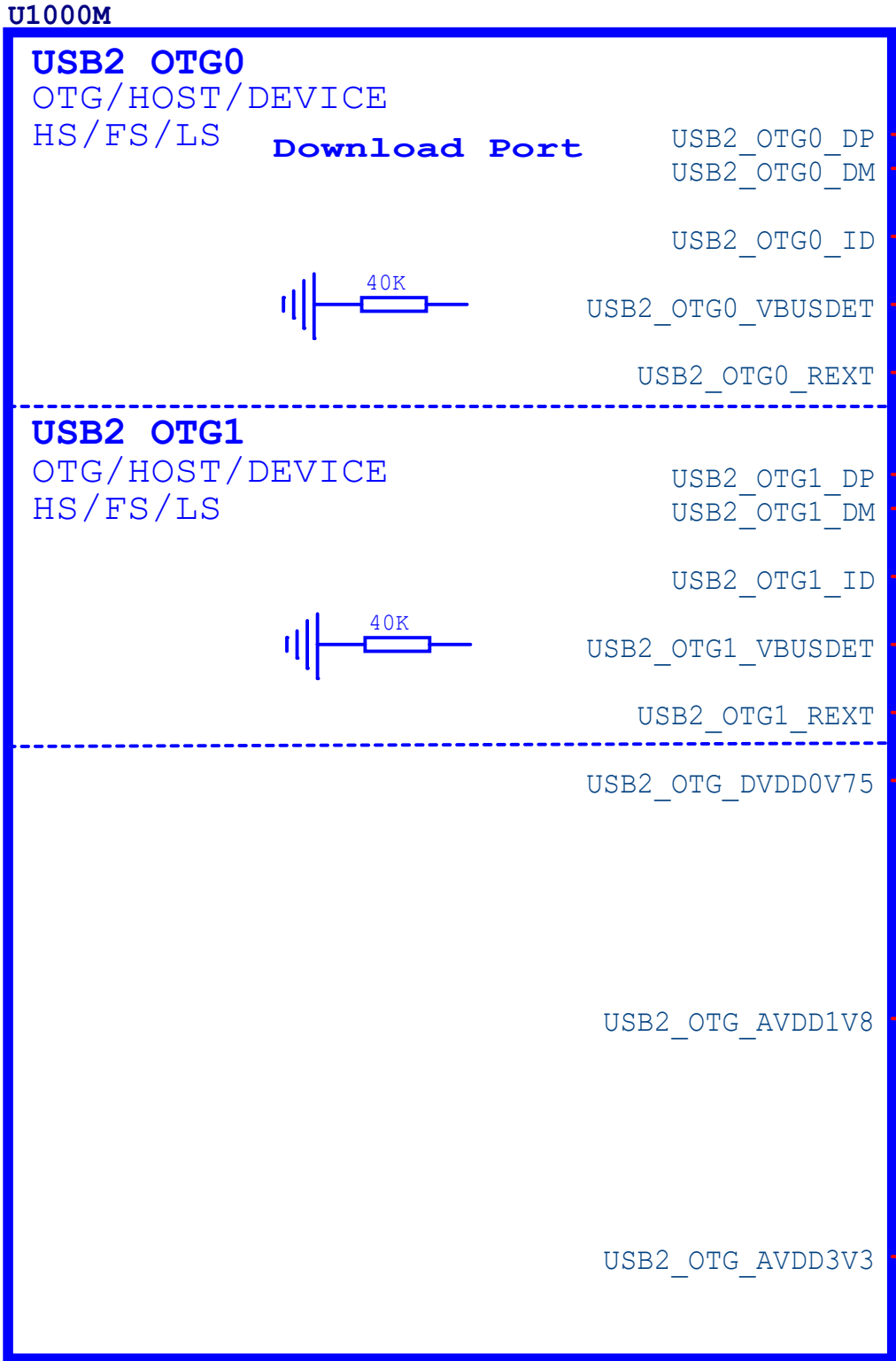
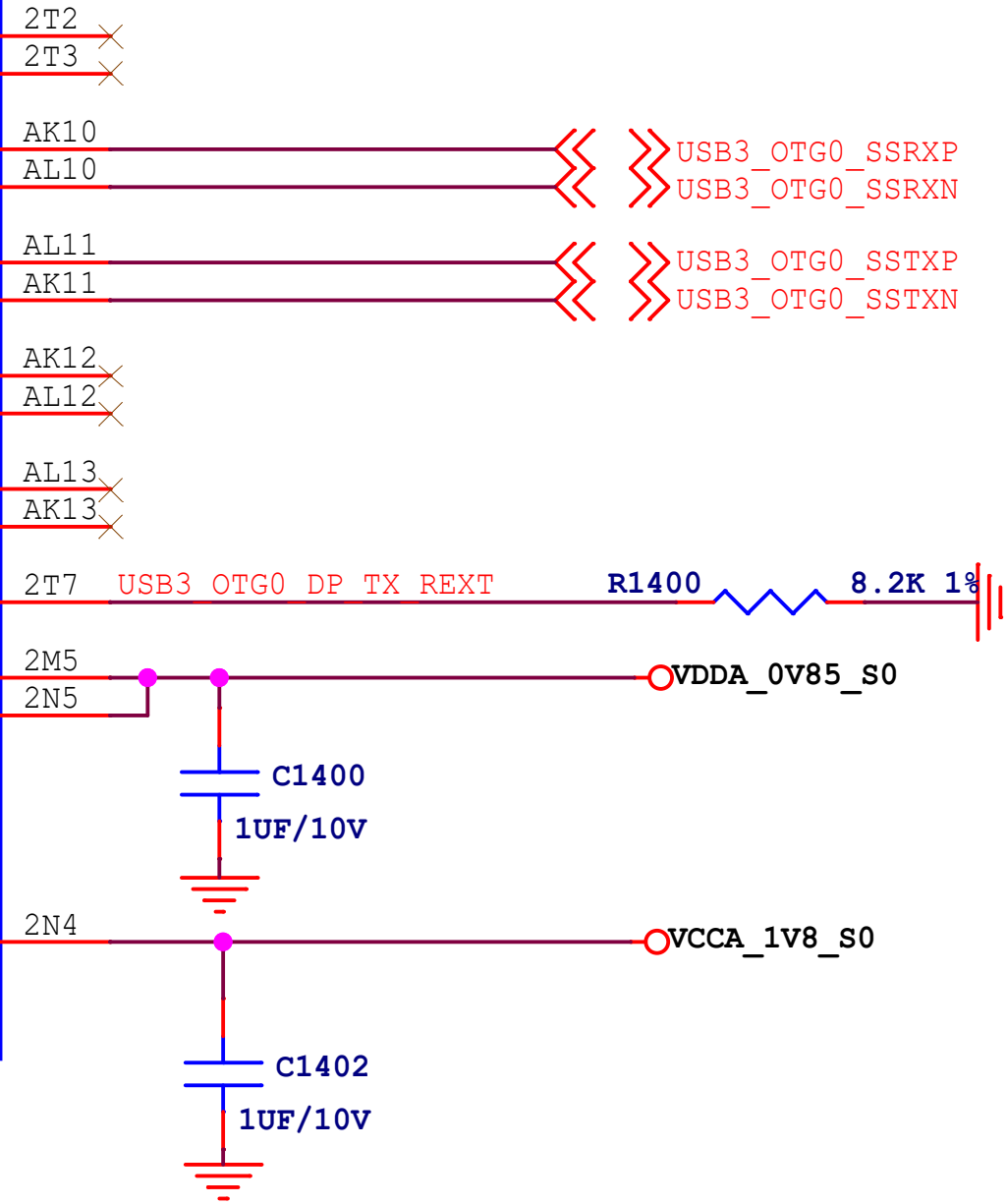


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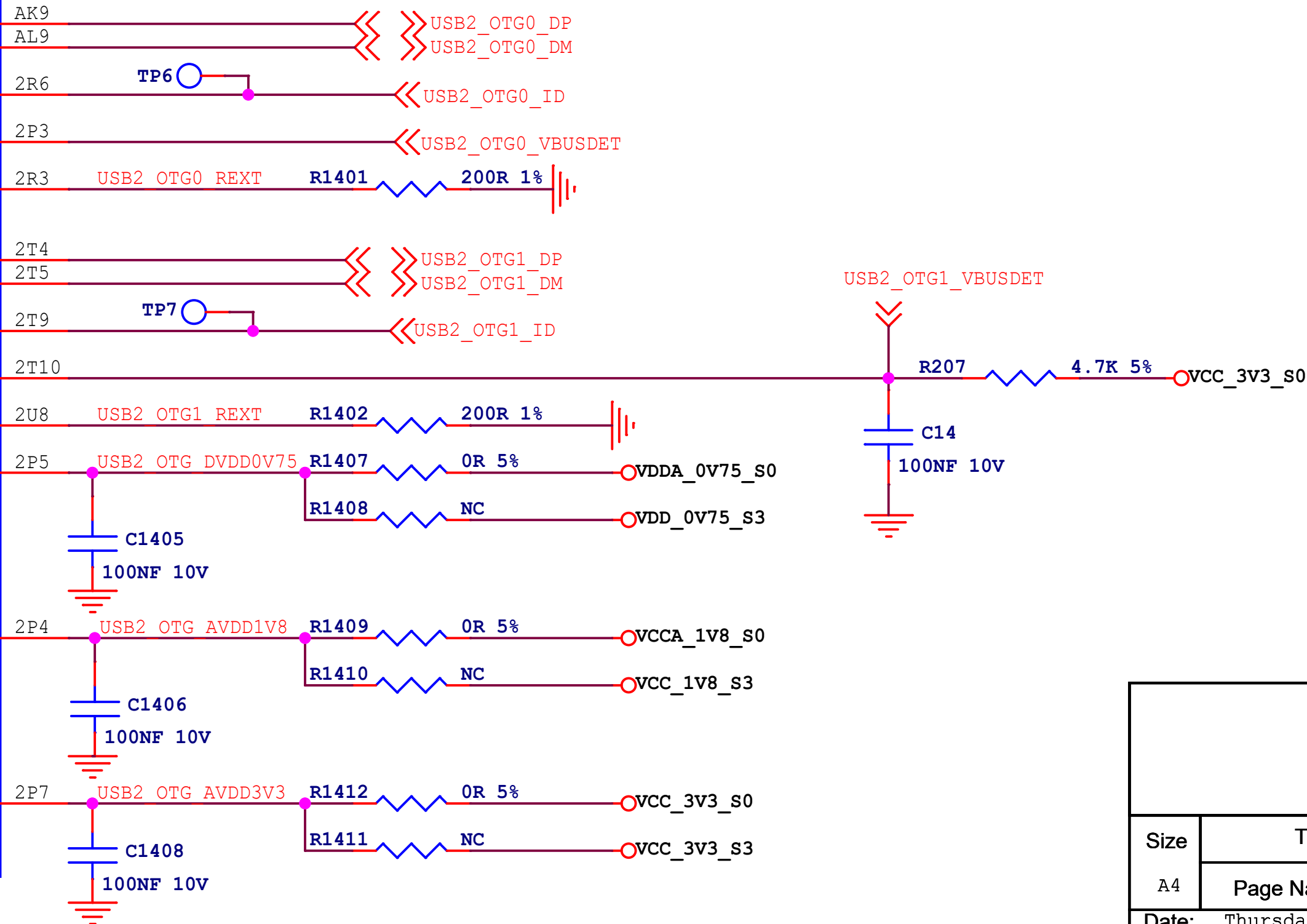
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	A4	Page Name:	V1.11
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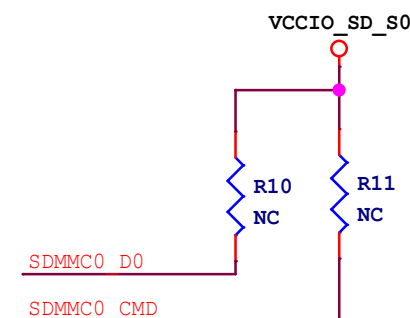
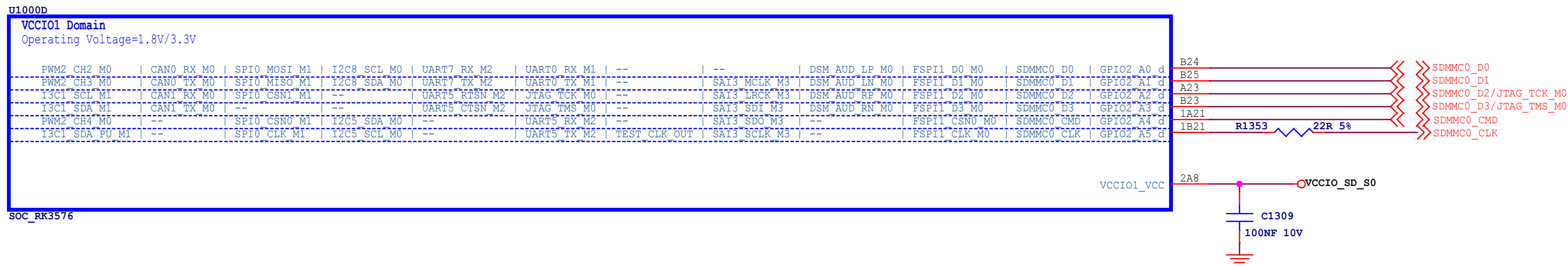
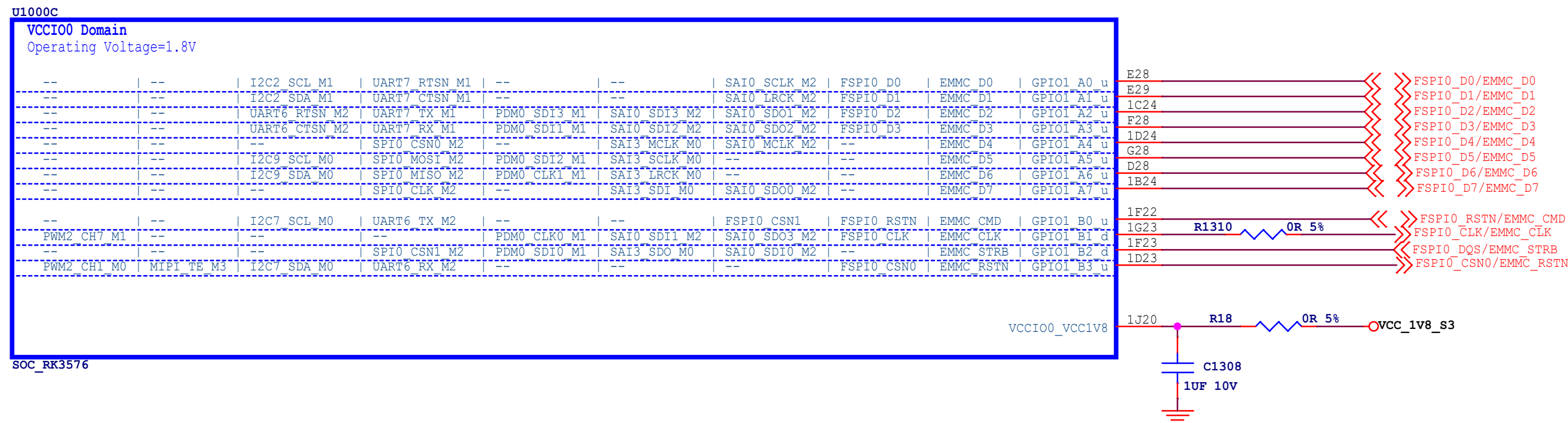
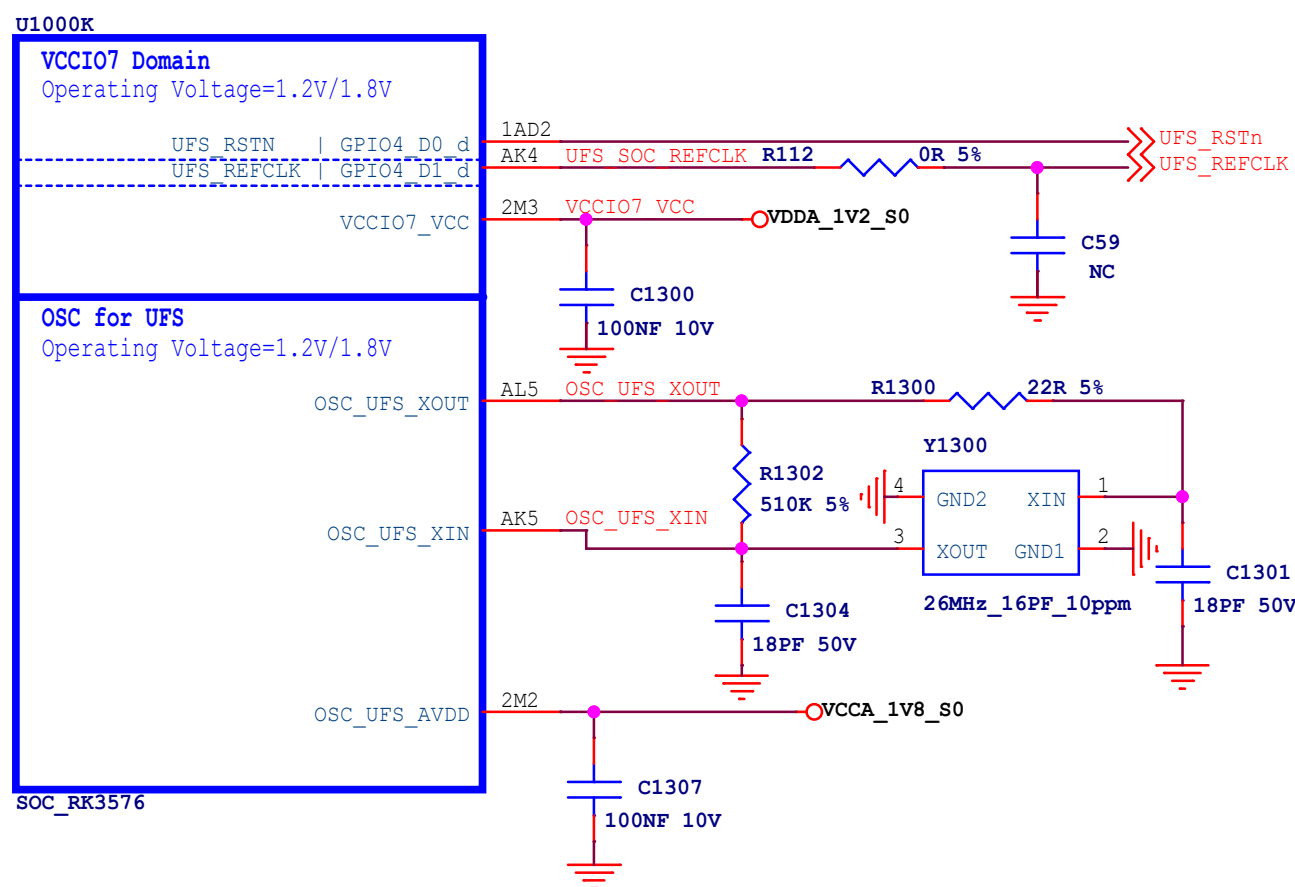
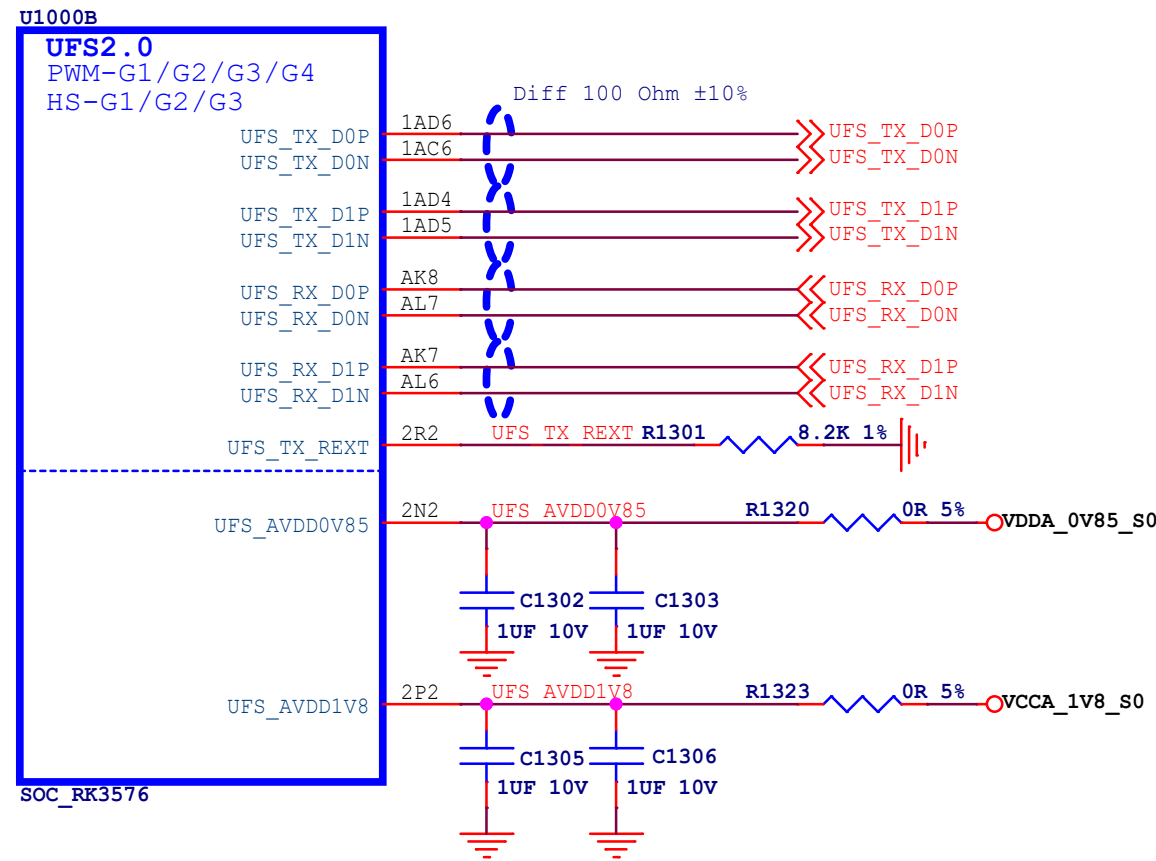
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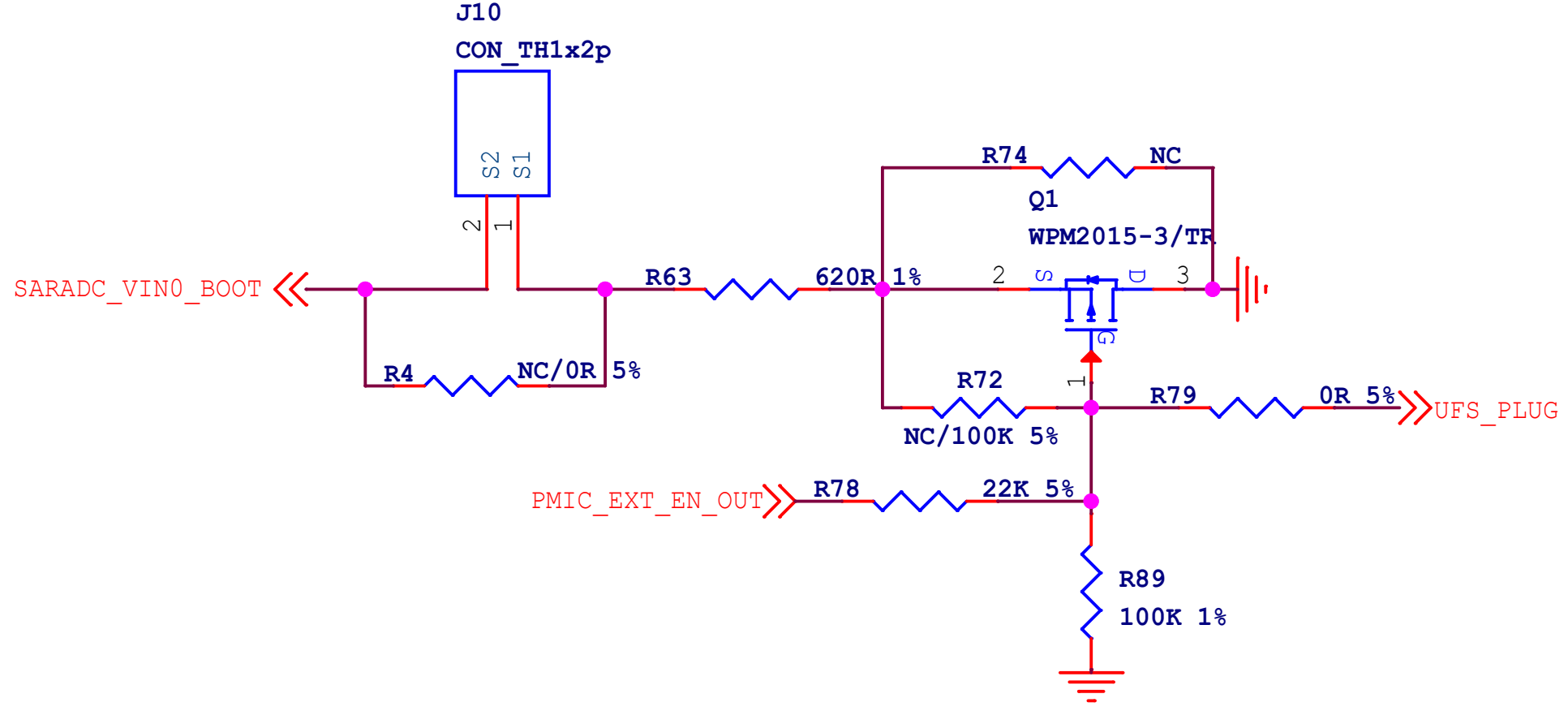
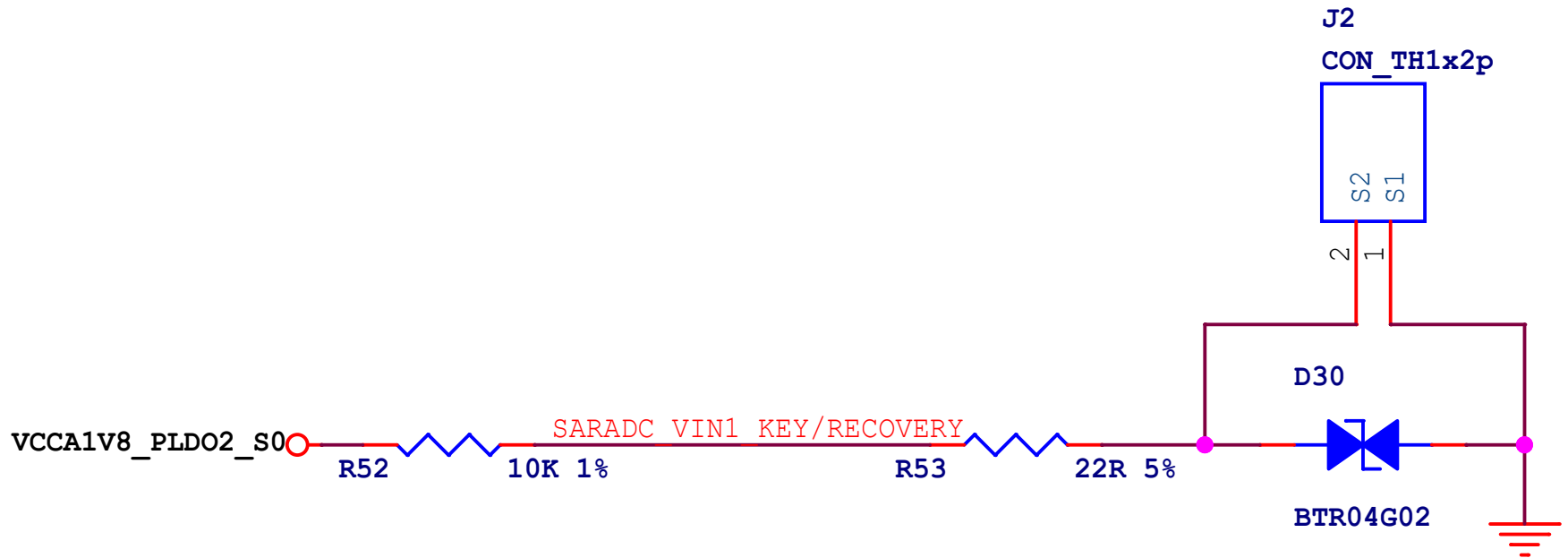
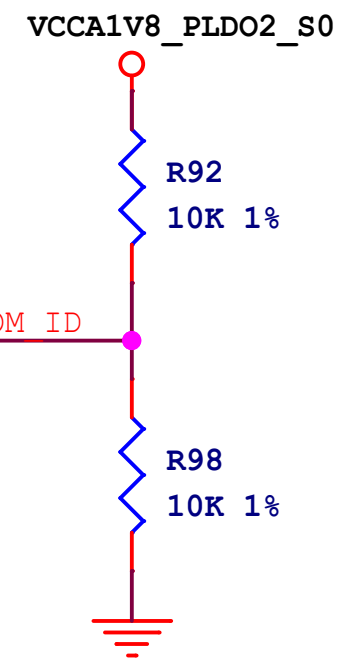
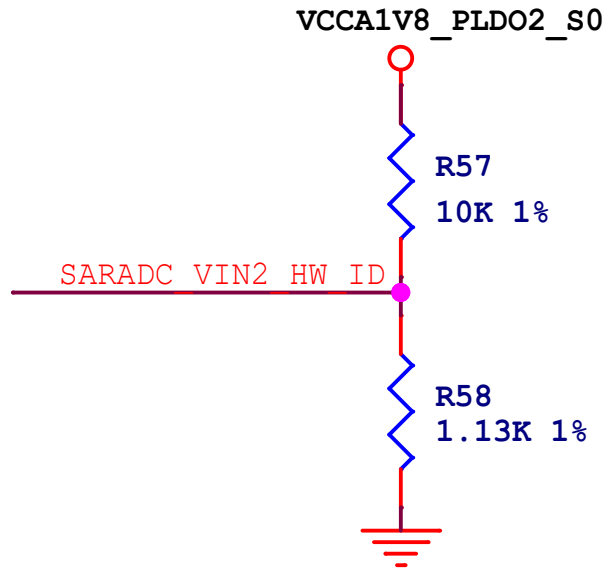
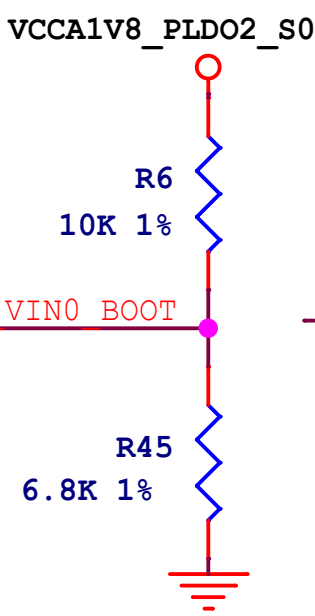
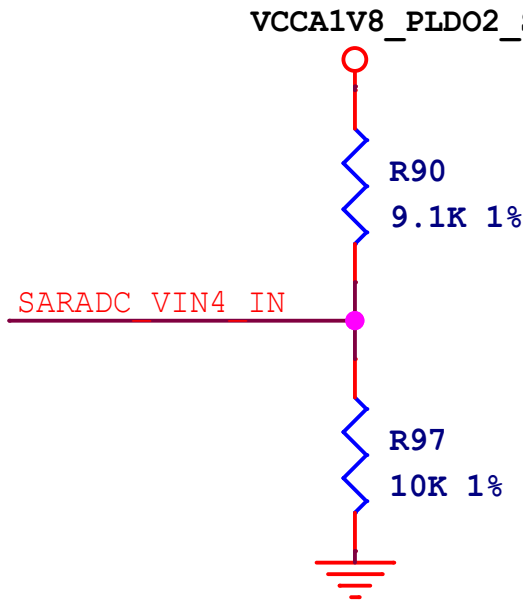
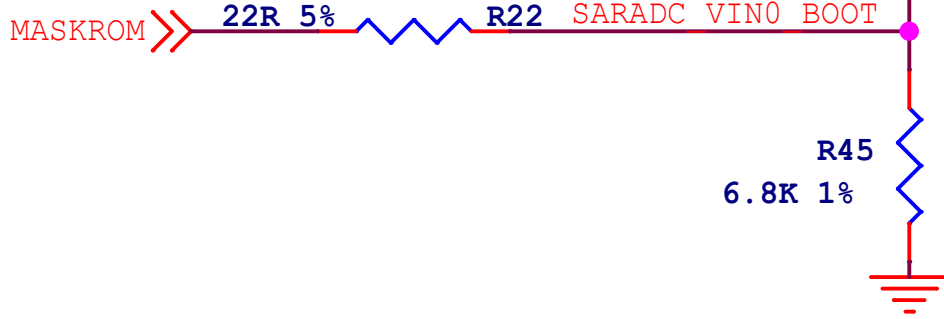
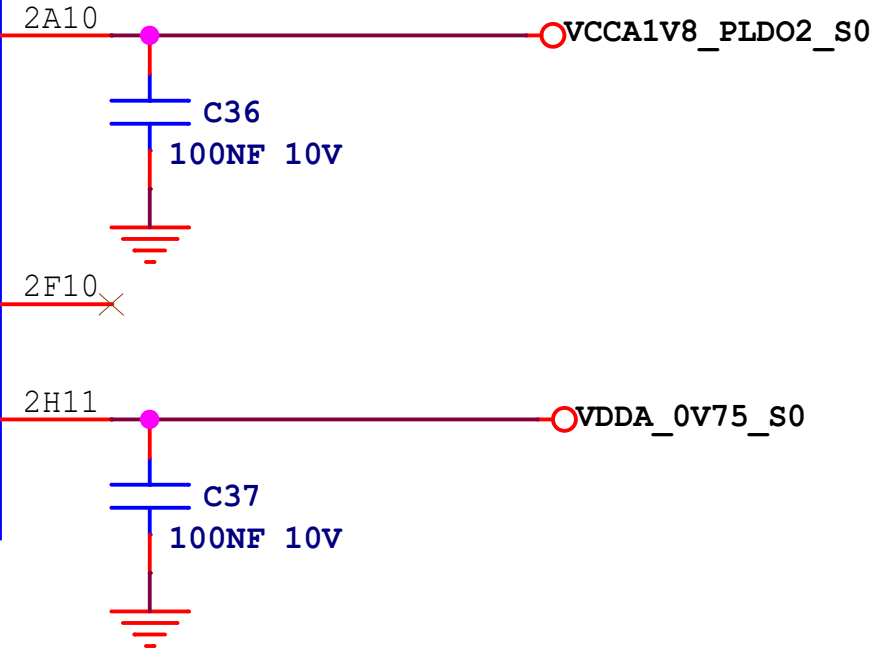
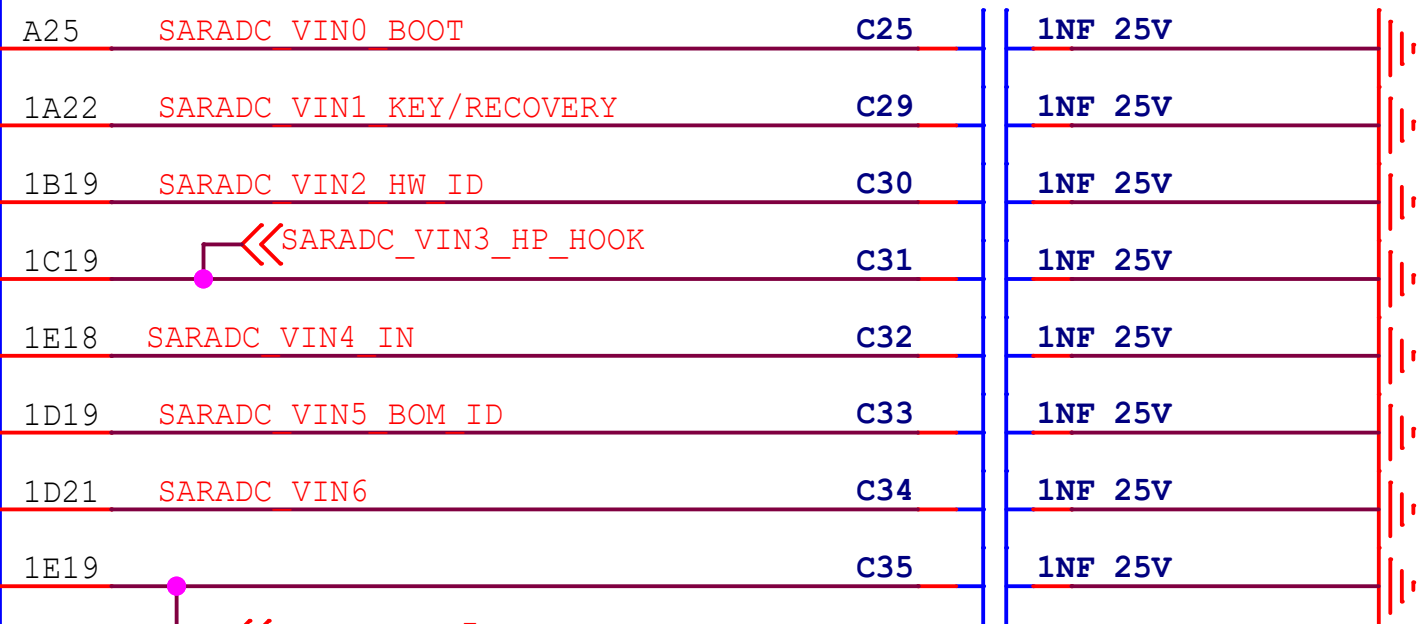
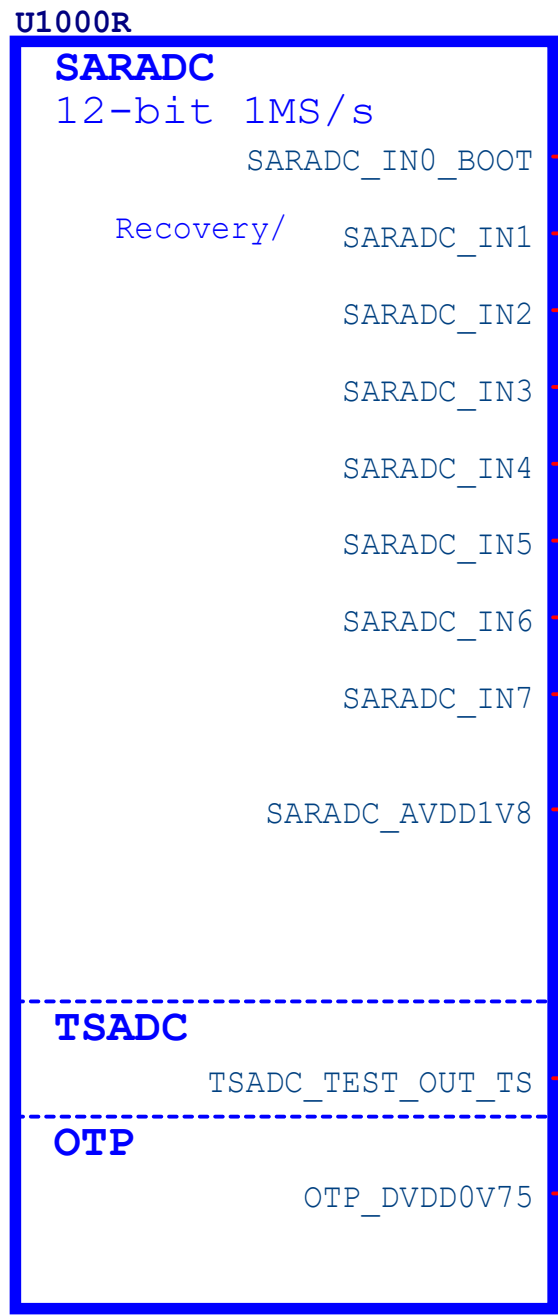
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U1000Q

HDMI TX/eDP TX Combo Phy

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

HDMI_TX_SBDP | EDP_TX_AUXP
HDMI_TX_SBDN | EDP_TX_AUXN

HDMI_TX_D0P | EDP_TX_D0P
HDMI_TX_D0N | EDP_TX_D0N

HDMI_TX_D1P | EDP_TX_D1P
HDMI_TX_D1N | EDP_TX_D1N

HDMI_TX_D2P | EDP_TX_D2P
HDMI_TX_D2N | EDP_TX_D2N

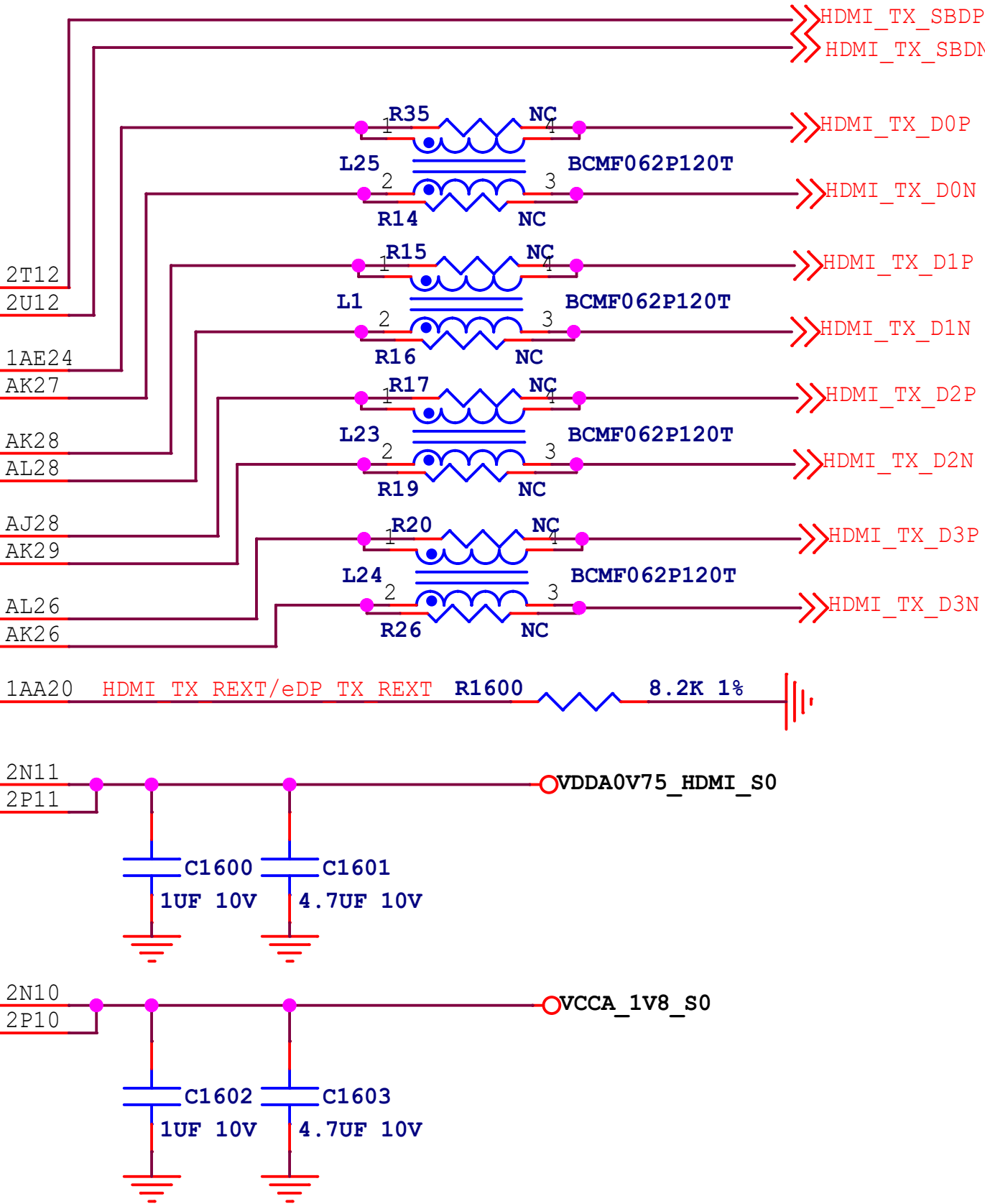
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HDMI_TX_D3N | EDP_TX_D3N

HDMI_TX_REXT | EDP_TX_REXT

HDMI_TX_EDP_TX_AVDDD0V75
HDMI_TX_EDP_TX_AVDDC0V75

HDMI_TX_EDP_TX_AVDDIO1V8
HDMI_TX_EDP_TX_AVDDCMN1V8

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VCCIO2 Domain
Operating Voltage=1.8V/3.3V

PWM2_CH5_M0	--							AUPLL_CLK_IN_M2	SAI4_MCLK_M0	SAI1_MCLK_M0	GPI04_A2_d
PWM2_CH4_M1	--		I2C2_SCL_M2	UART5_RTSN_M1	SPI3_CSNO_M2	FLEXBUS1_CSN_M4				SAI1_SCLK_M0	GPI04_A3_d
CAN0_TX_M2	--		I2C4_SCL_M1	UART6_TX_M0	SPI3_MOSI_M2	FLEXBUS0_D13_M1	PDM1_SDI3_M1		SAI4_SCLK_M0		GPI04_A4_d
	--	PCIE1_CLKREQ_M2	I2C2_SDA_M2	UART5_CTSN_M1	SPI4_CSN1_M2	FLEXBUS1_D12_M1				SAI1_LRCK_M0	GPI04_A5_d
CAN0_RX_M2	--		I2C4_SDA_M1	UART6_RX_M0	SPI3_MISO_M2	FLEXBUS0_D14_M1	PDM1_CLK0_M1		SAI4_LRCK_M0		GPI04_A6_d
PWM2_CH6_M0	--				SPI3_CLK_M2				SAI4_SDI_M0	SAI1_SDO0_M0	GPI04_A7_d
--		UART2_RTSN_M1	UART6_RTSN_M0	UART5_TX_M1	SPI4_CLK_M2	FLEXBUS1_D13_M1	PDM1_CLK1_M1	SAI1_SDI3_M0	SAI1_SDO1_M0	GPI04_B0_d	
--		UART2_CTSN_M1	UART6_CTSN_M0	UART5_RX_M1	SPI4_MOSI_M2	FLEXBUS1_D14_M1	PDM1_SDI2_M1	SAI1_SDI2_M0	SAI1_SDO2_M0	GPI04_B1_d	
			MIPI_TE_M0		SPI4_MISO_M2	FLEXBUS1_D15_M1	PDM1_SDI1_M1	SAI1_SDI1_M0	SAI1_SDO3_M0	GPI04_B2_d	
PWM2_CH7_M0	--			SPI3_CSN1_M2	SPI4_CSNO_M2		PDM1_SDI0_M1	SAI4_SDO_M0	SAI1_SDI0_M0	GPI04_B3_d	
CAN1_RX_M2	--		I2C3_SDA_M0	UART2_RX_M1	--	FLEXBUS0_CSN_M4	--	--	SPDIF_RX0_M0	GPI04_B4_d	
CAN1_TX_M2	--	PCIE0_CLKREQ_M2	I2C3_SCL_M0	UART2_TX_M1	--	FLEXBUS0_D15_M1	--	--	SPDIF_TX0_M0	GPI04_B5_d	

SOC_RK3576

VCCIO2_VCC

2A2

VCCIO_AUDIO

C1800

100NF 10V

VCCIO_AUDIO

R1800
2.2K 5%

R1801
2.2K 5%

I2C3_SDA_M0_Audio

I2C3_SCL_M0_Audio

U1000G

VCCIO3 Domain
Operating Voltage=1.8V/3.3V

PWM1_CH0_M1	PCIE1_CLKREQ_M1	SPI1_CLK_M0	I2C9_SDA_M1	--	--	--	--	SAI3_SCLK_M1	--	SDMMC1_D0_M0	ETH1_RXD2_M1	GPI01_B4_d
PWM1_CH1_M1	--	SPI1_MOSI_M0	I2C9_SCL_M1	--	--	--	--	SAI3_LRCK_M1	--	SDMMC1_D1_M0	ETH1_RXD3_M1	GPI01_B5_d
--	PCIE0_CLKREQ_M1	SPI1_MISO_M0	--	UART3_CTSN_M2	--	--	--	SAI3_SDO_M1	--	SDMMC1_D2_M0	ETH1_RXCLK_M1	GPI01_B6_d
--	--	SPI1_CSNO_M0	--	UART3_RTSN_M2	--	--	--	SAI3_SDI_M1	--	SDMMC1_D3_M0	ETH1_TXD2_M1	GPI01_B7_d
PWM0_CH0_M1	--	SPI1_CSN1_M0	--	UART3_TX_M2	--	PDM0_SDI2_M2	--	--	--	SDMMC1_CMD_M0	ETH1_TXD3_M1	GPI01_C0_d
--	--	--	--	UART3_RX_M2	--	PDM0_CLK0_M2	SAI3_MCLK_M1	--	--	SDMMC1_CLK_M0	ETH1_TXCLK_M1	GPI01_C1_d
PWM1_CH2_M1	--	SPI2_CSN1_M1	I2C6_SCL_M1	UART4_RTSN_M1	--	--	FSP11_CSN1_M1	FSP11_RTSN_M1	SDMMC1_PWREN_M0	ETH1_PFSCLK_M1	GPI01_C2_u	
--	--	SPI2_CSNO_M1	I2C6_SDA_M1	UART4_CTSN_M1	--	--	--	FSP11_CSNO_M1	SDMMC1_DET_N_M0	ETH1_PFSSTRIG_M1	GPI01_C3_u	
--	PCIE0_BUTTONRSTN	SPI2_MOSI_M1	UART2_RTSN_M0	UART4_TX_M1	--	--	--	FSP11_D0_M1	--	ETH1_TXD0_M1	GPI01_C4_d	
PCIE1_BUTTONRSTN	SPI2_MISO_M1	UART2_CTSN_M0	UART4_RX_M1	--	--	--	--	FSP11_D1_M1	--	ETH1_TXD1_M1	GPI01_C5_d	
--	SATA_CPD05	--	I2C8_SCL_M1	UART2_TX_M0	--	PDM0_SDI0_M2	--	FSP11_D2_M1	--	ETH1_TXCLK_M1	GPI01_C6_d	
--	SATA_CPD06	--	I2C8_SDA_M1	UART2_RX_M0	--	PDM0_SDI1_M2	--	FSP11_D3_M1	--	ETH1_TXD0_M1	GPI01_C7_d	
--	--	--	--	UART10_TX_M1	--	--	SAI2_SDO_M0	--	--	ETH1_RXD1_M1	GPI01_D0_d	
--	--	--	--	UART10_RX_M1	--	--	SAI2_SCLK_M0	--	--	ETH1_RXCLK_M1	GPI01_D1_d	
PWM1_CH3_M1	--	--	I3C0_SDA_PU_M1	--	--	--	SAI2_LRCK_M0	--	--	ETH1_MDC_M1	GPI01_D2_d	
PWM1_CH4_M1	--	--	I3C0_SCL_M1	--	--	--	SAI2_SDI_M0	--	--	ETH1_MDIO_M1	GPI01_D3_d	
--	--	--	I3C0_SDA_M1	--	--	--	SAI2_SDO_M0	--	--	ETH1_MCLK_M1	GPI01_D4_d	
--	--	--	I2C6_SCL_M1	UART10_RTSN_M1	SPDIF_RX1_M2	PDM0_SDI3_M2	SAI2_MCLK_M0	--	--	ETH1_CLK1_25M_OUT_M1	GPI01_D5_d	
CLK1_32K_OUT	SATA_MPSWIT	SPI2_CLK_M1	I2C9_SDA_M1	UART10_CTSN_M1	SPDIF_TX1_M2	PDM0_CLK1_M2	--	FSP11_CLK_M1	--	--	--	--

SOC_RK3576

VCCIO3_VCC

2B10

VCC_3V3_S3

C1801

100NF 10V

VCC_3V3_S3

R188
2.2K 5%

R189
2.2K 5%

I2C8_SDA_M1

I2C8_SCL_M1

U1000J

VCCIO6 Domain
Operating Voltage=1.8V/3.3V

PWM1_CH5_M1	UART11_TX_M2	SPI4_CSN1_M0	I2C7_SCL_M3	--	--	HDMI_TX_CEC_M0	--	SAI4_MCLK_M2	DSM_AUD_LP_M1	GPI04_C0_d	AK3	>>>HDMI_TX_CEC_M0
PWM0_CH1_M1	UART11_RX_M2	EDP_TX_HPDIN_M0	I2C7_SDA_M3	PCIE1_CLKREQ_M3	HDMI_TX_HPDIN_M0	--	--	--	DSM_AUD_LN_M1	GPI04_C1_d	AK2	>>>HDMI_TX_HPDIN_M0
PWM2_CH0_M1	UART9_TX_M2	CAN0_TX_M1	I2C2_SCL_M3	--	--	HDMI_TX_SCL	--	--	DSM_AUD_RP_M1	GPI04_C2_d	AL2	>>>HDMI_TX_SCL
PWM2_CH1_M1	UART9_RX_M2	CAN0_RX_M1	I2C2_SDA_M3	--	--	HDMI_TX_SDA	--	--	DSM_AUD_RN_M1	GPI04_C3_d	1AE2	>>>HDMI_TX_SDA
PWM2_CH6_M1	UART6_TX_M3	SPI4_CSNO_M0	I2C3_SCL_M3	DP_HPDIN_M0	--	--	SAI4_LRCK_M2	ISP_PRELIGHT_TRIG_M1	--	GPI04_C4_d	AK1	>>>FAN-PWM
PWM2_CH5_M1	UART6_RX_M3	SPI4_MOSI_M0	I2C3_SDA_M3	SATA1_ACTLED_M1	--	VPU_SYNC_OUT	SAI4_SDO_M2	ISP_FLASH_TRIGOUT_M1	--	GPI04_C5_d	1AE1	>>>I2C6_SCL_M3
PWM2_CH2_M1	CAN1_TX_M1	SPI4_MISO_M0	I2C6_SCL_M3	SATA0_ACTLED_M1	PCIE0_CLKREQ_M3	VPU_SYNC_OUT	SAI4_SDI_M2	--	--	GPI04_C6_d	AJ1	>>>I2C6_SDA_M3
PWM2_CH3_M1	CAN1_RX_M1	SPI4_CLK_M0	I2C6_SDA_M3	--	--	VPU_SYNC_OUT	SAI4_SCLK_M2	--	--	GPI04_C7_d	--	--

SOC_RK3576

VCCIO6_VCC

2N3

VCC_3V3_S0

C1802

100NF 10V

VCC_3V3_S0

R190
2.2K 5%

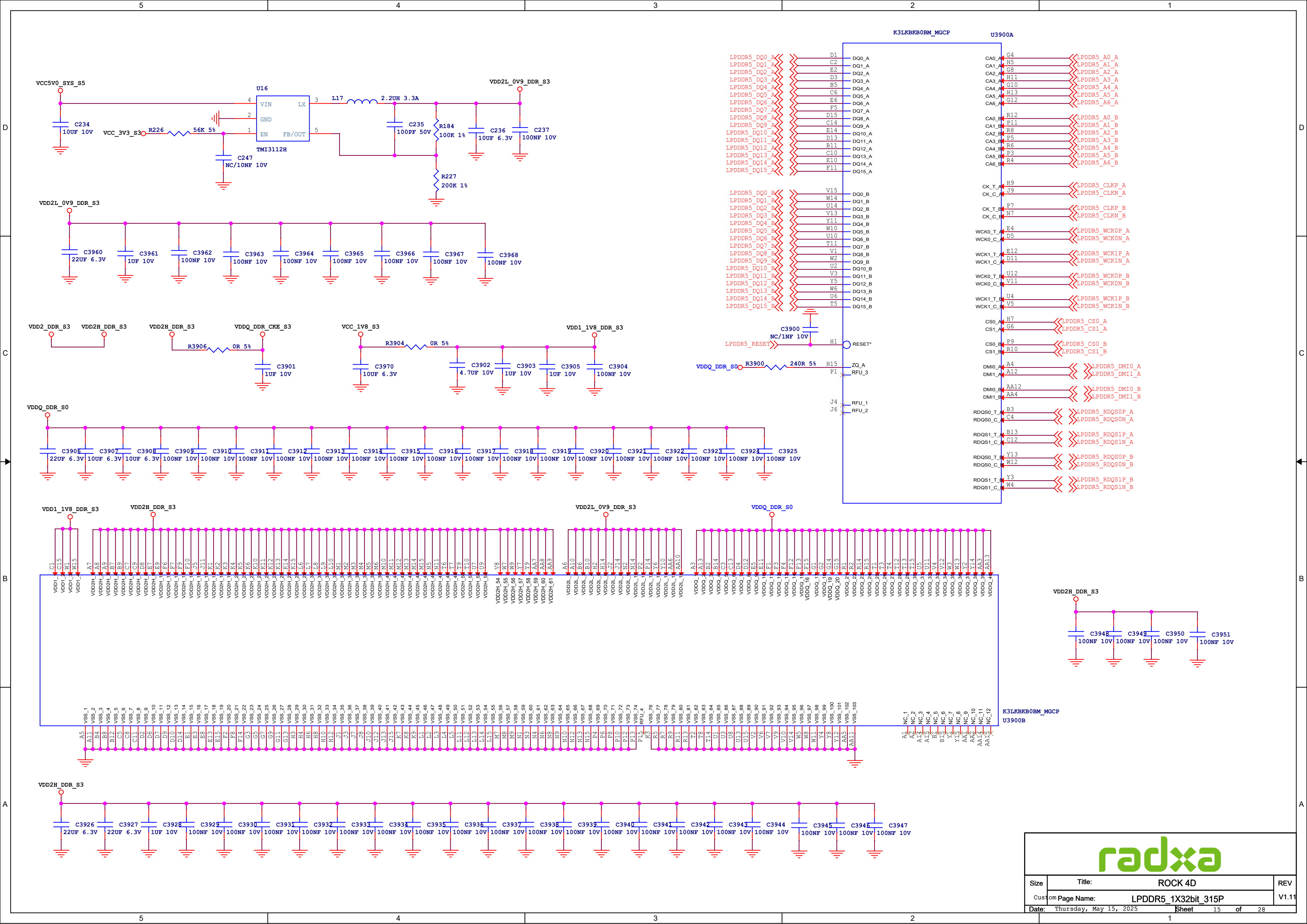
R191
2.2K 5%

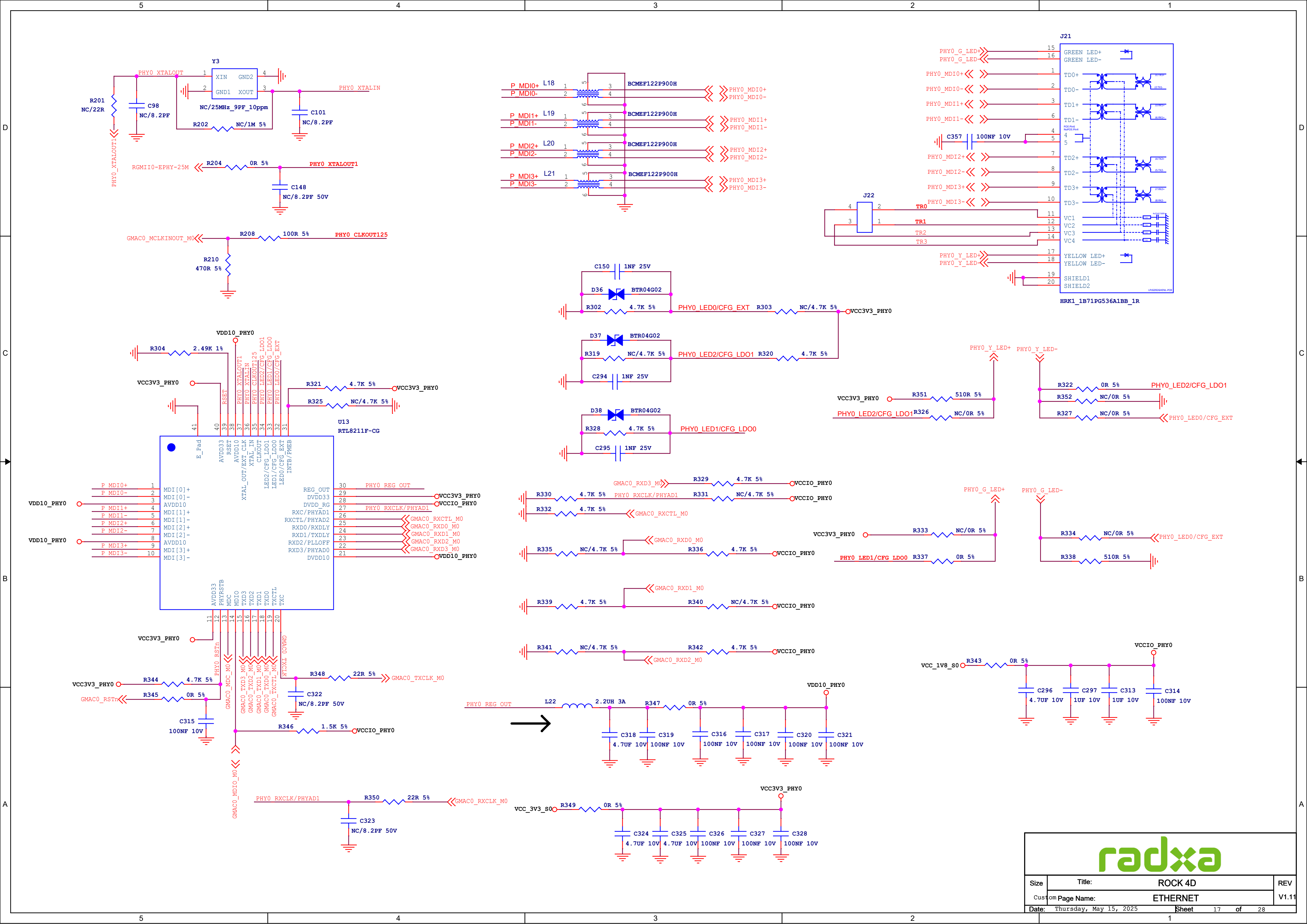
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I2C6_SDA_M3

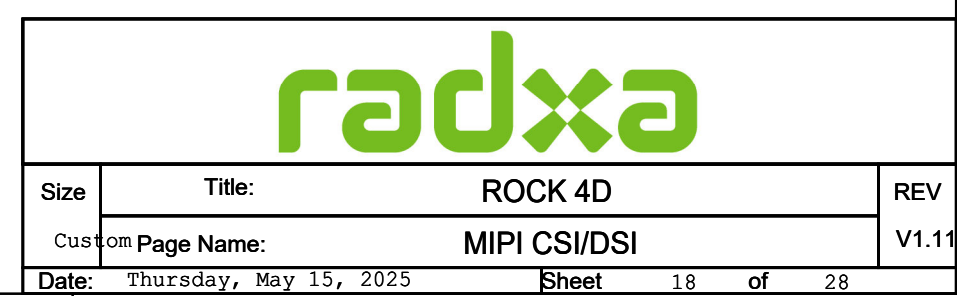
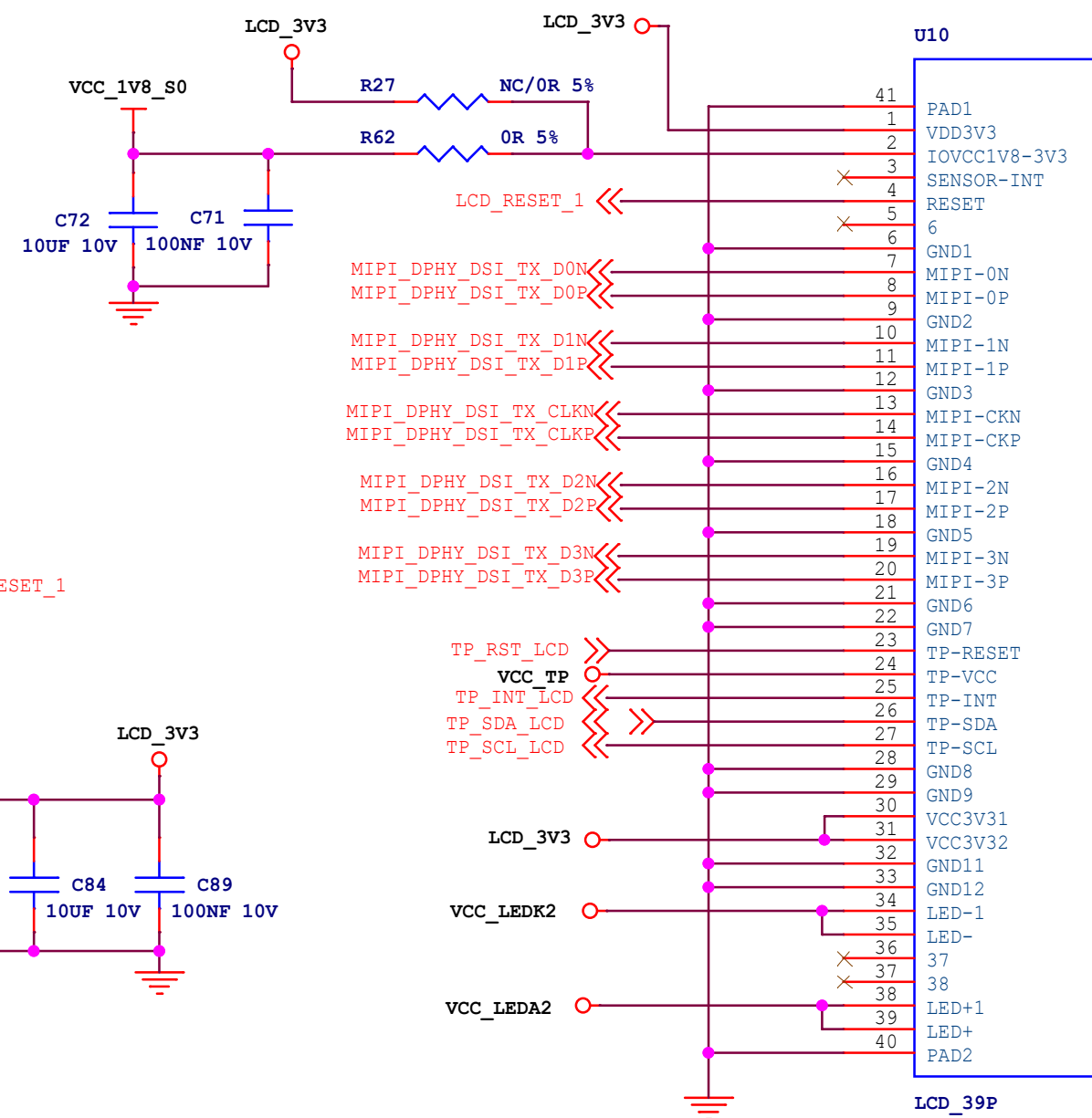
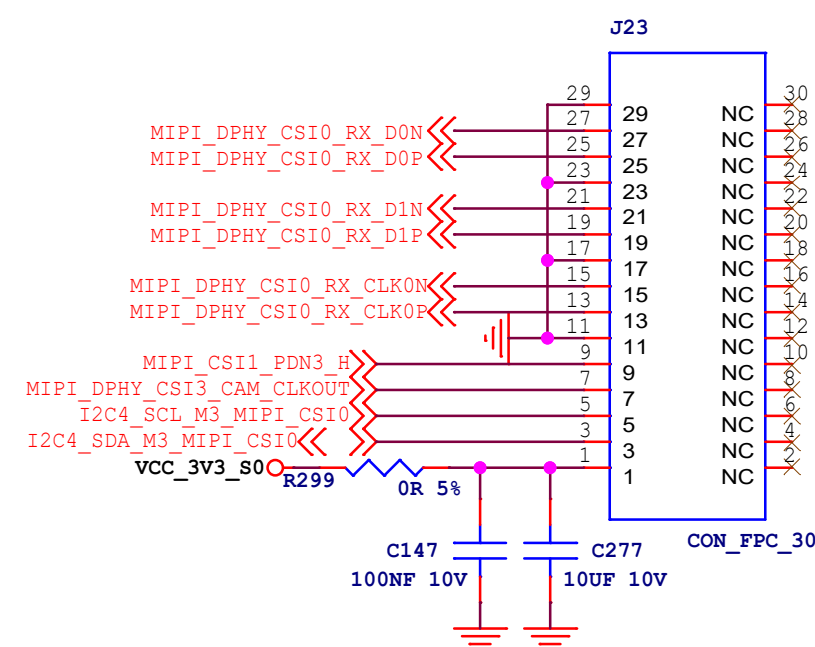
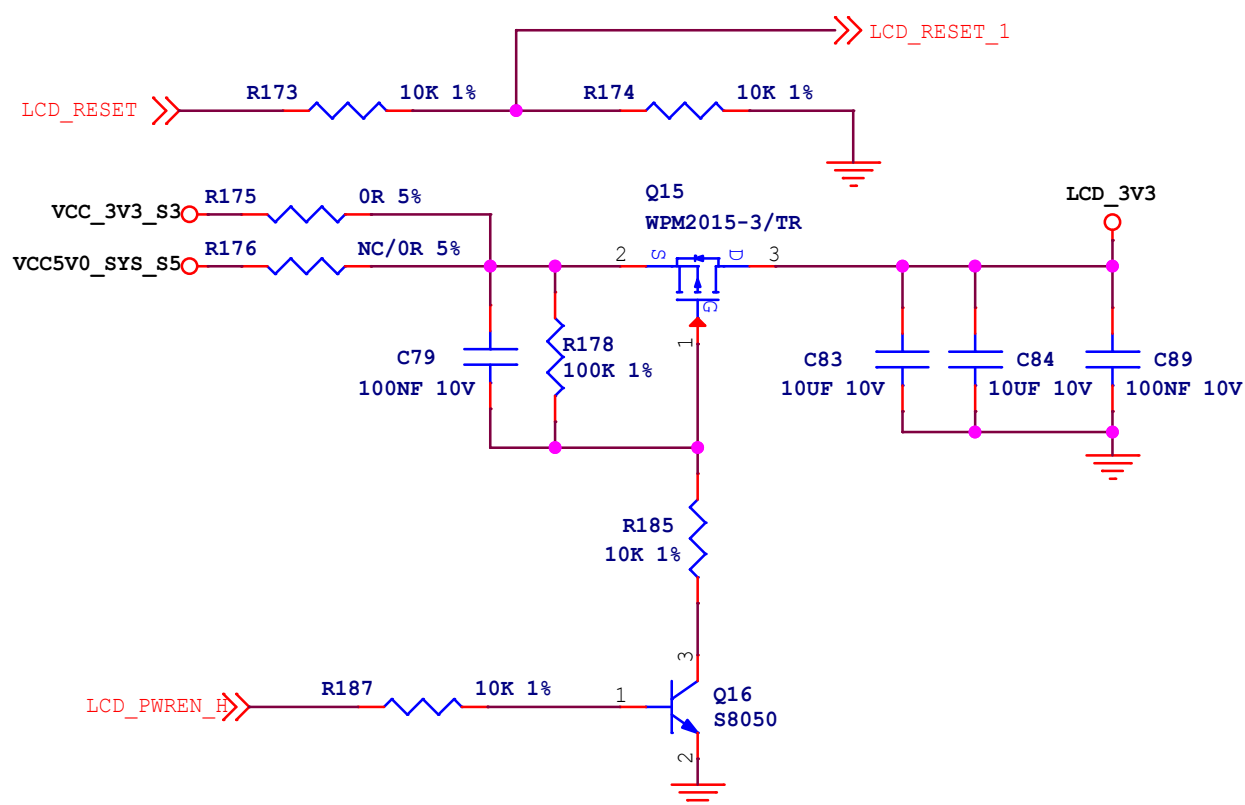
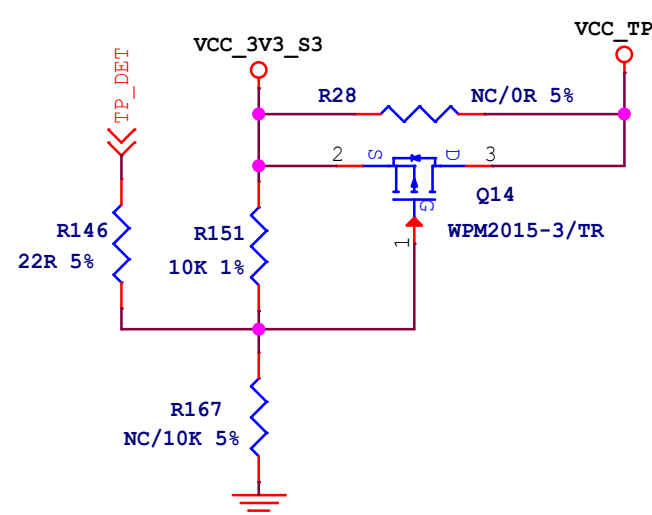
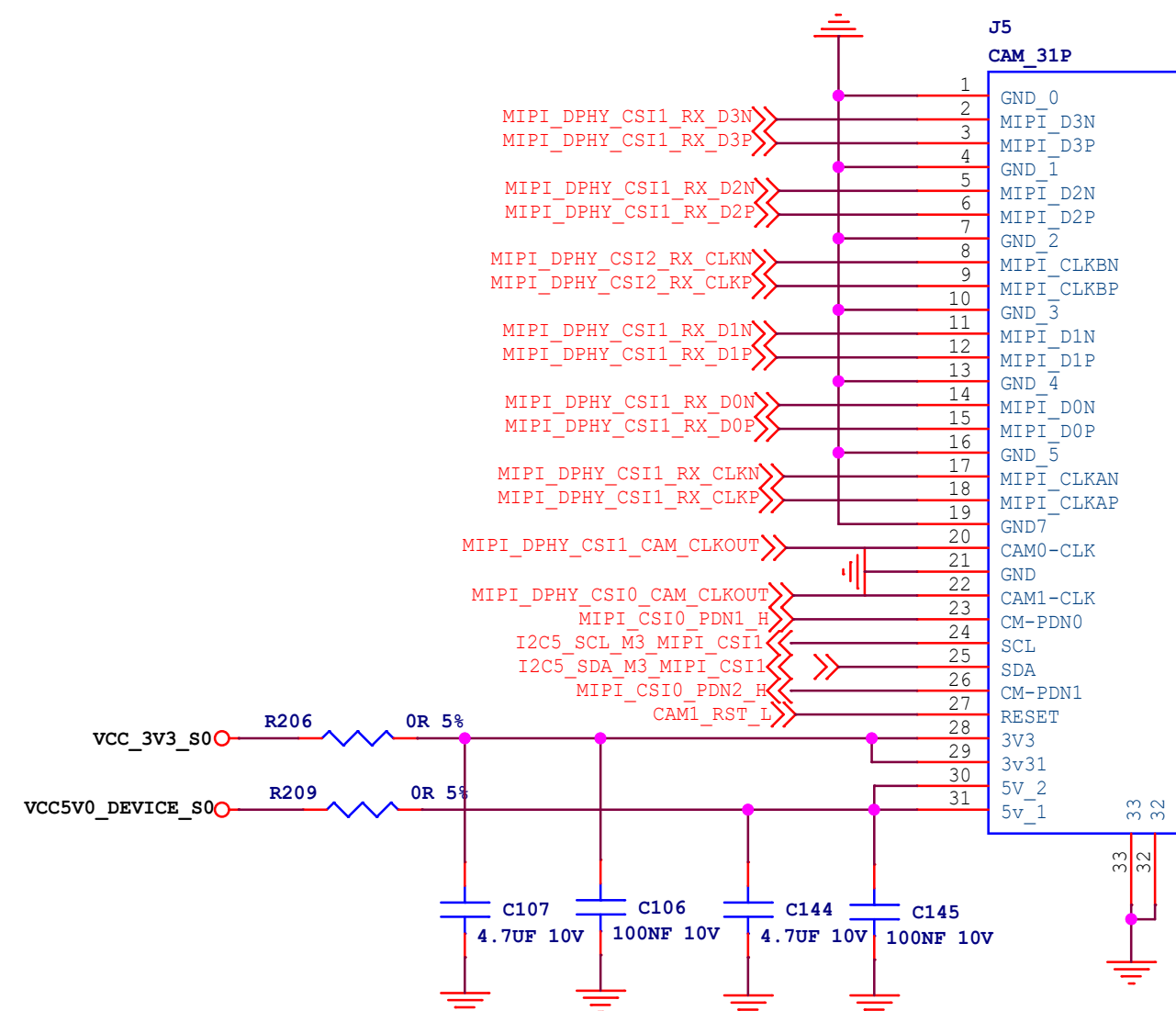
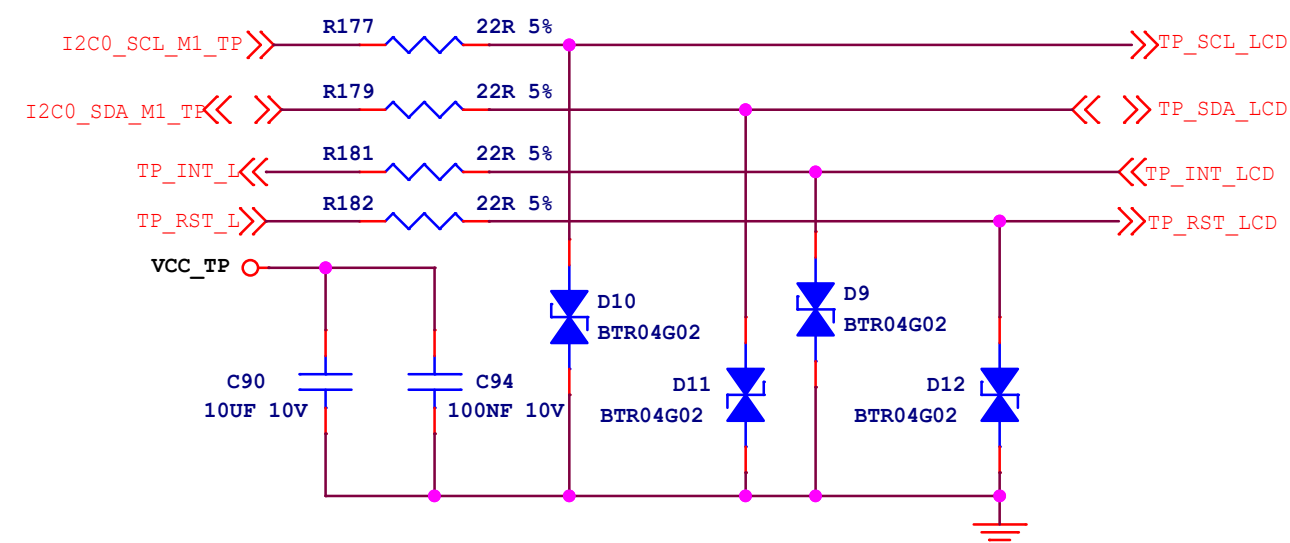
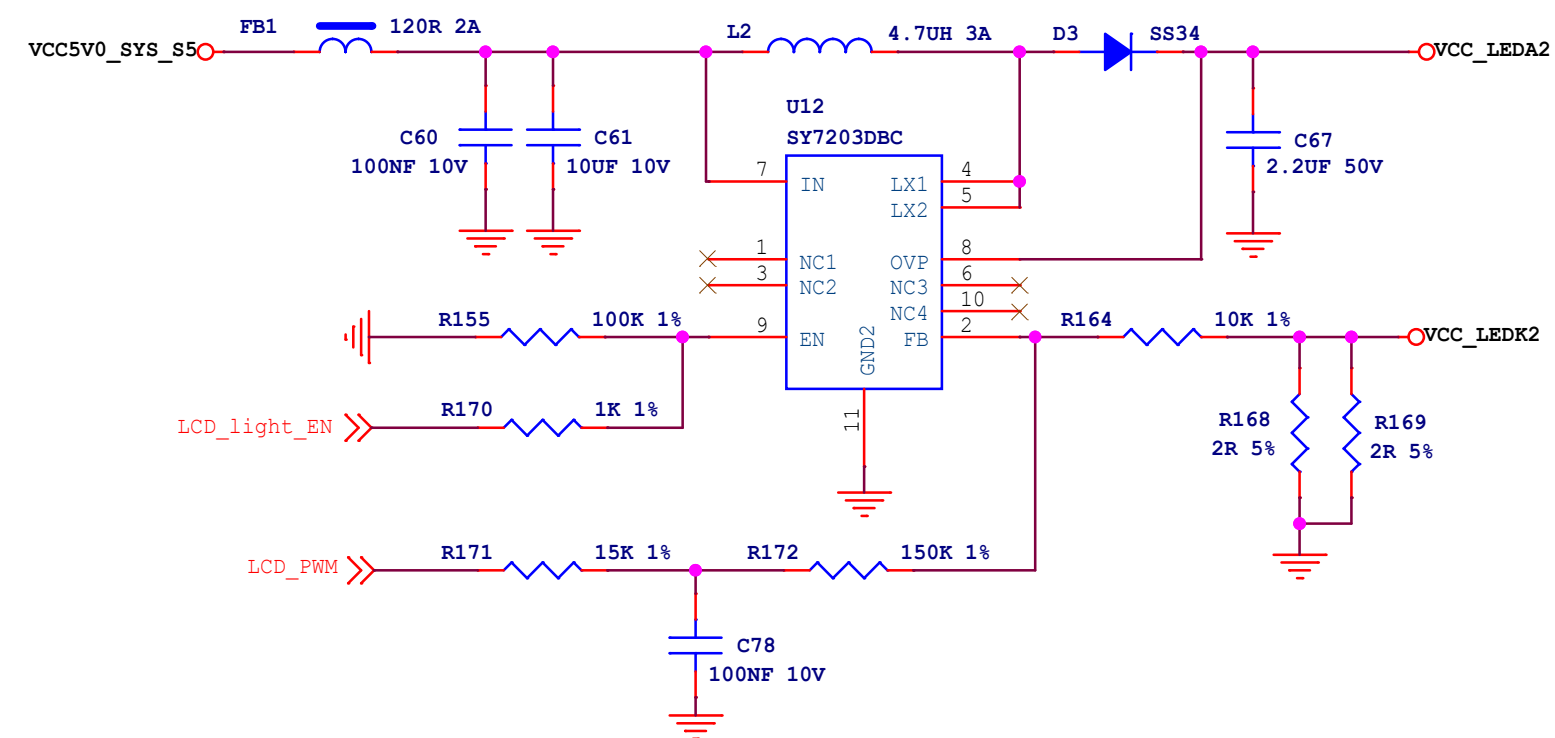
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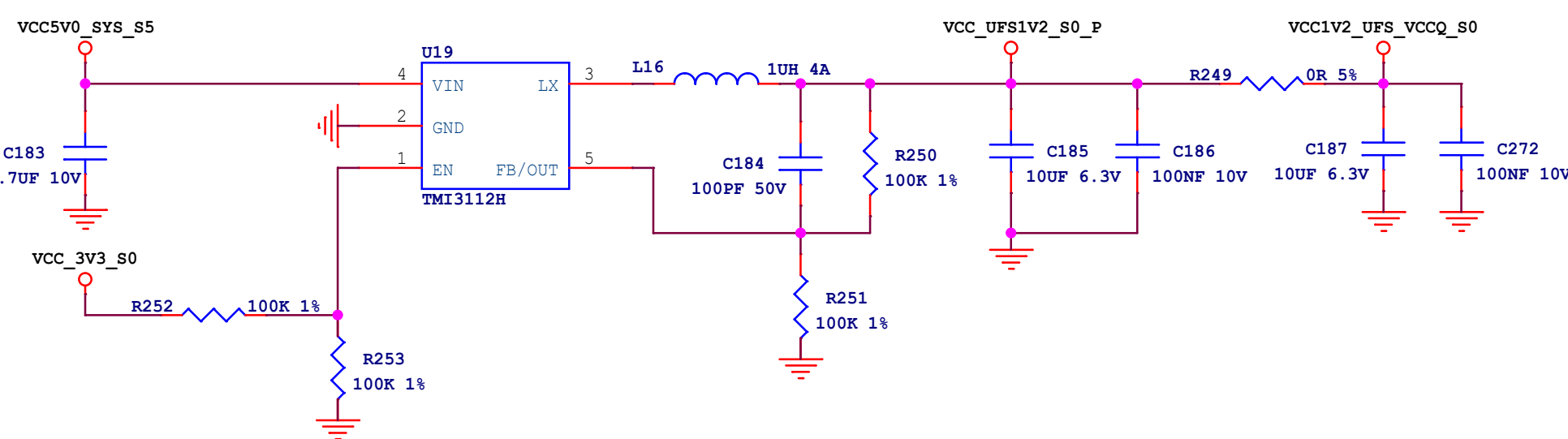
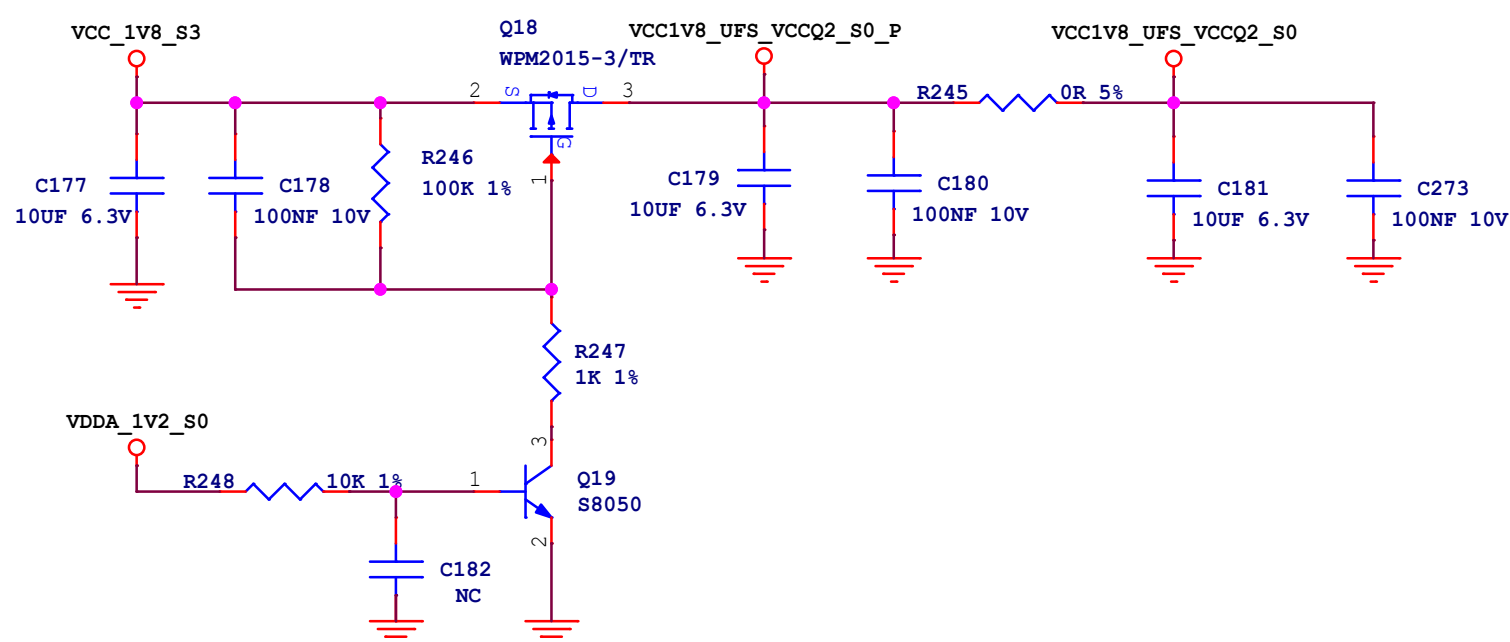
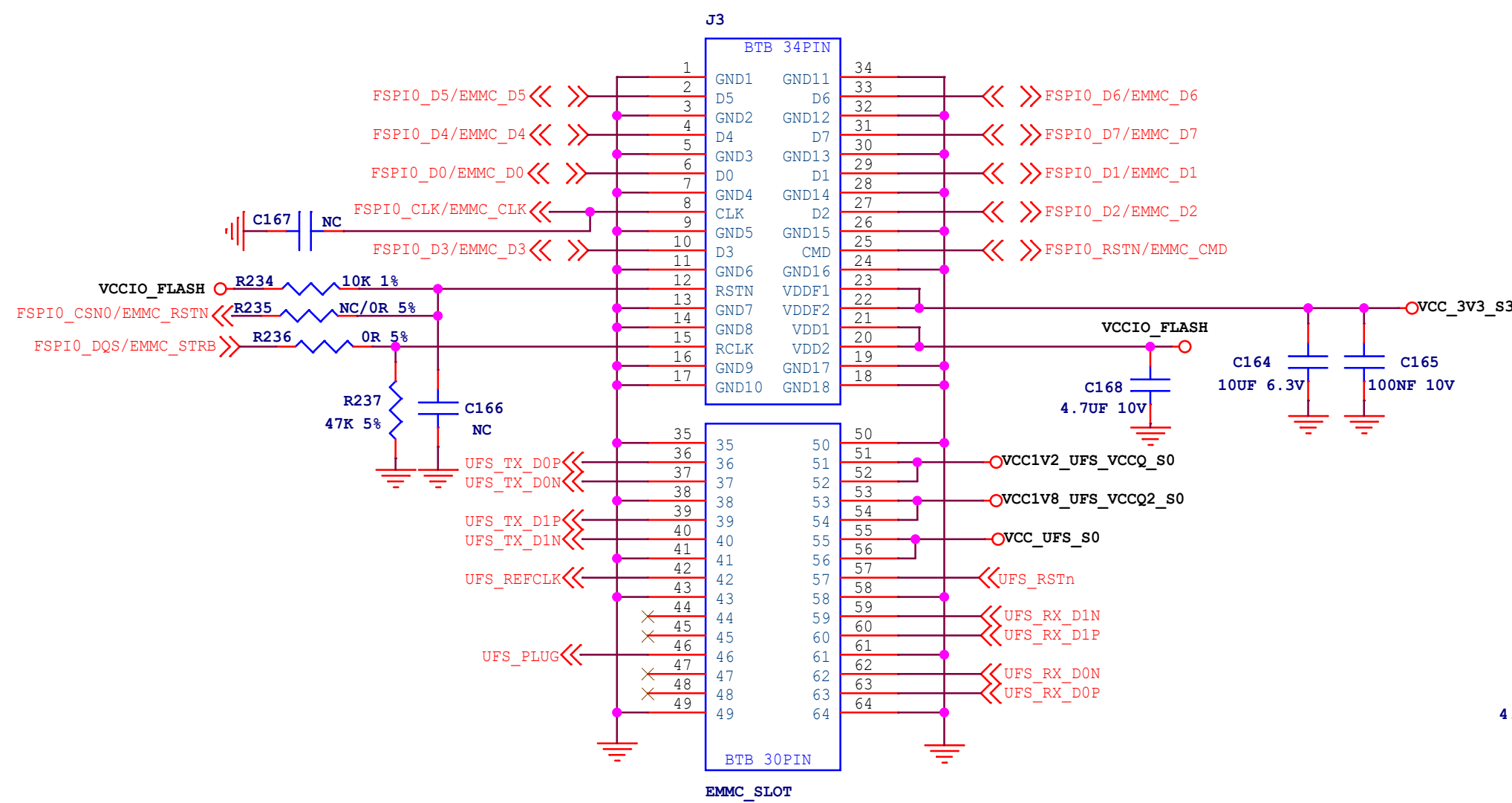
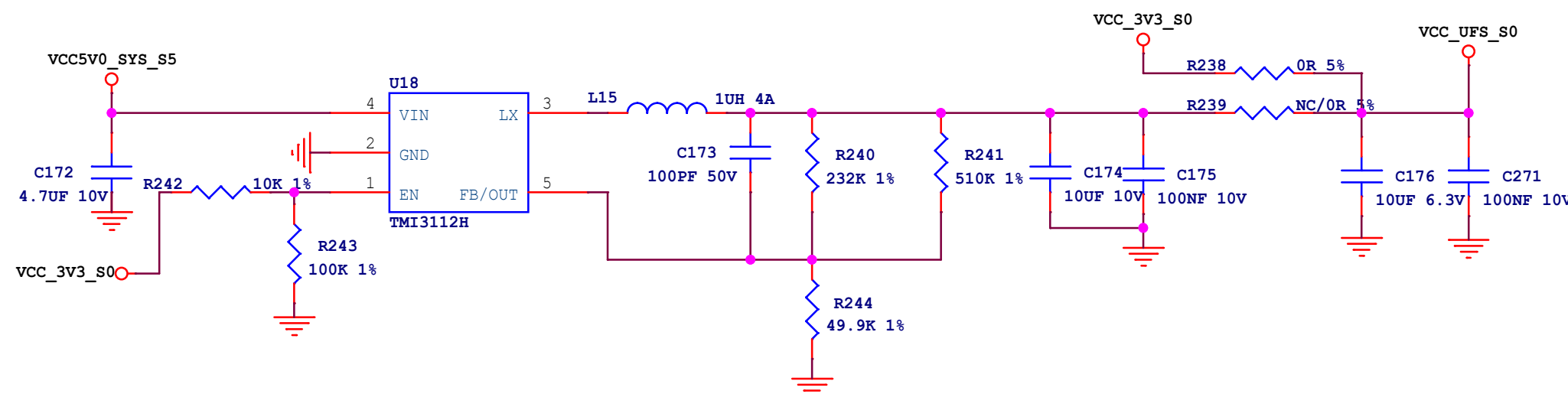
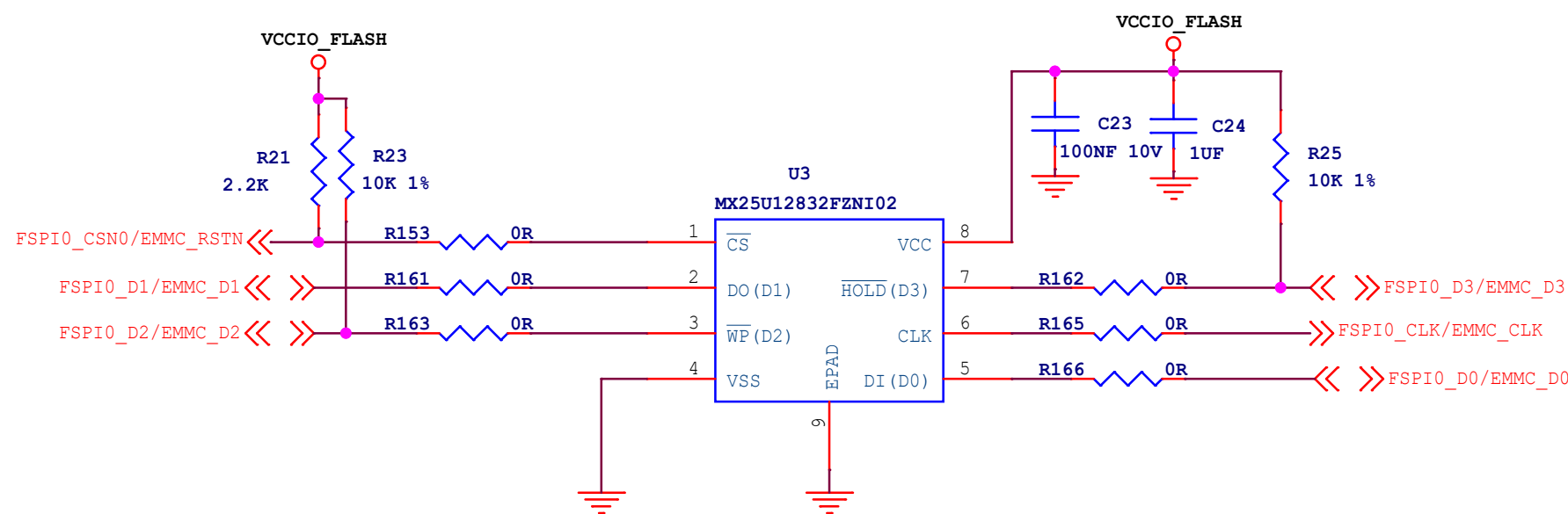
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Date:	Thursday, May 15, 2025	Sheet 13 of 28



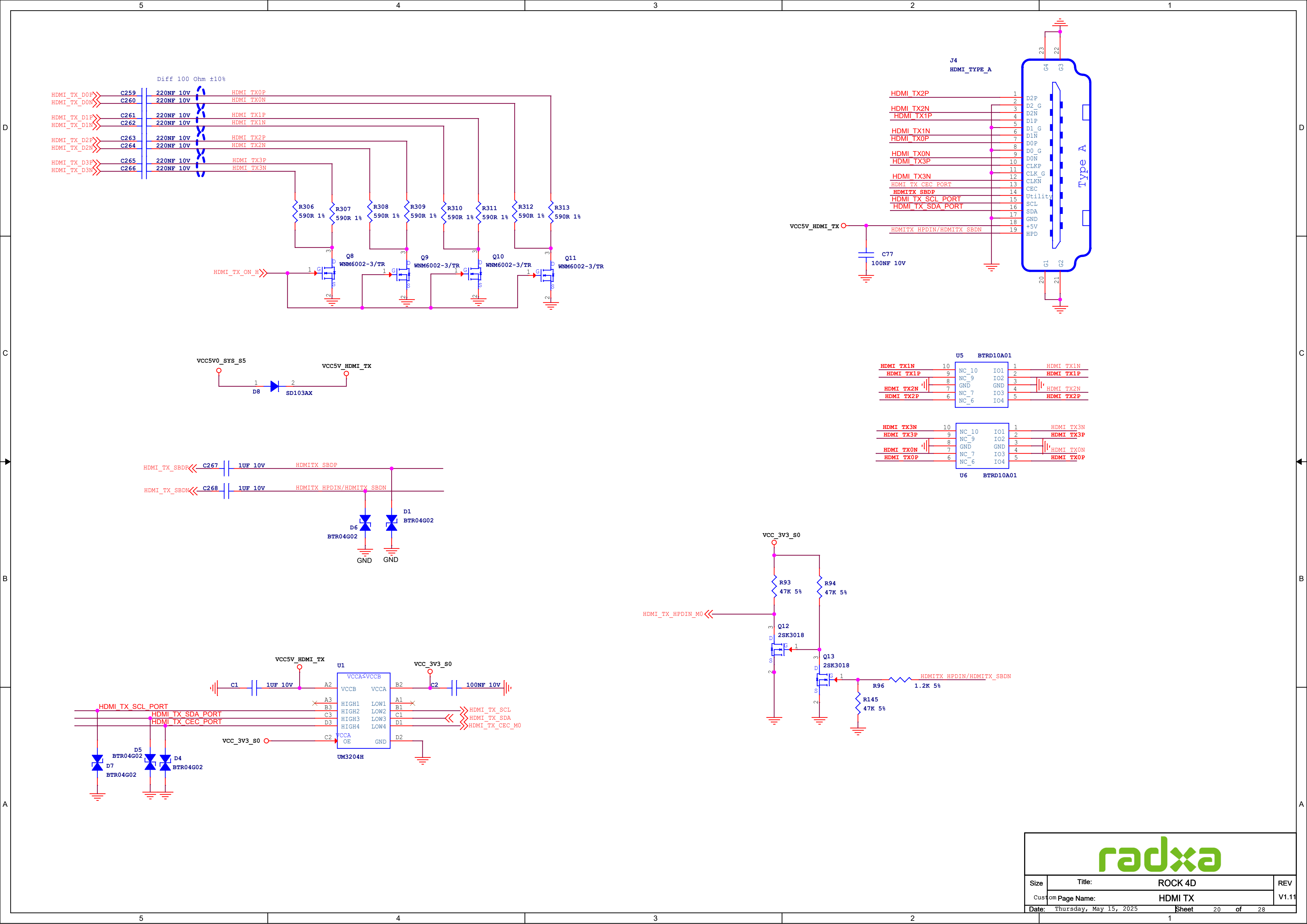


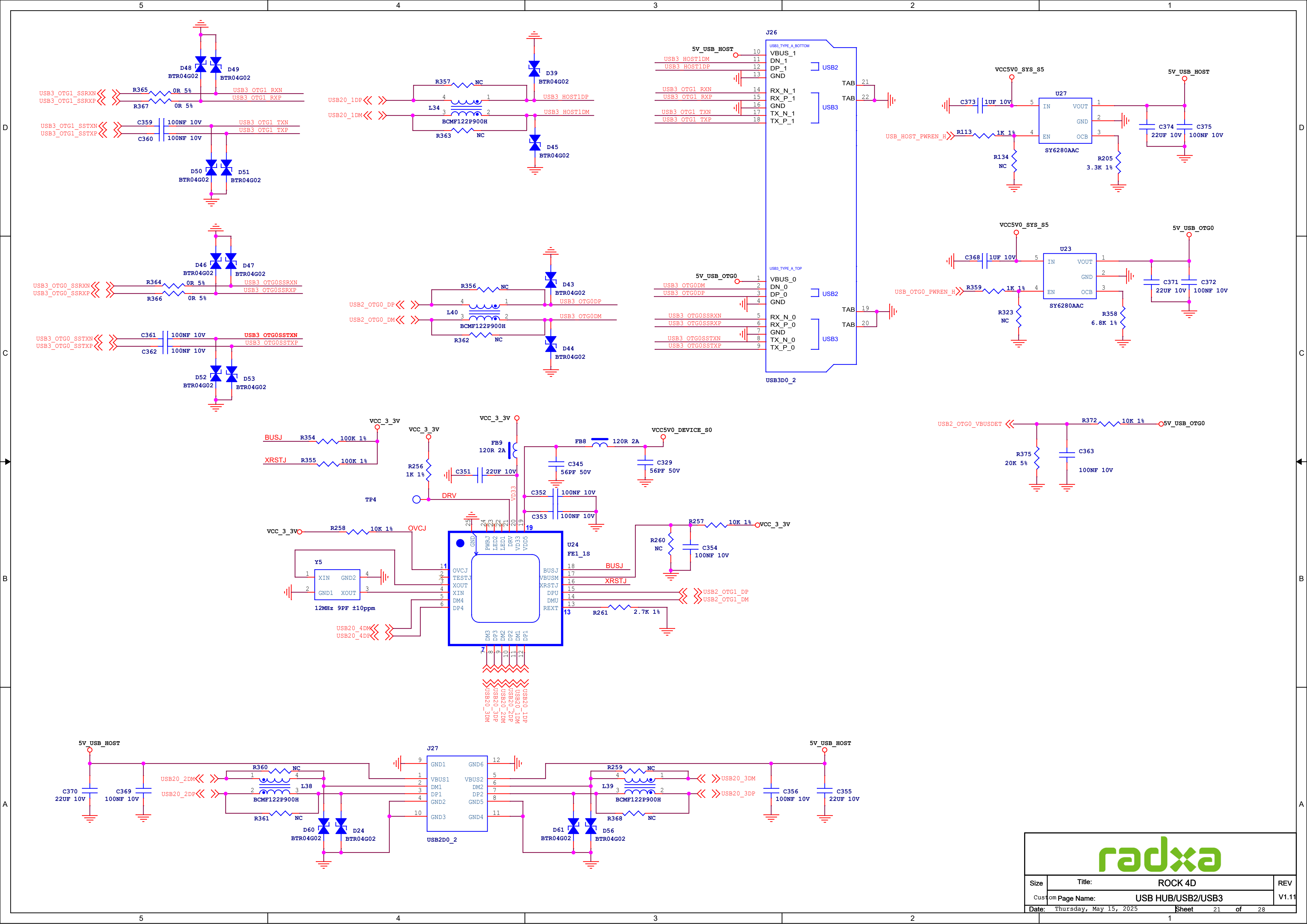
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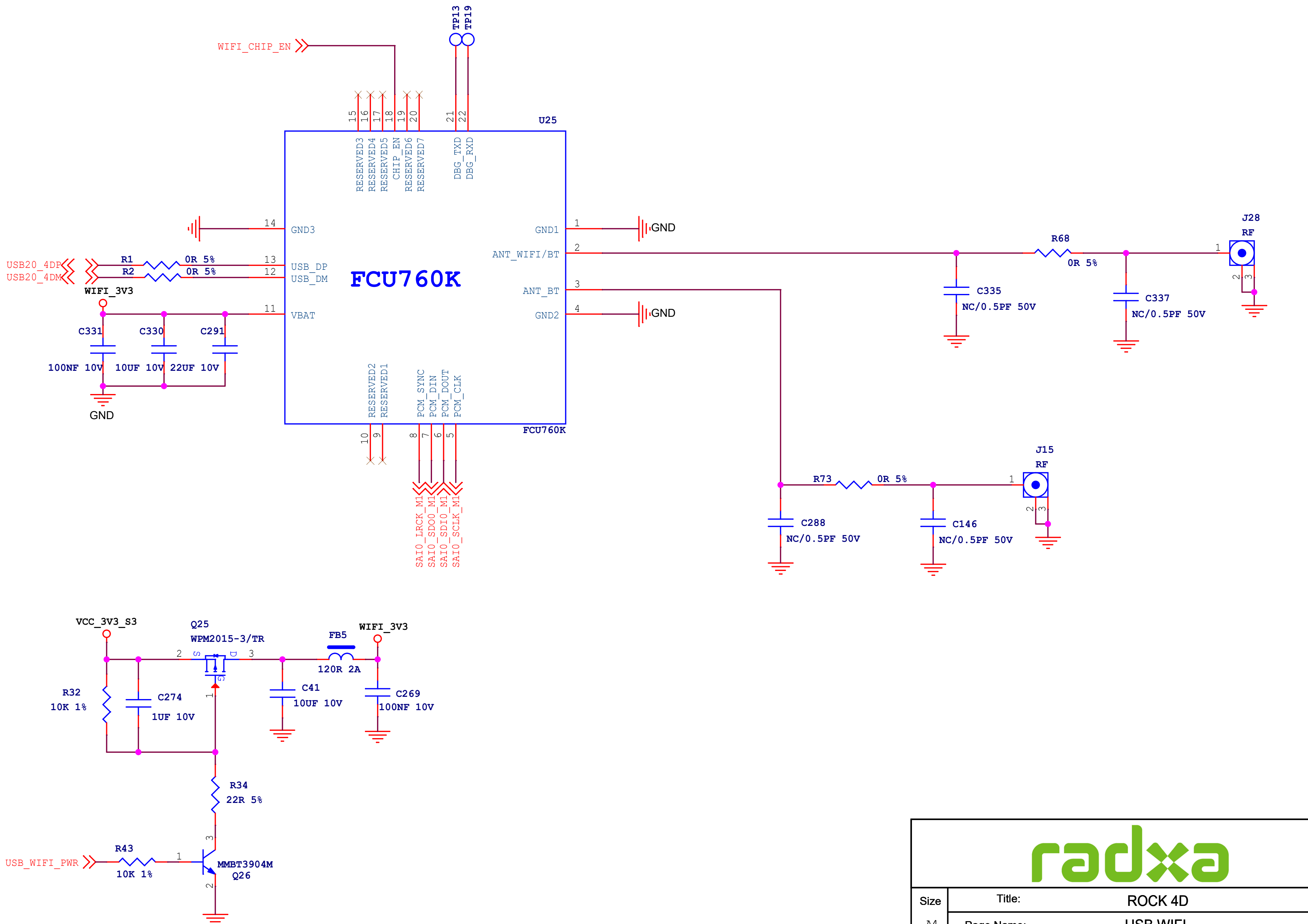
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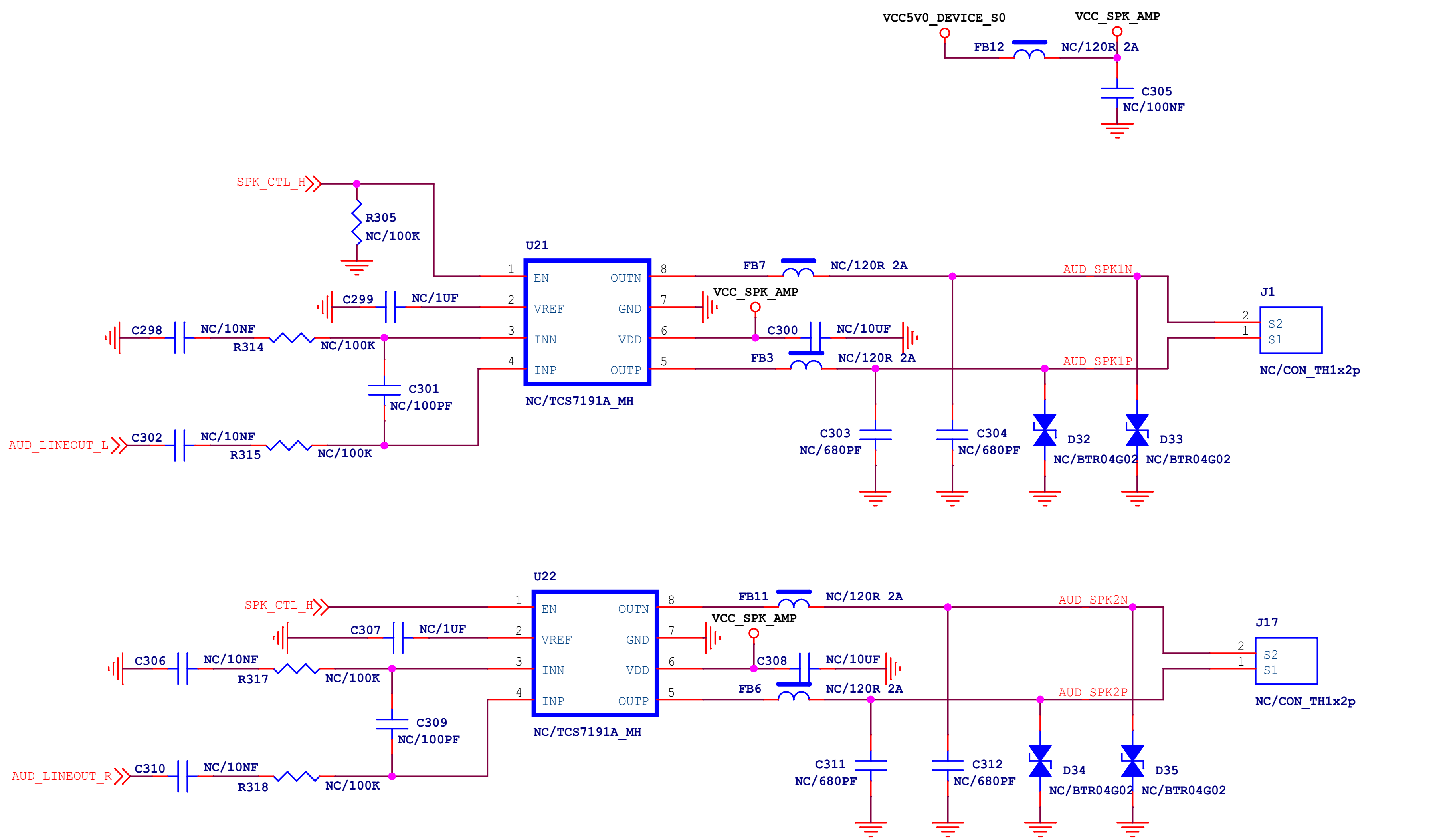


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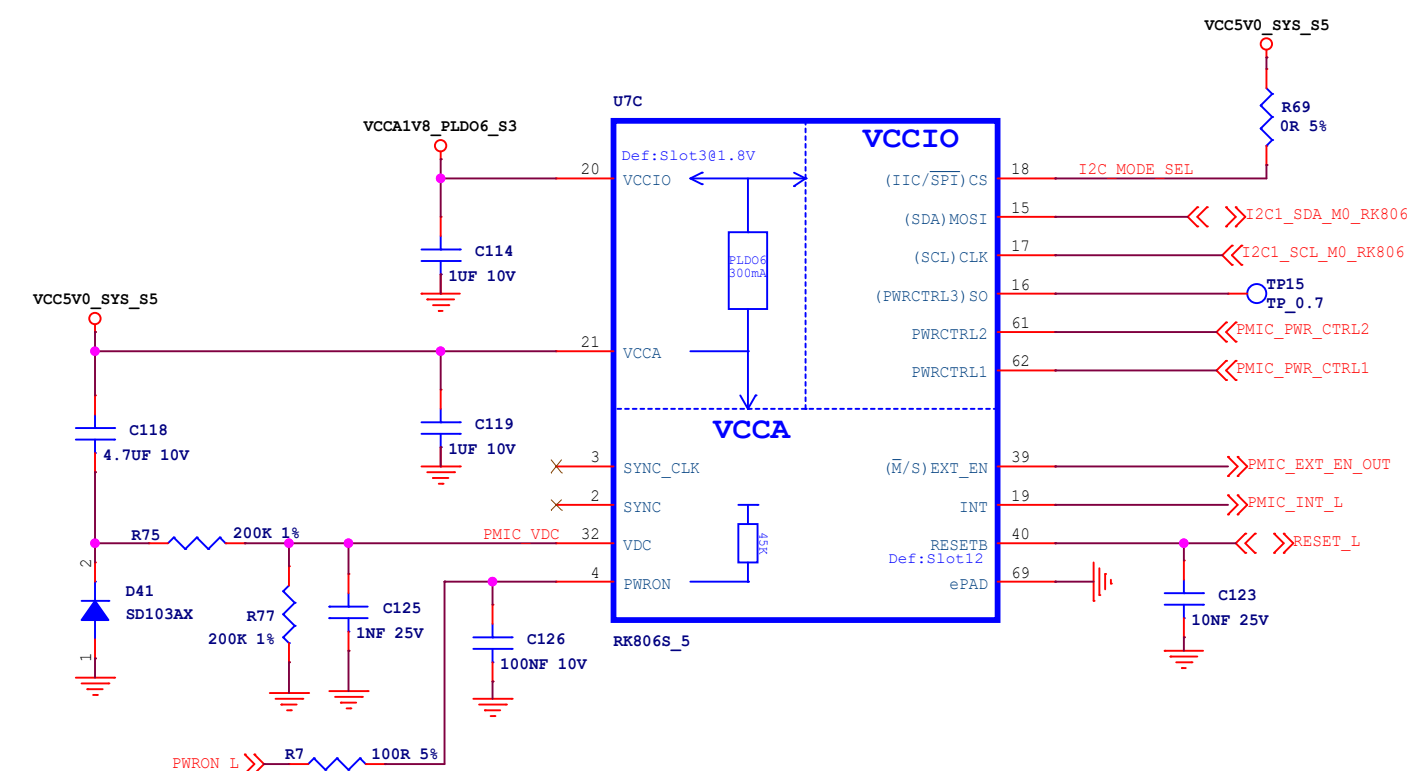
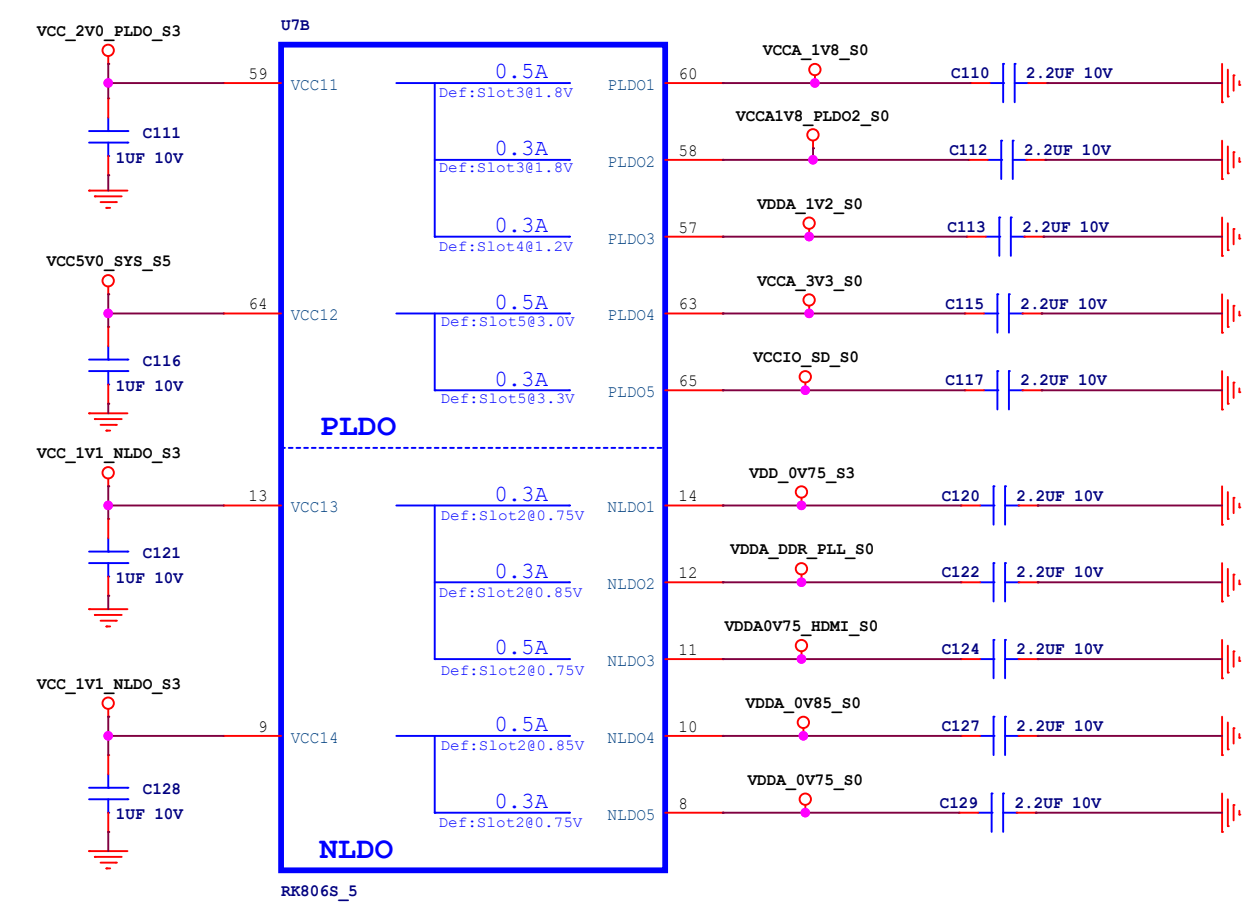
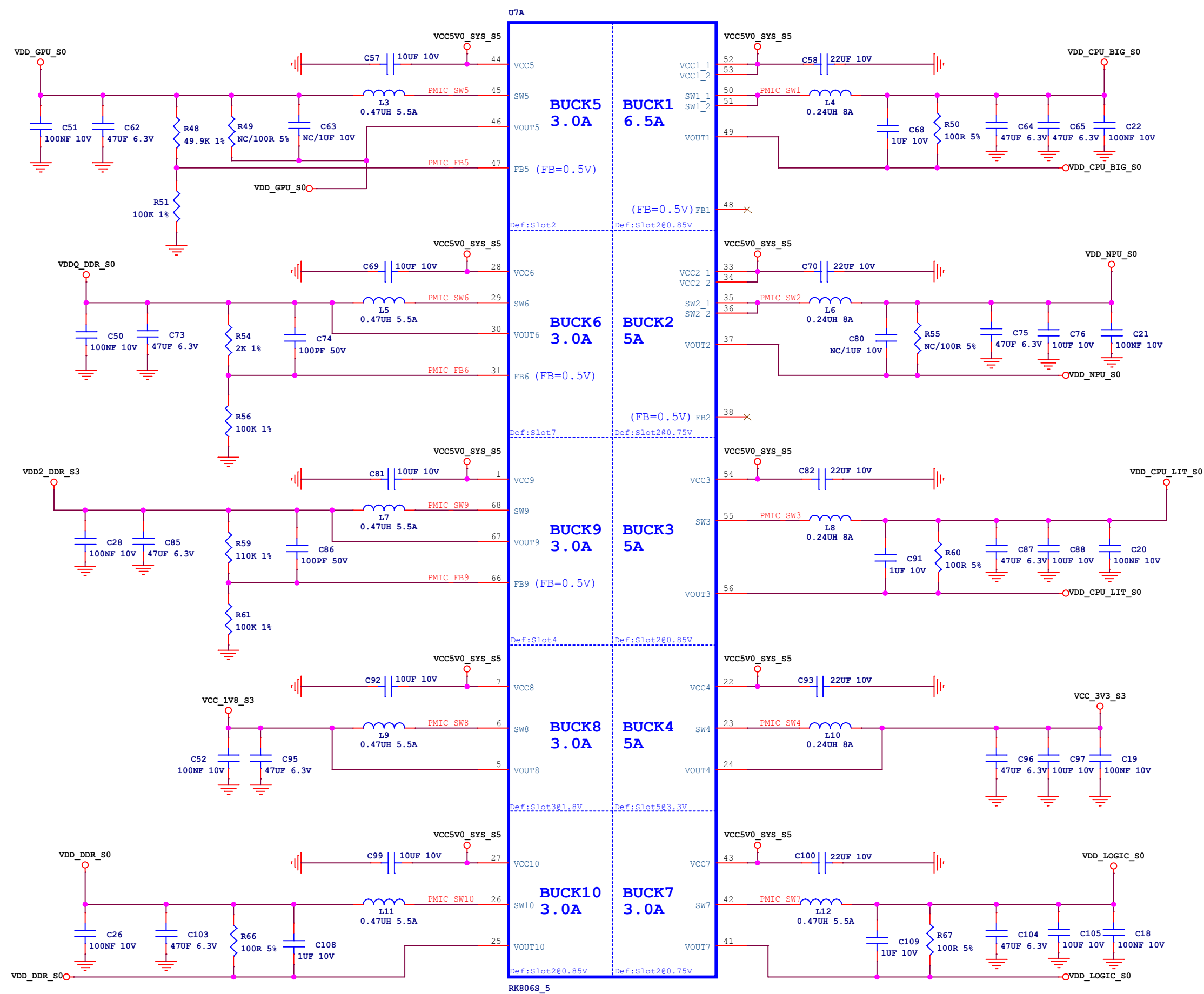


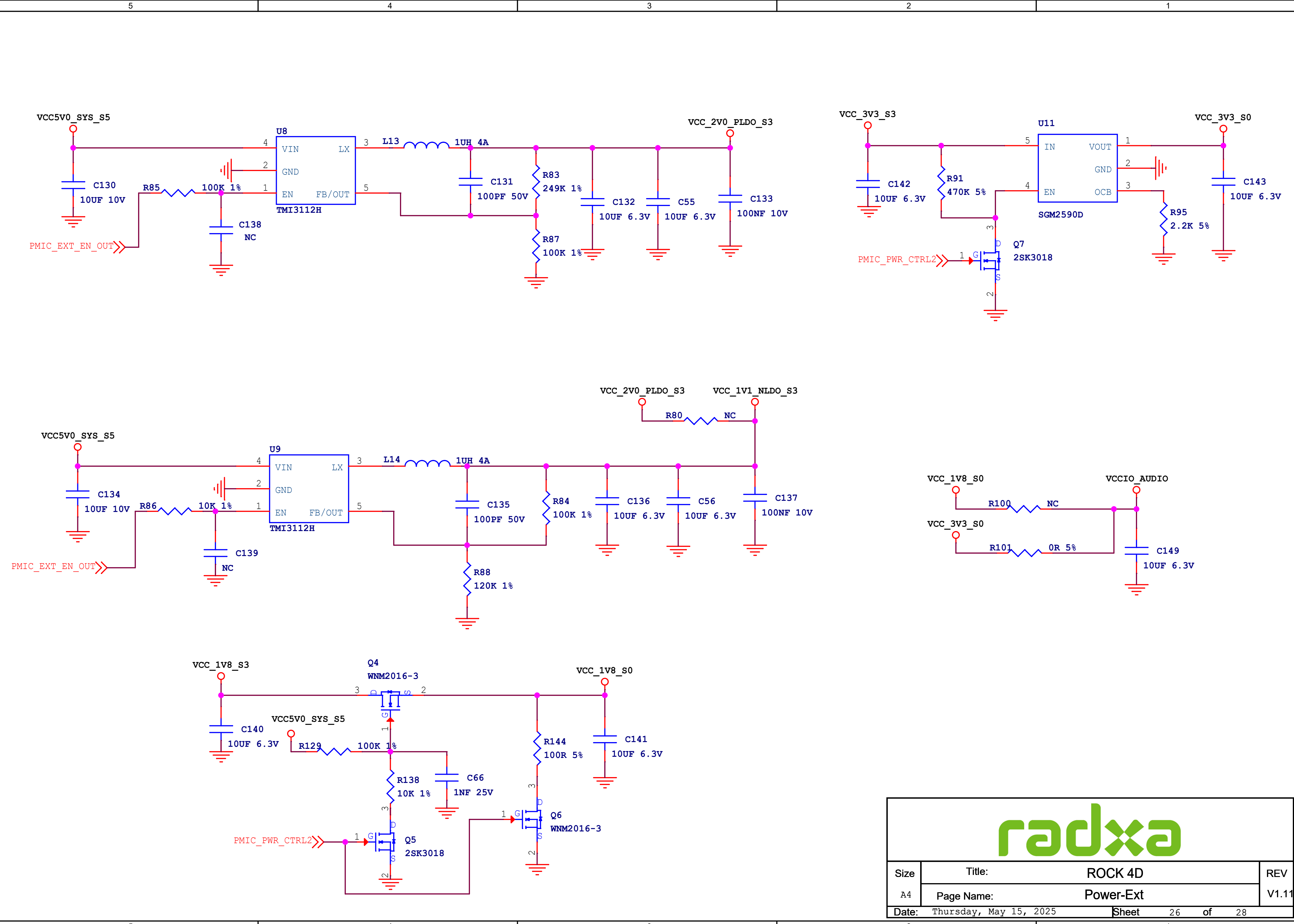
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Date: Thursday, May 15, 2025	Sheet 26 of 28	

