

K1_SOM1_P1_LP4X200B32X1_RVB4

Revision	Date	Change Description
V0.1	20250305	Initial version

Spacemit Technology Co., Ltd

Design Name
RV4B_V0.1

Size
B

Page Name
REVISION_HISTORY

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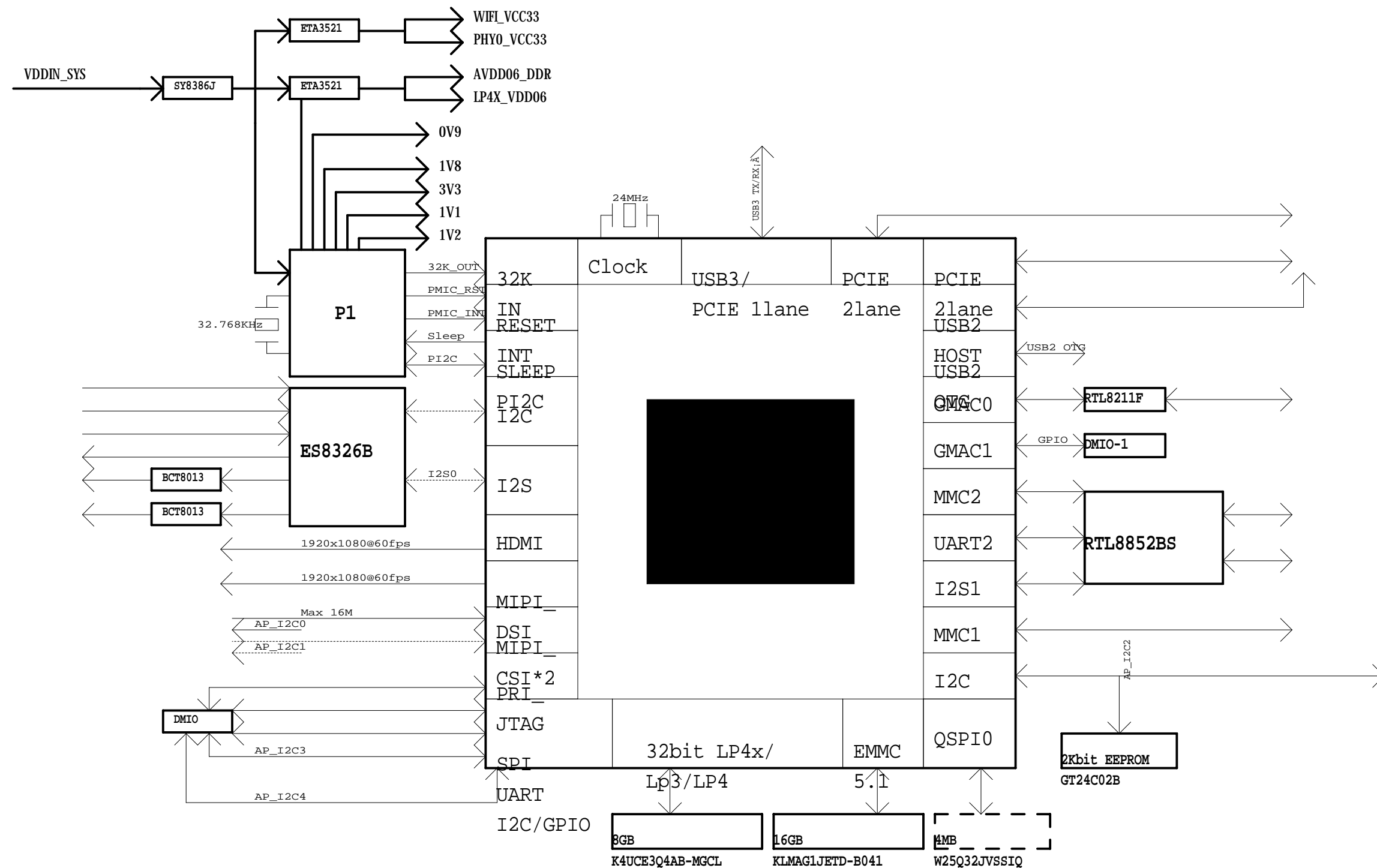
Spacemit Technology Co., Ltd

Design Name
RV4B_V0.1

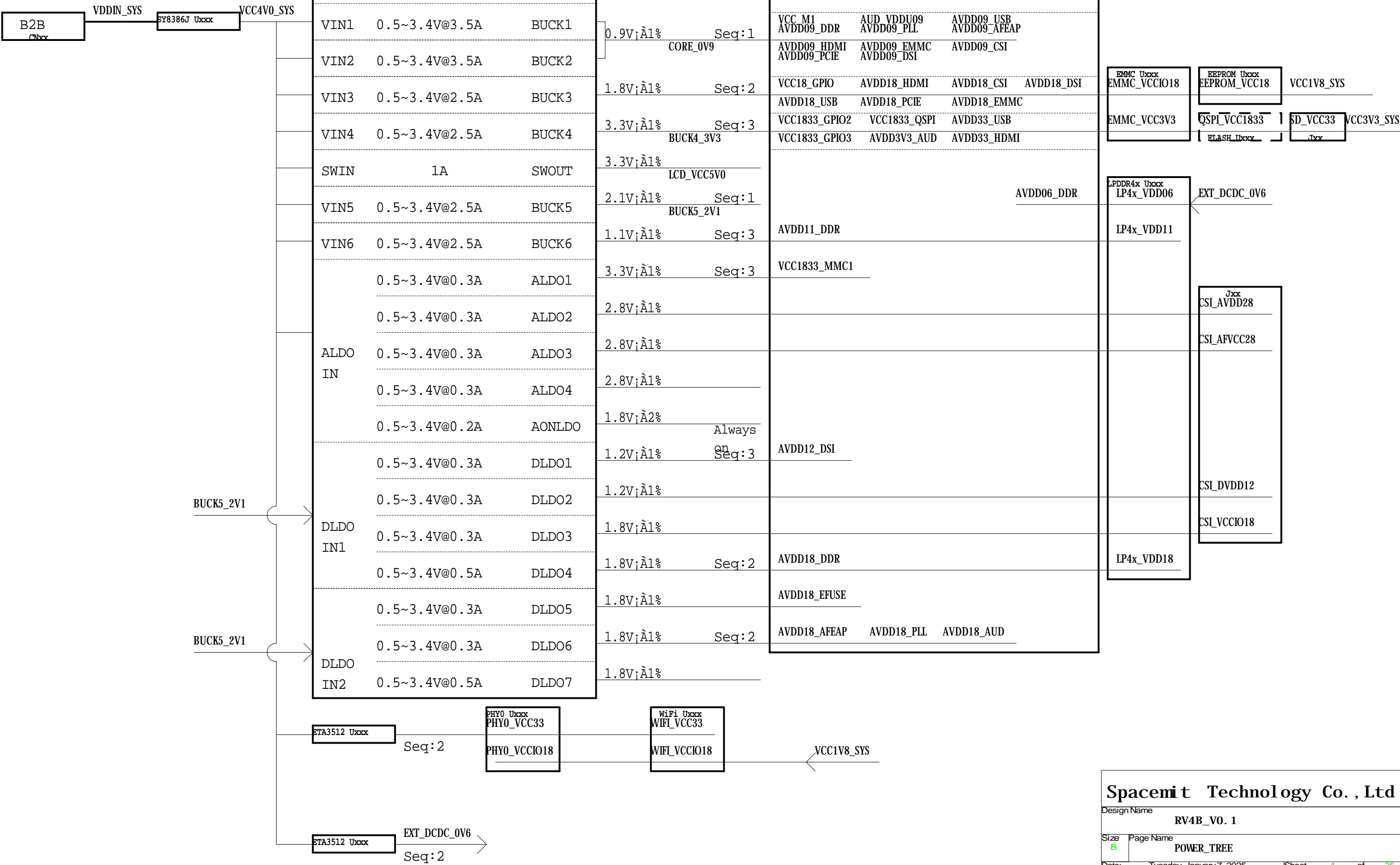
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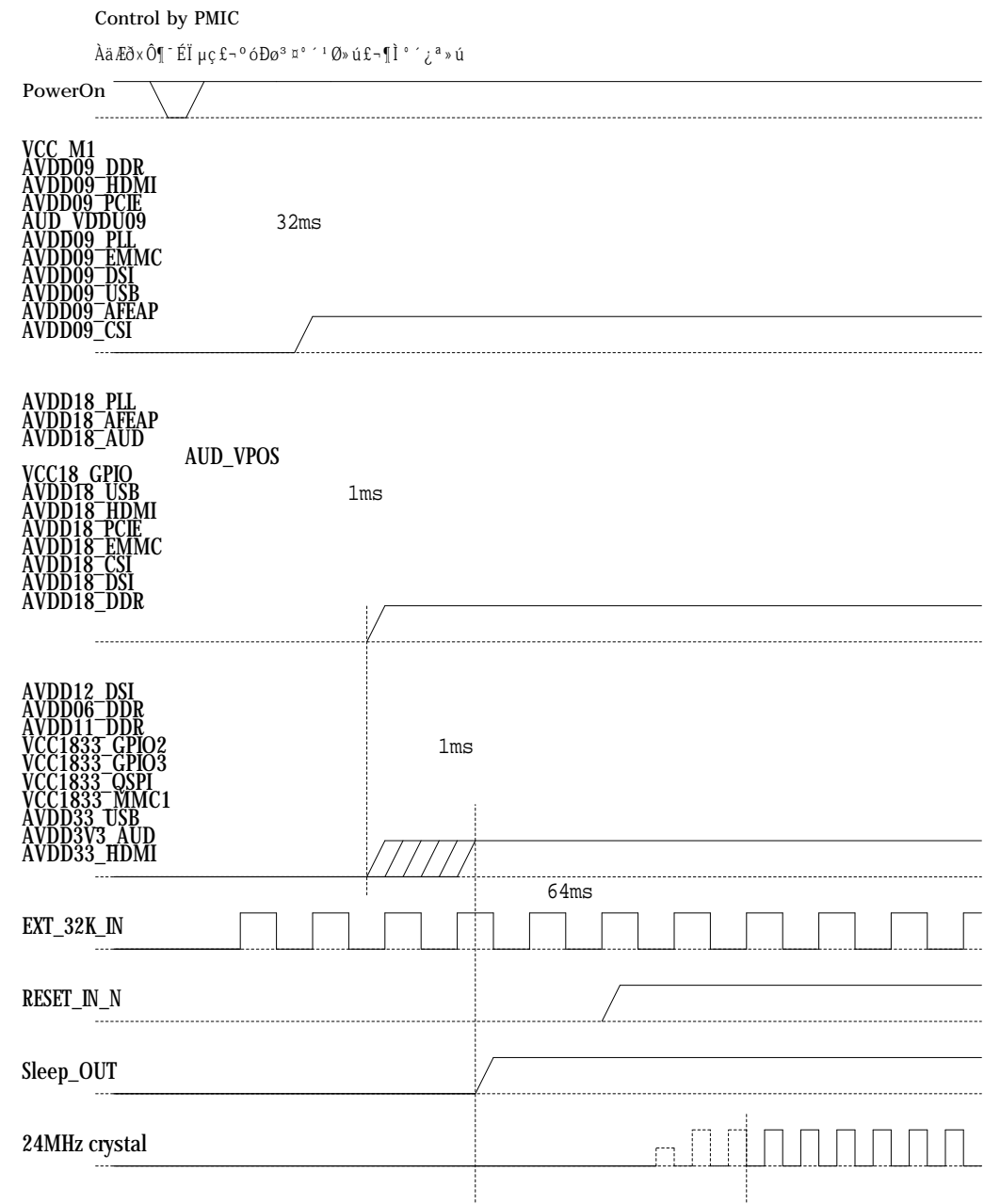
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POWER TREE



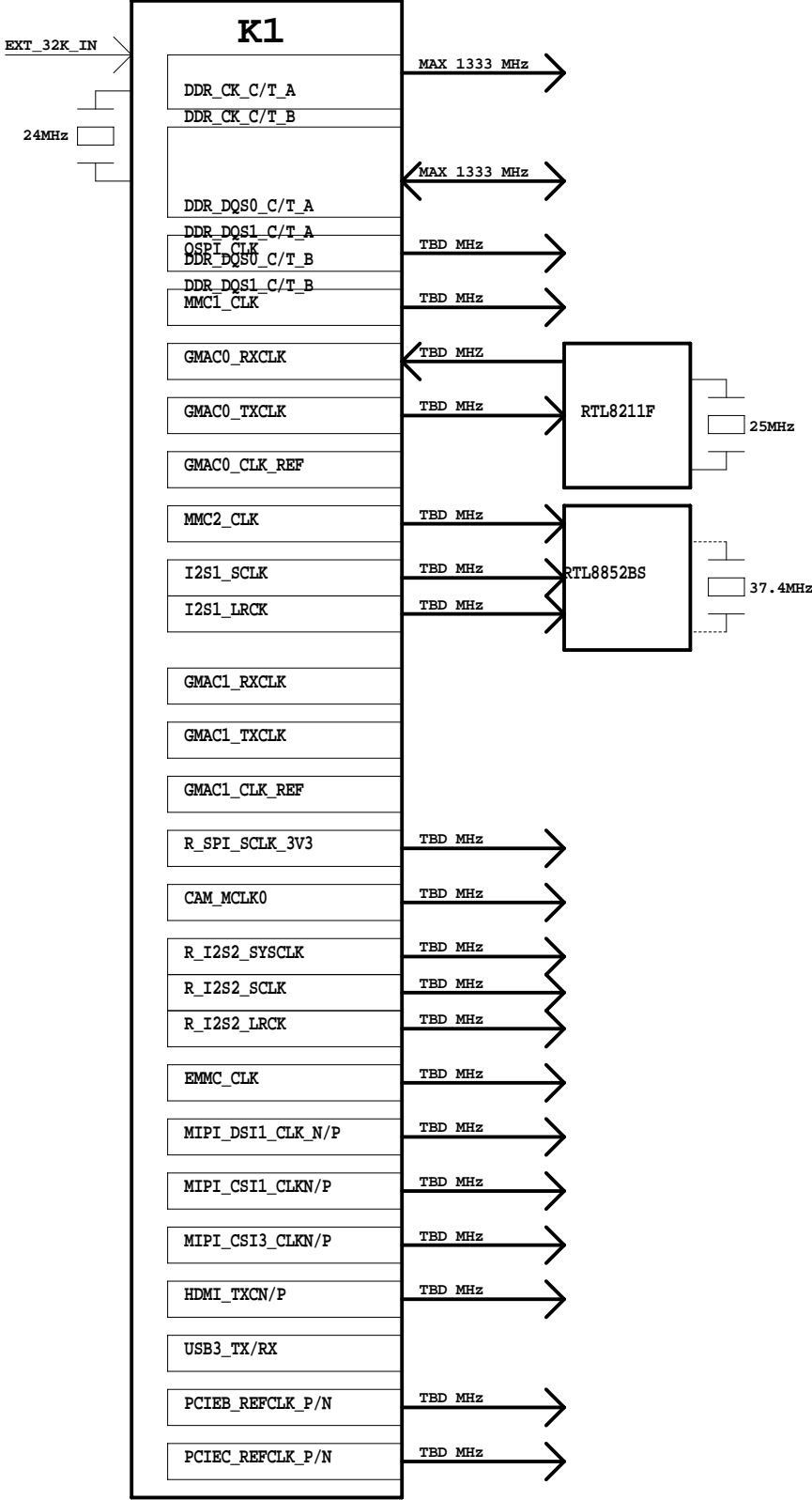
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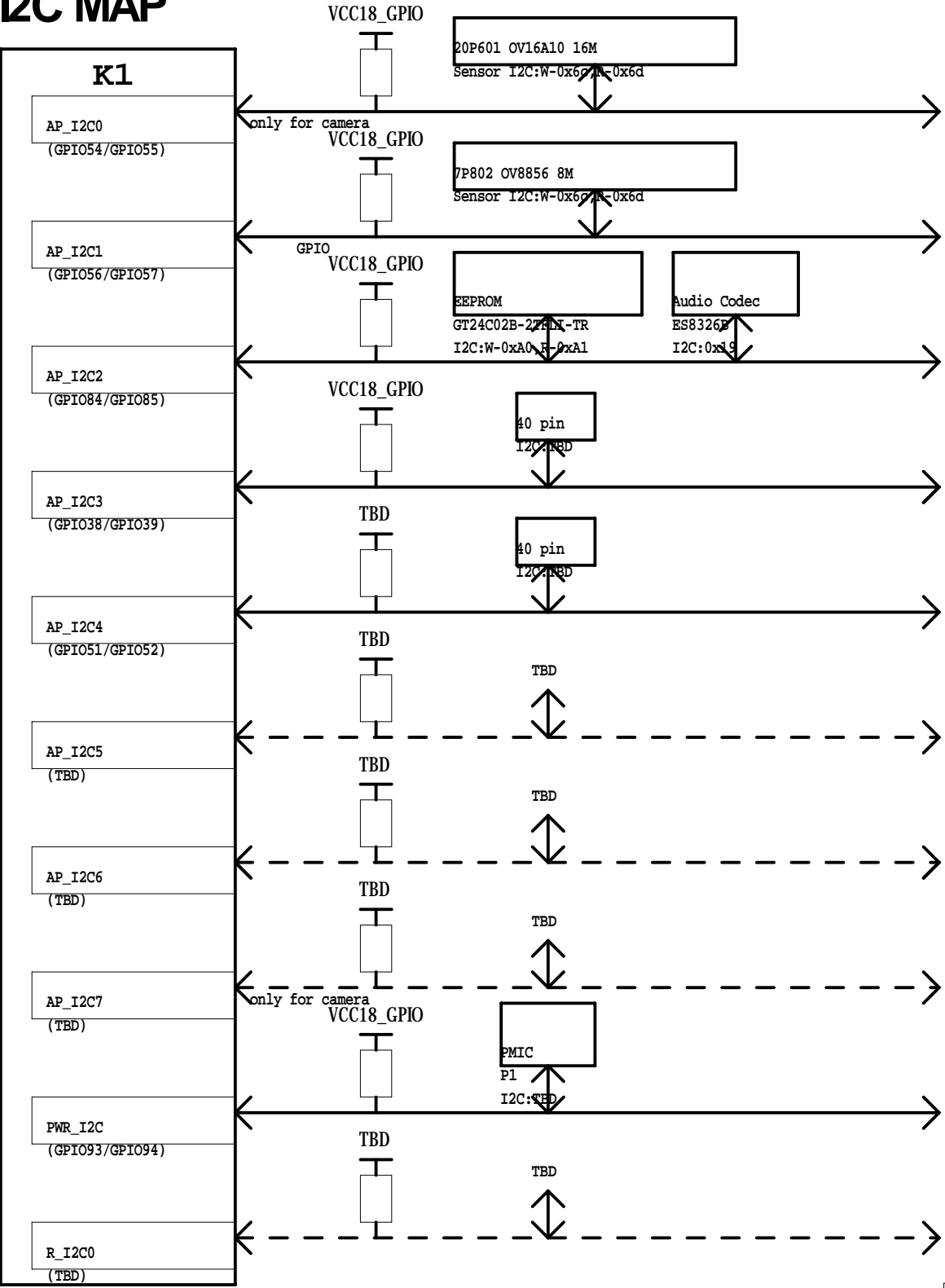
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Design Name			
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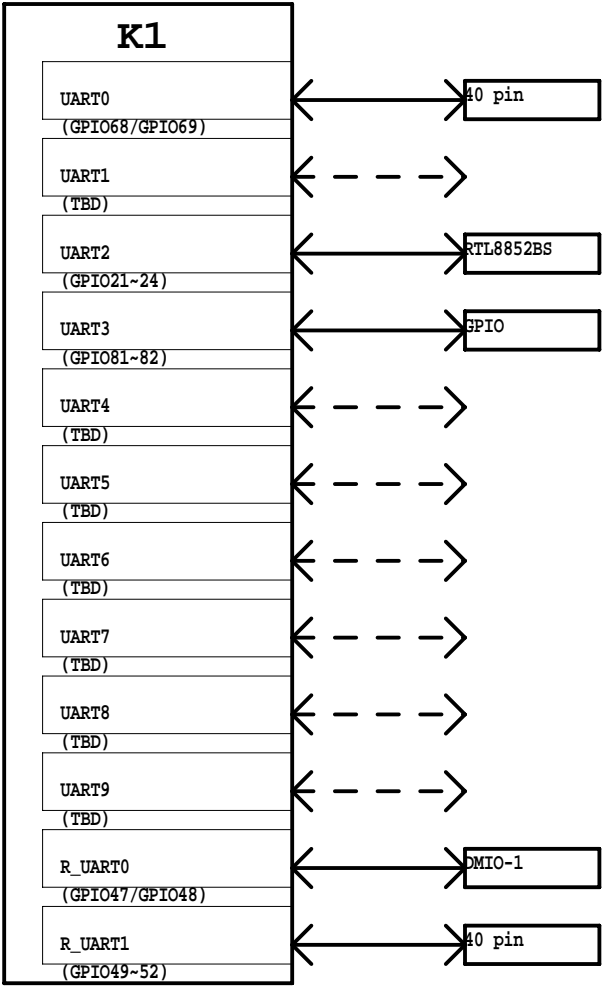
CLOCK MAP



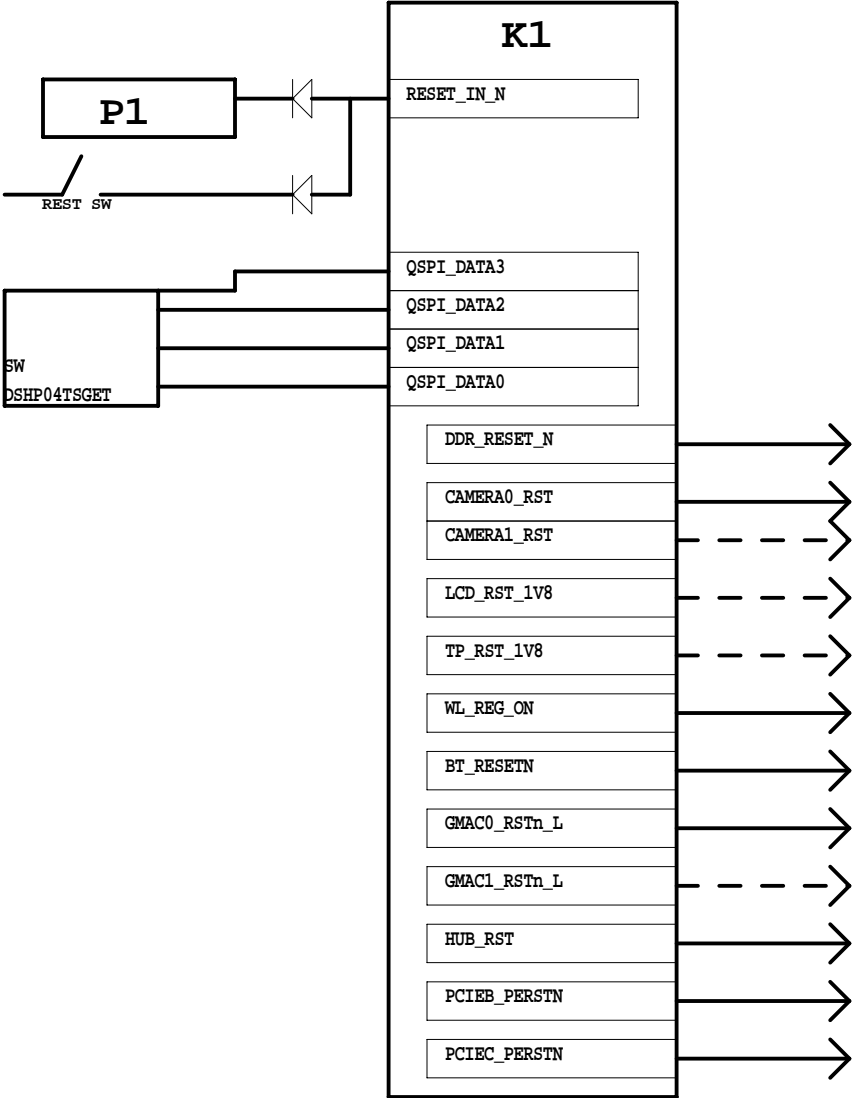
I2C MAP



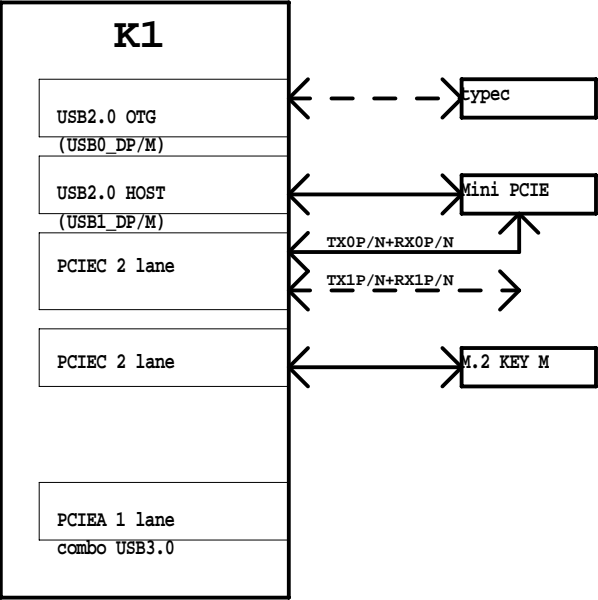
UART MAP



SW&RESET MAP



PCIE/USB MAP



Spacemitt Technology Co., Ltd

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RV4B_V0. 1

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UART_MAP/OTHER_MAP

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GPIO ASSIGNMENT

PIN	Define	CFG	Function
GPIO0	GMAC0_RXDV	1	Ethernet -GMAC0
GPIO1	GMAC0_RXD0	1	
GPIO2	GMAC0_RXD1	1	
GPIO3	GMAC0_RXCLK	1	
GPIO4	GMAC0_RXD2	1	
GPIO5	GMAC0_RXD3	1	
GPIO6	GMAC0_TXD0	1	
GPIO7	GMAC0_TXD1	1	
GPIO8	GMAC0_TXCLK	1	
GPIO9	GMAC0_TXD2	1	
GPIO10	GMAC0_TXD3	1	
GPIO11	GMAC0_TXEN	1	
GPIO12	GMAC0_MDC	1	
GPIO13	GMAC0_MDIO	1	WiFi/BT
GPIO14	GMAC0_INT_N	1	
GPIO15	MMC2_DATA3	1	
GPIO16	MMC2_DATA2	1	
GPIO17	MMC2_DATA1	1	
GPIO18	MMC2_DATA0	1	
GPIO19	MMC2_CMD	1	
GPIO20	MMC2_CLK	1	
GPIO21	UART2_TXD	1	
GPIO22	UART2_RXD	1	
GPIO23	UART2_CTS_N	1	
GPIO24	UART2_RTS_N	1	40 pin
GPIO25	I2S1_SCLK	1	
GPIO26	I2S1_LRCK	1	
GPIO27	I2S1_TXD	1	
GPIO28	I2S1_RXD	1	
GPIO29	GPIO_29	0	
GPIO30	GPIO_30	0	
GPIO31	GPIO_31	0	
GPIO32	GPIO_32	0	
GPIO33	GPIO_33	0	TF Card
GPIO34	GPIO_34	0	
GPIO35	GPIO_35	0	40 pin
GPIO36	GPIO_36	0	
GPIO37	GPIO_37	0	TF Card
GPIO38	AP_I2C3_SCL	2	
GPIO39	AP_I2C3_SDA	2	TF Card
GPIO40	GPIO_40	0	
GPIO41	GPIO_41	0	GPIO
GPIO42	GPIO_42	0	
GPIO43	GPIO_43	0	
GPIO44	LCD_BL_PWM_1V8	0	
GPIO45	GPIO_45	0	
GPIO46	GPIO_46	0	40 pin

PIN	Define	CFG	Function
GPIO110	GMAC0_RSTn_L	0	GMAC0
GPIO115	GPIO_115	0	GPIO
GPIO116	WL_DIS_N	0	WiFi/BT
GPIO117	PCIEC_CLKREQN	0	GPIO
GPIO118	I2S0_SCLK	0	
GPIO119	I2S0_LRCK	0	
GPIO120	I2S0_OUT	0	
GPIO121	I2S0_IN	0	
GPIO122	I2S0_SYSCLK	0	USB2_HUB
GPIO123	USB0_OTG_ID	0	
GPIO124	HUB_RST	0	USB2
GPIO125	VBUS_ON0	1	
GPIO126	GPIO_126	0	GPIO
GPIO127	GPIO_127	0	

PIN	Define	CFG	Function
GPIO53	CAM_MCLK0	0	GPIO
GPIO54	CAM_I2C0_SCL	1	CAMERA0
GPIO55	CAM_I2C0_SDA	1	
GPIO56	CAM_I2C1_SCL	0	GPIO
GPIO57	CAM_I2C1_SDA	0	
GPIO58	CAM_MCLK1	0	
GPIO111	CAMERA0_RST	1	CAMERA0
GPIO112	CAMERA1_RST	0	GPIO
GPIO113	CAMERA0_PDN	0	
GPIO114	CAMERA1_PDN	0	
GPIO63	BT_RESETN	0	WiFi/BT
GPIO64	AP_WAKE_BT	0	
GPIO65	BT_WAKE_AP	0	
GPIO66	WL_WAKE_AP	0	
GPIO67	WL_REG_ON	0	40 pin
GPIO68	UART0_TXD	2	
GPIO69	UART0_RXD	2	

PIN	Define	CFG	Function
GPIO59	PCIEB_PERSTN	4	PCIEB
GPIO60	PCIEB_WAKEN	4	
GPIO61	PCIEB_CLKREQN	4	
GPIO62	PCIEC_PERSTN	0	GPIO
GPIO70	GPIO70	1	40 pin
GPIO71	GPIO71	1	
GPIO72	GPIO72	1	
GPIO73	GPIO73	1	
GPIO74	GPIO74	0	JTAG SEL

PIN	Define	CFG	Function
GPIO93	PI2C_SCL	1	GPIO
GPIO94	PI2C_SDA	1	
GPIO95	SLEEP_OUT	0	PMIC
GPIO96	GPIO_96	1	PWR_LED
GPIO97	GPIO_97	1	Activity_LED
GPIO81	UART3_TXD	0	GPIO
GPIO82	UART3_RXD	0	
GPIO83	LCD_PWR_EN_1V8	0	40 pin
GPIO84	AP_I2C2_SCL	4	EEPROM
GPIO85	AP_I2C2_SDA	4	
GPIO86	HDMI_SCL	1	HDMI_OUT
GPIO87	HDMI_SDA	1	
GPIO88	HDMI_CEC	1	
GPIO89	HDMI_HPD	1	Boot vol sel
GPIO90	GPIO90	0	
GPIO91	GPIO91	0	
GPIO92	GPIO92	0	40 pin

PIN	Define	CFG	Function
GPIO98	QSPI_DATA3	0	SPI FLASH
GPIO99	QSPI_DATA2	0	
GPIO100	QSPI_DATA1	0	
GPIO101	QSPI_DATA0	0	
GPIO102	QSPI_CLK	0	
GPIO103	QSPI_CS1	0	

PIN	Define	CFG	Function
GPIO104	MMC1_DATA3	0	TF CARD
GPIO105	MMC1_DATA2	0	
GPIO106	MMC1_DATA1	0	
GPIO107	MMC1_DATA0	0	
GPIO108	MMC1_CMD	0	
GPIO109	MMC1_CLK	0	

PIN	Define	CFG	Function
GPIO75	SPI3_SCLK	2	40 pin
GPIO76	SPI3_CS	2	
GPIO77	SPI3_MOSI	2	
GPIO78	SPI3_MISO	2	
GPIO79	FAN_PWM	0	GPIO
GPIO80	SD_CD_3V3	1	TF CARD

PIN	Define	CFG	Function
GPIO47	R_UART0_TXD	1	UART
GPIO48	R_UART0_RXD	1	
GPIO49	GPIO_49	0	40 pin
GPIO50	GPIO_50	0	
GPIO51	AP_I2C4_SCL	4	
GPIO52	AP_I2C4_SDA	4	

LPDDR4X

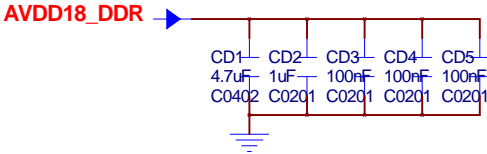
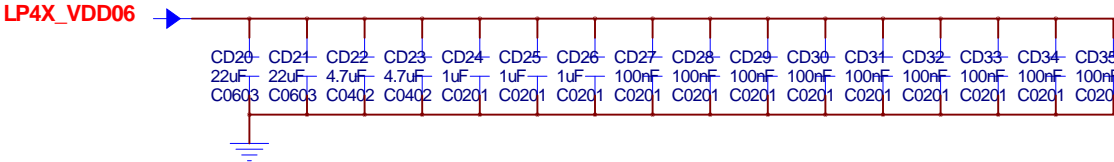
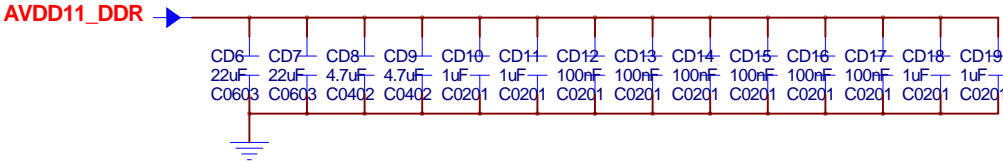
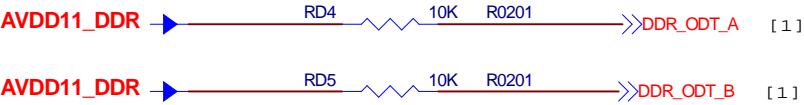
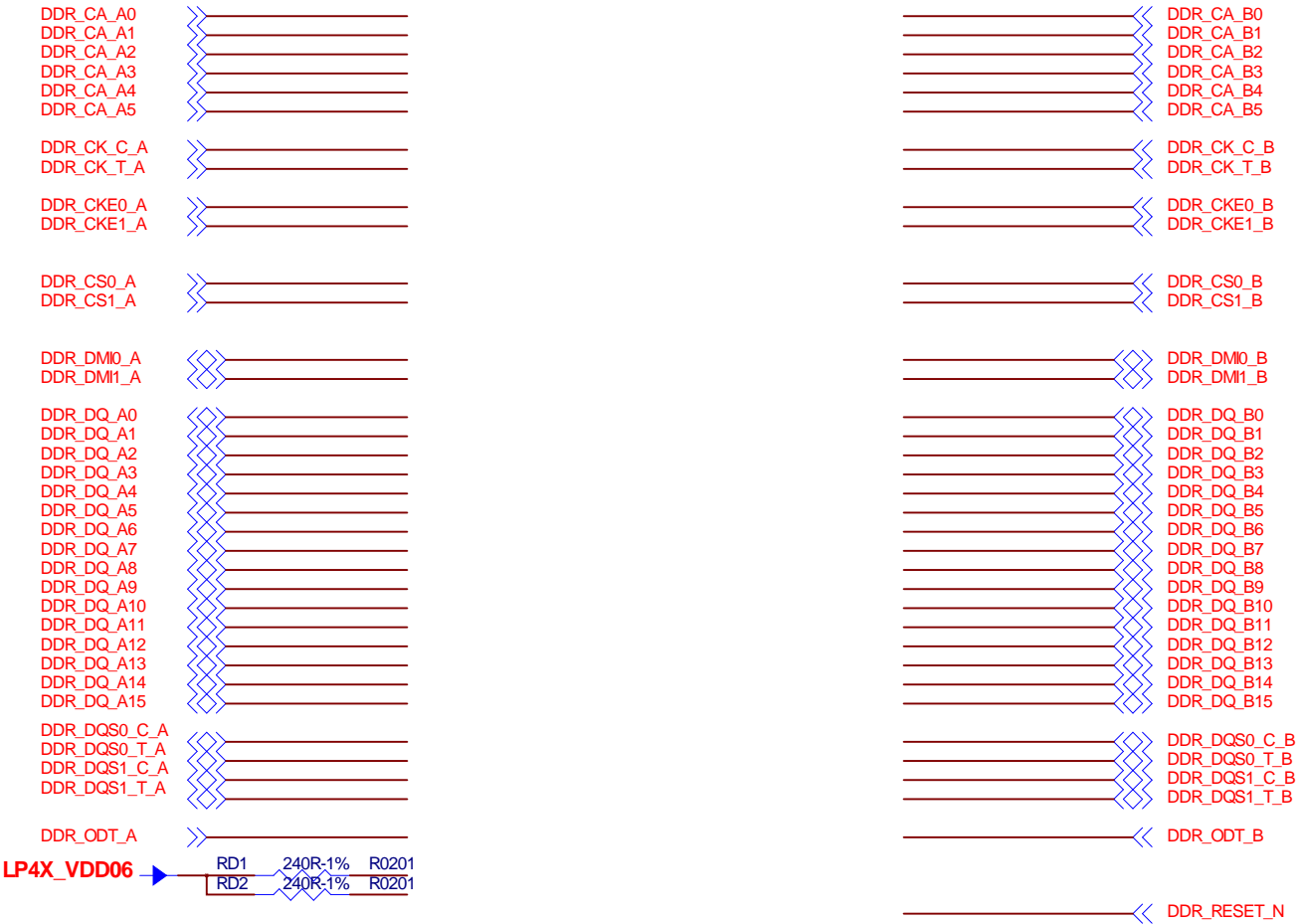
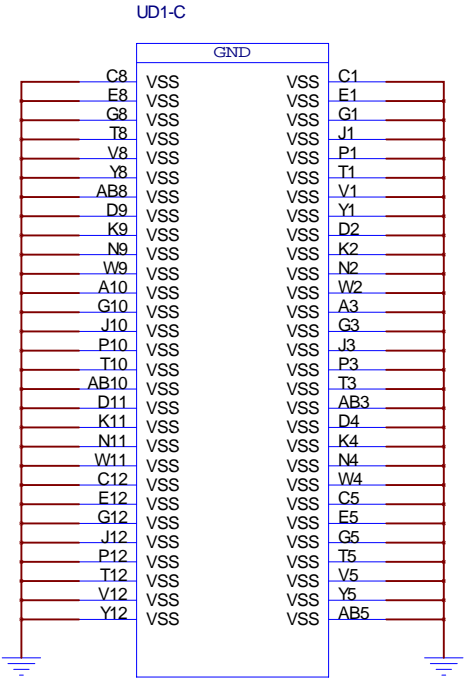
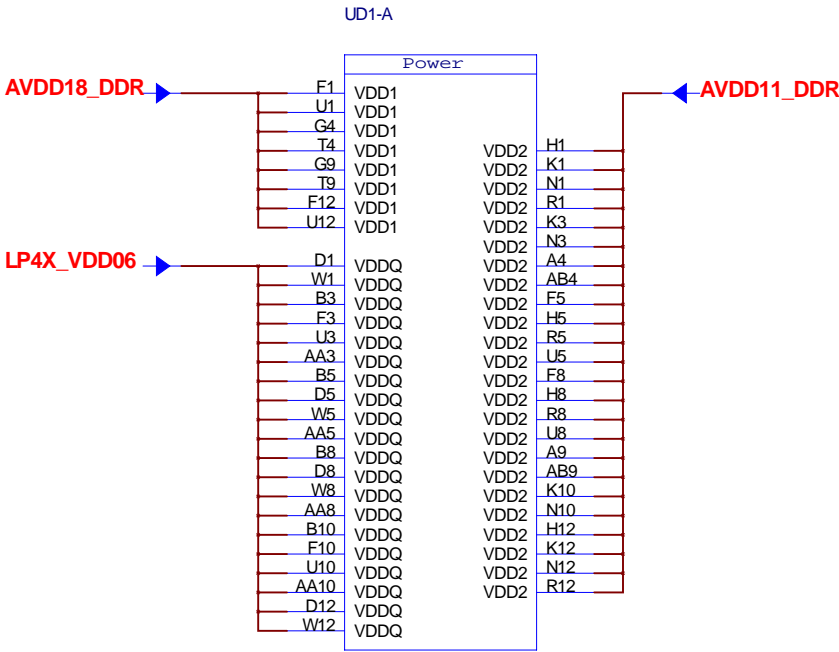
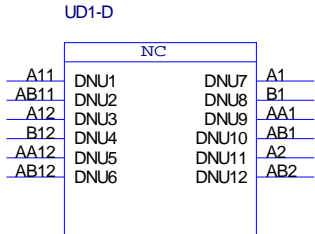
- 100R
- 90R
- 85R
- 50R

NOTE:CKE2/CS2/ZQ2 NC IN SUMSUNG

2»İ-CS-numF¬»áµ/ÔÂÊİ/p²»ÄÜ/æÊÝf»µ«²»İ-CS-numµÄDDRð²¿ÊÖÖİ"¹ýÊEPROMÉÖÂ/CSÄäÖÄÄİç/æÊÝ|f

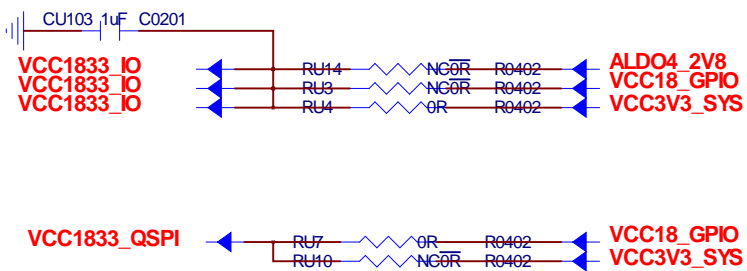
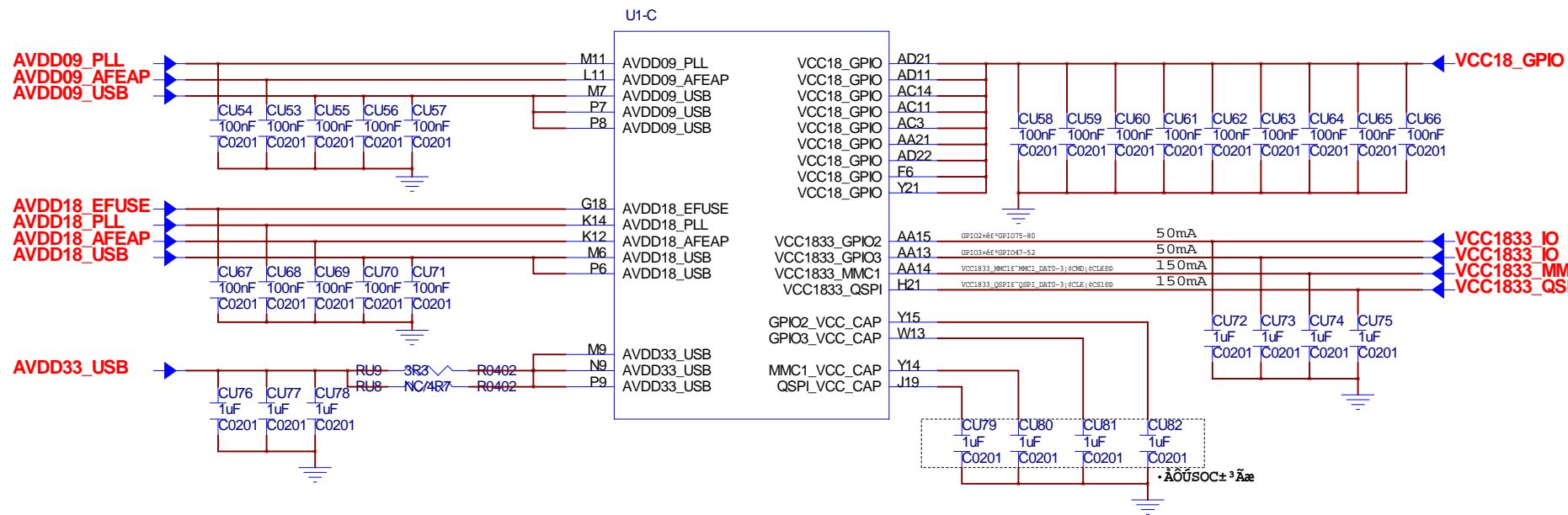
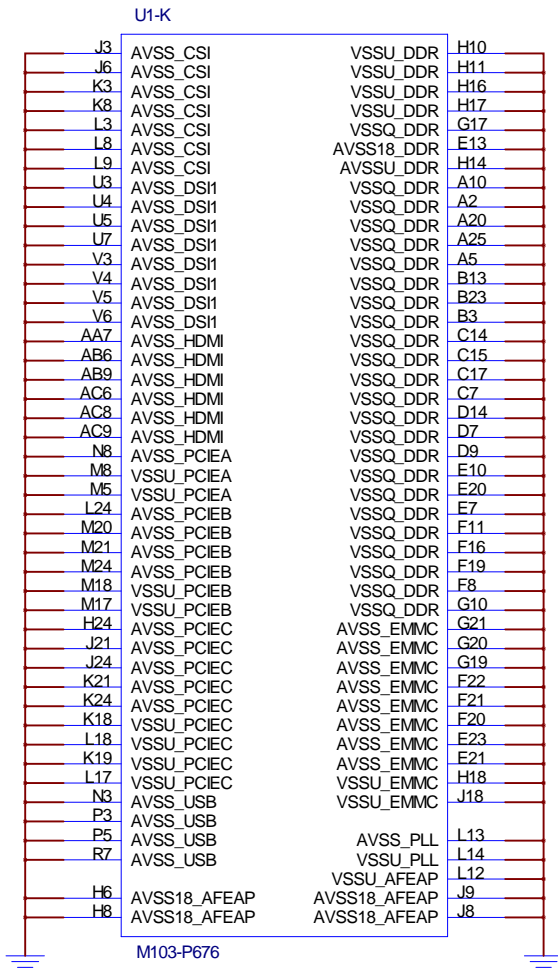
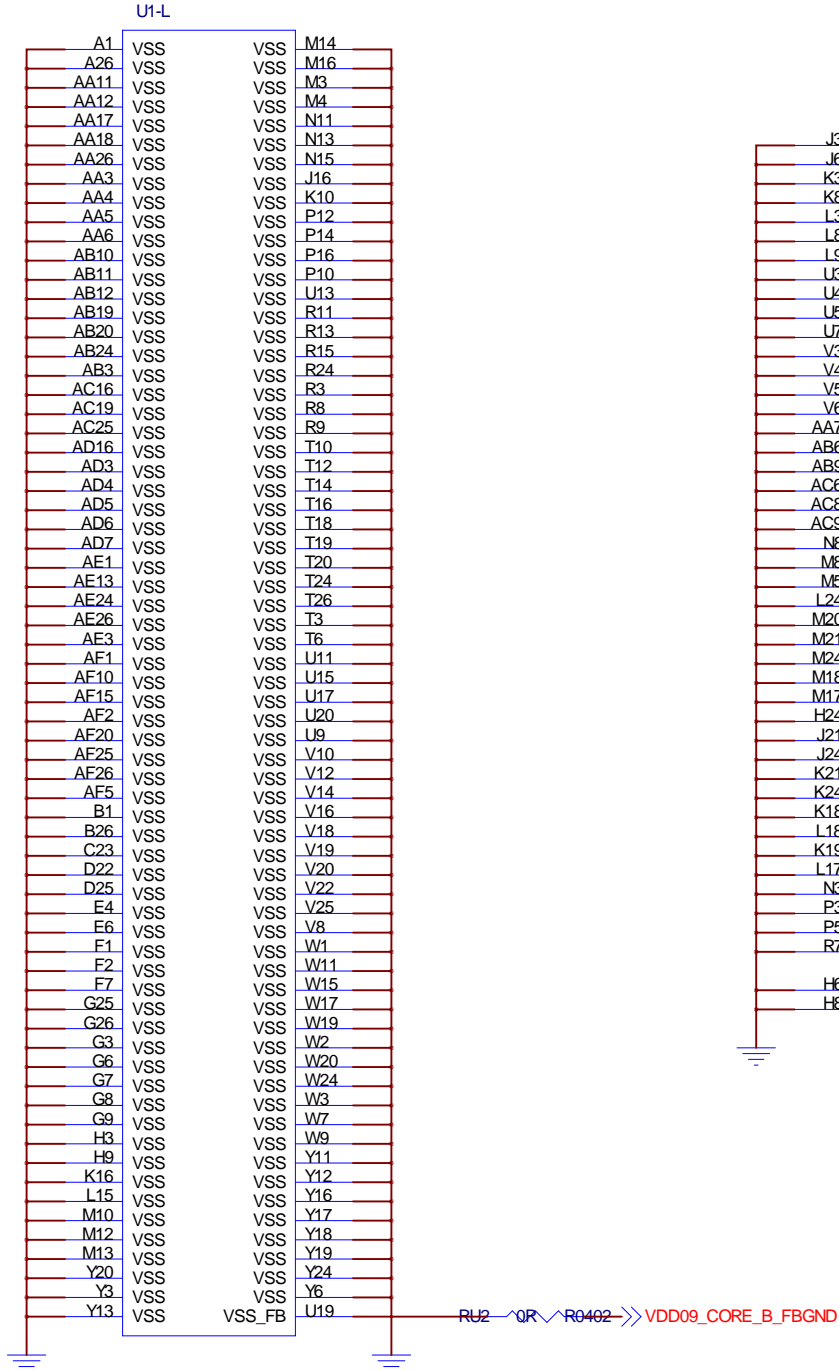
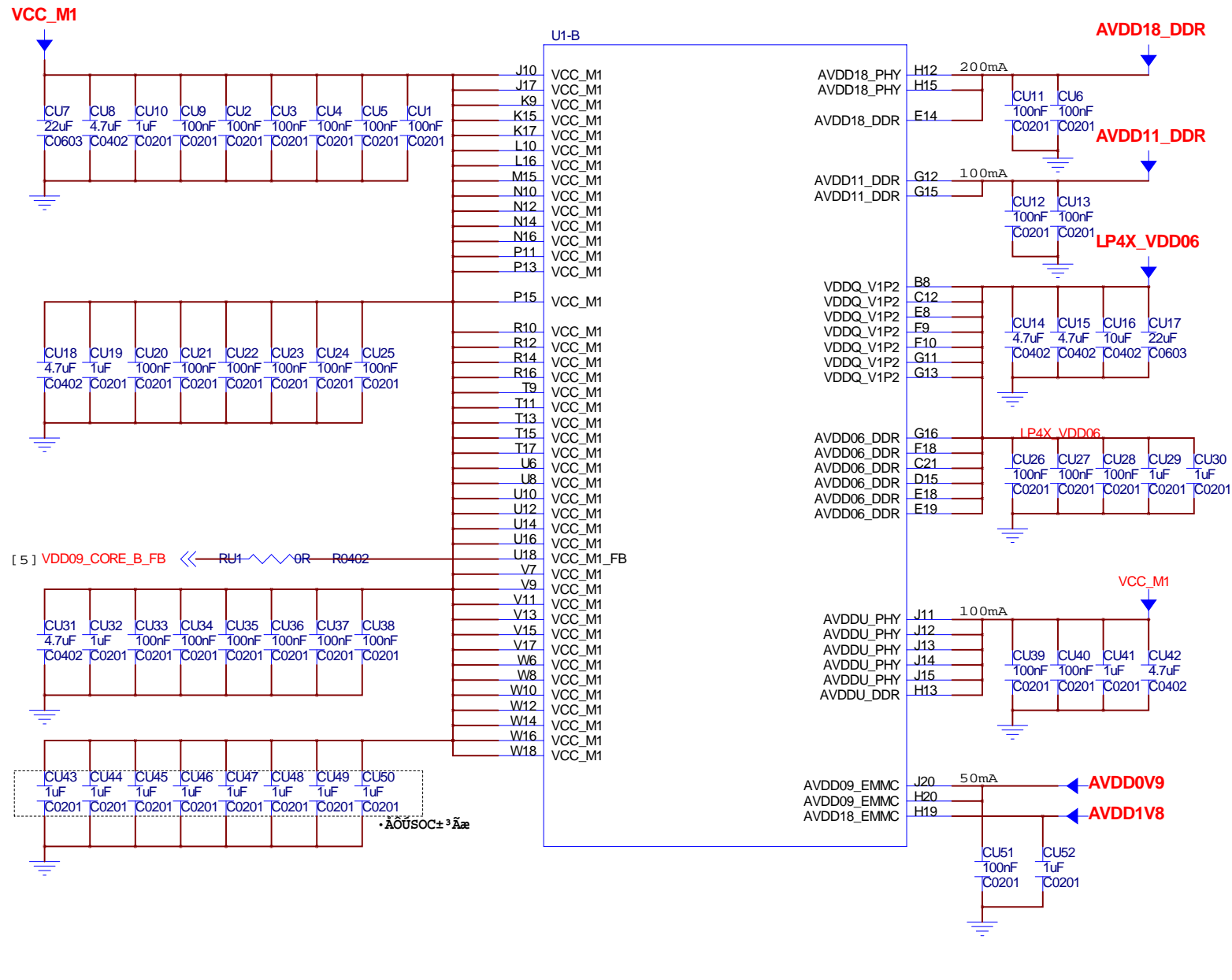
İàİ-CS-numµÄDDRÊç¿ÊÖÖ/æÊÝµÄ

CXDB7CCDM-MA-M



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CPU-PWR



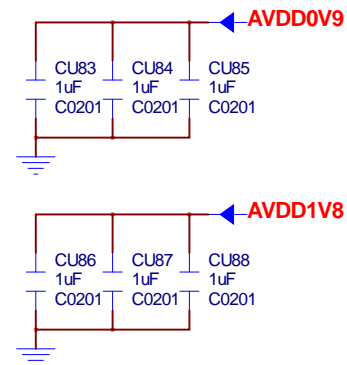
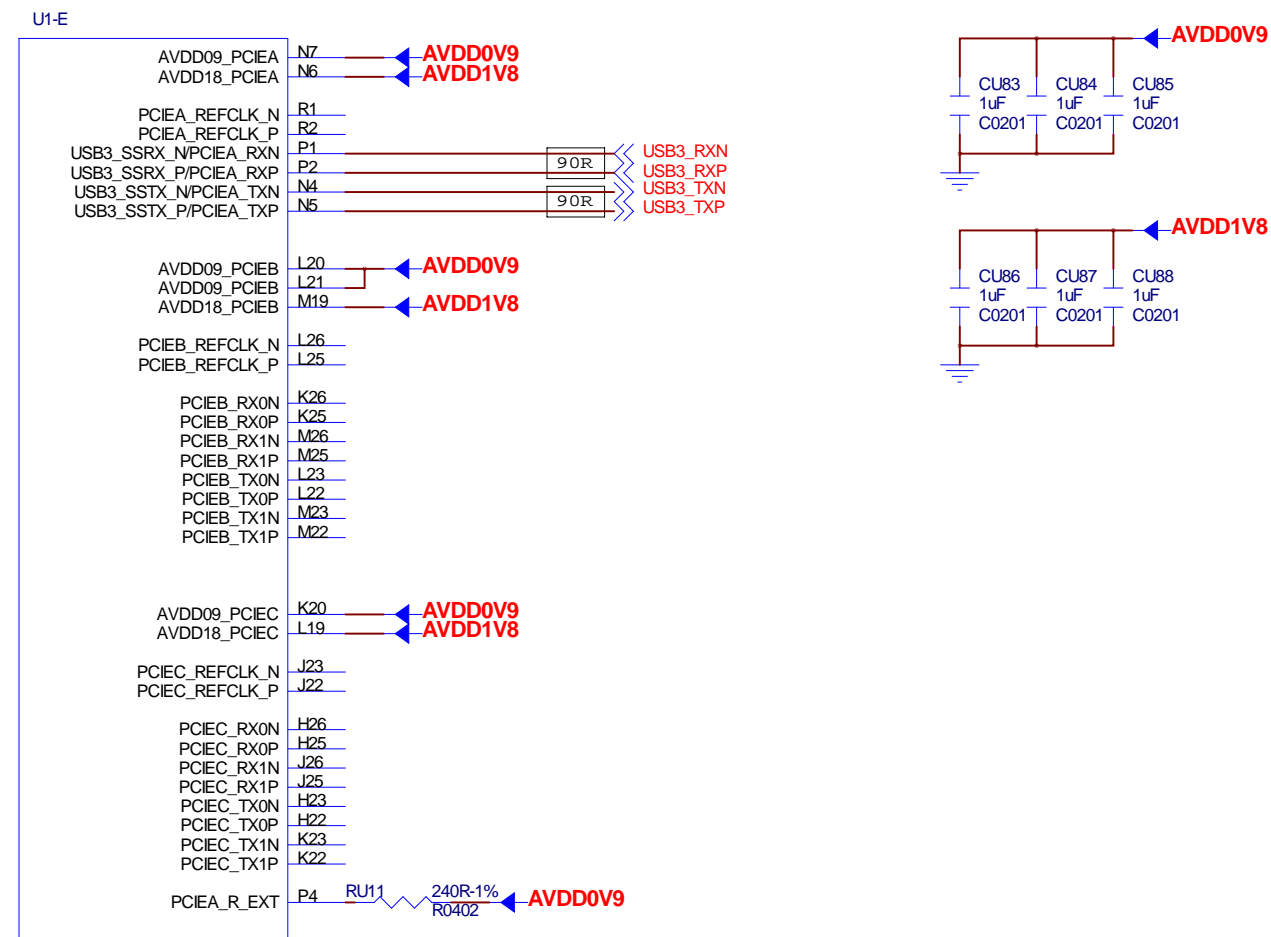
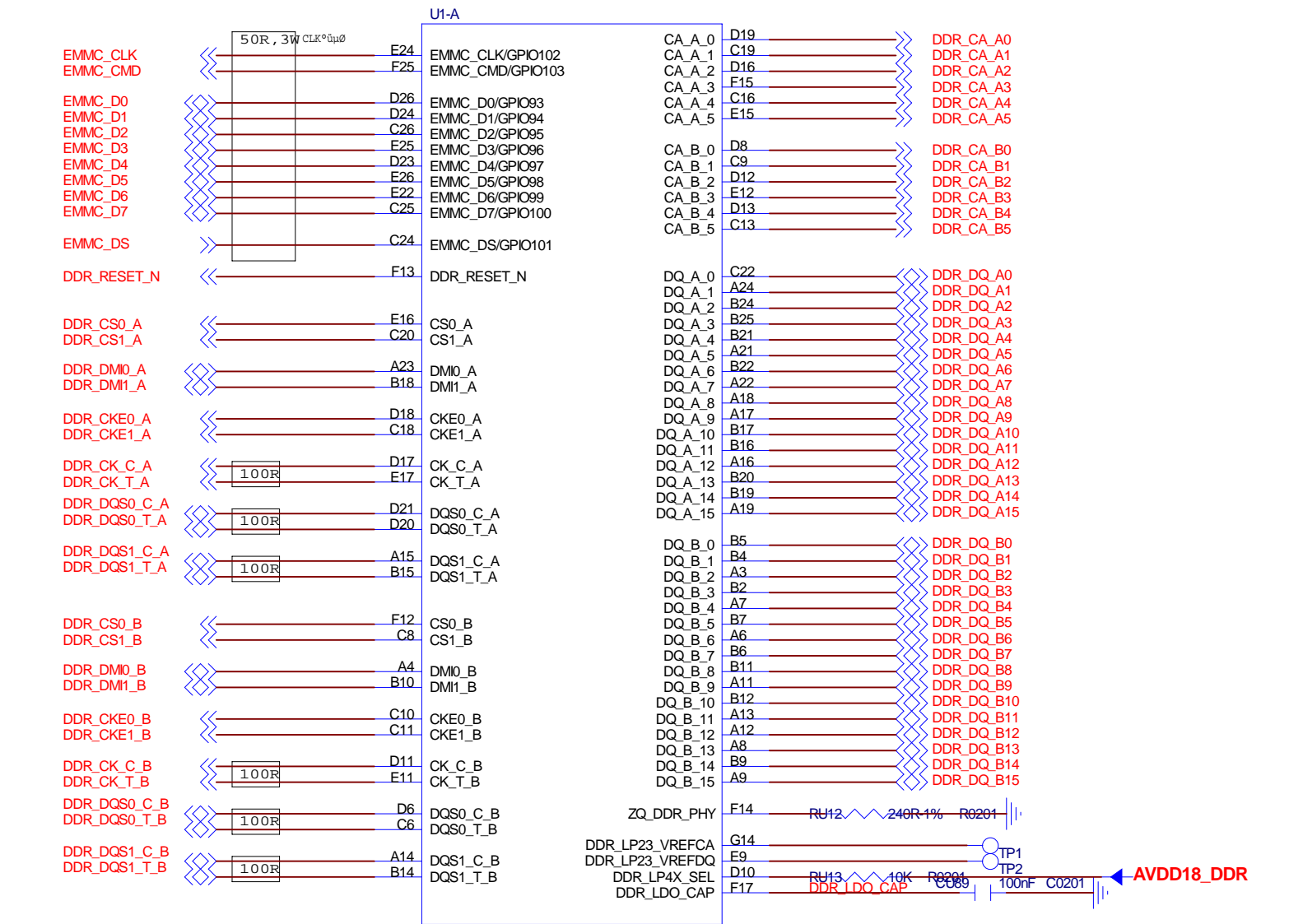
Spacemit Technology Co., Ltd

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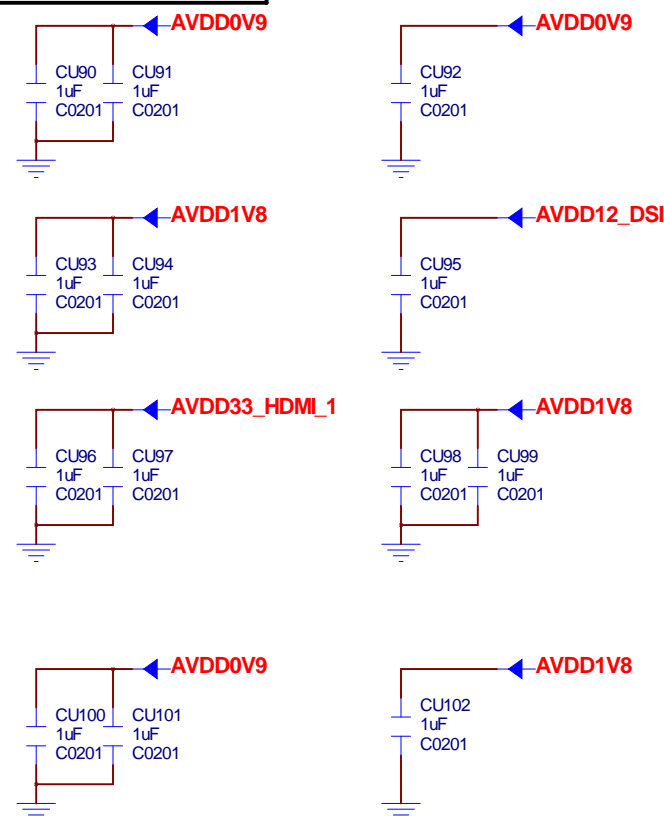
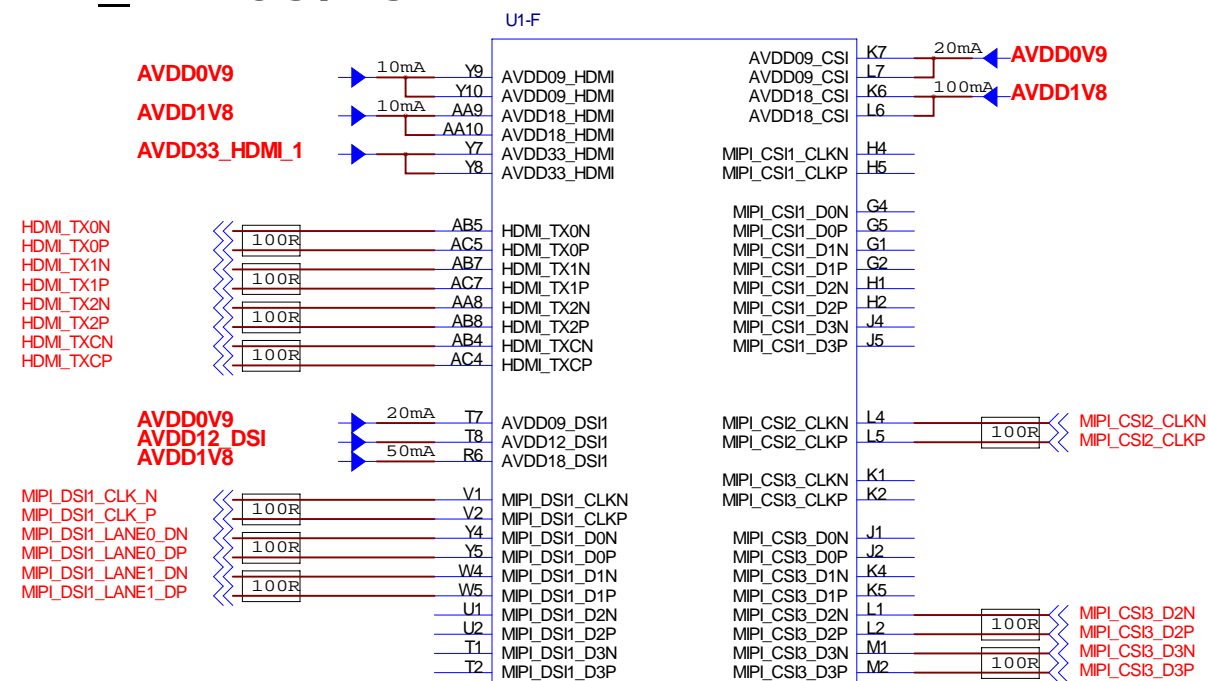
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PCIe



HDMI MIPI CSI/DSI



4+2+2		ĐẢ Ầ	Ê±ÖÖ	I2C	RST&PDN
	CSI1	MIPI_CSI1_D0 MIPI_CSI1_D1 MIPI_CSI1_D2 MIPI_CSI1_D3	CAM_MCLK0 MIPI_CSI1_CLK	CAM_I2C0	CAMERA0_PDN CAMERA0_RST
	CSI2	MIPI_CSI3_D2 MIPI_CSI3_D3	CAM_MCLK1 MIPI_CSI2_CLK	CAM_I2C1	CAMERA1_PDN CAMERA1_RST
	CSI3	MIPI_CSI3_D0 MIPI_CSI3_D1	CAM_MCLK2 MIPI_CSI3_CLK	CAM_I2C2	CAMERA2_PDN CAMERA2_RST

4+4		ĐẢ°Ả	Ê±ÖÖ	I2C	RST&PDN
	CSI1	MIPI_CSI1_D0 MIPI_CSI1_D1 MIPI_CSI1_D2 MIPI_CSI1_D3	CAM_MCLK0 MIPI_CSI1_CLK	CAM_I2C0	CAMERA0_PDN CAMERA0_RST
	CSI2	MIPI_CSI3_D0 MIPI_CSI3_D1 MIPI_CSI3_D2 MIPI_CSI3_D3	CAM_MCLK1 MIPI_CSI3CLK	CAM_I2C1	CAMERA1_PDN CAMERA1_RST

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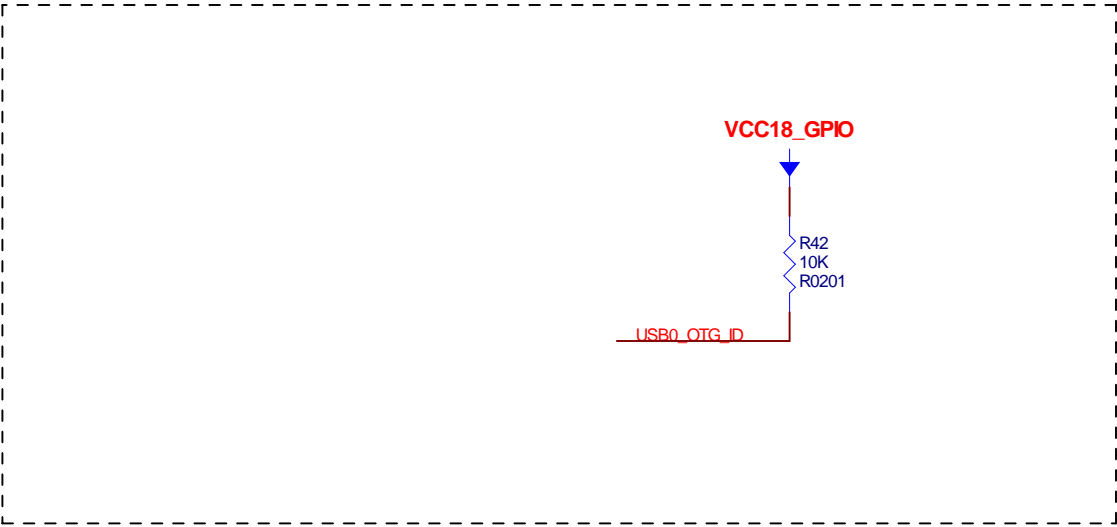
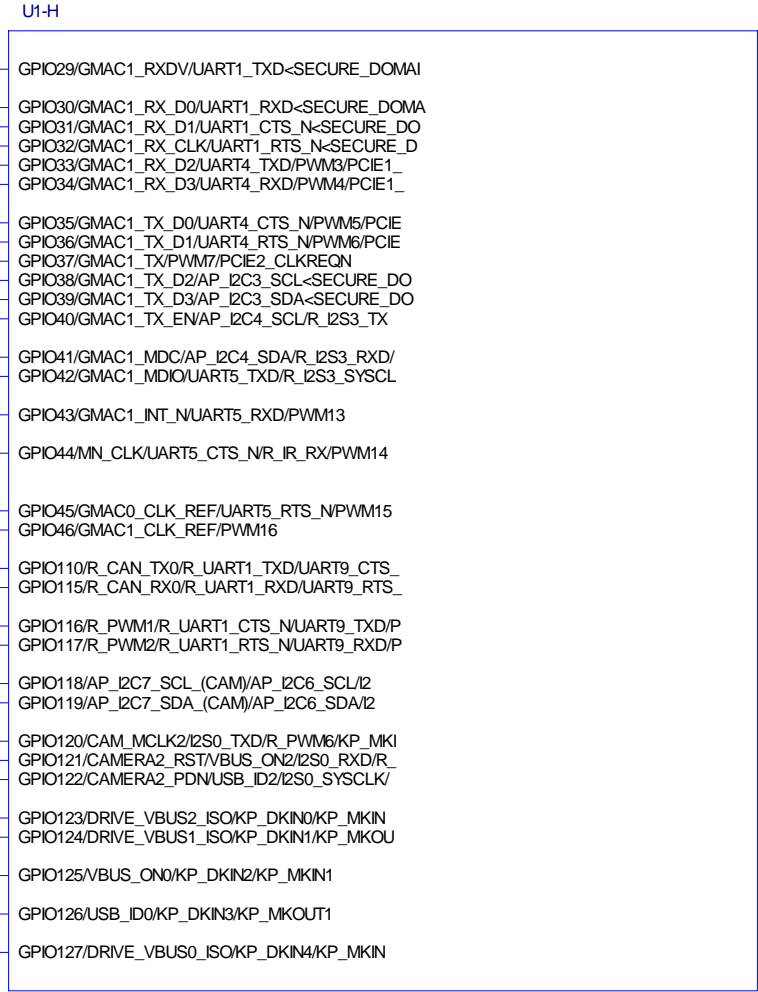
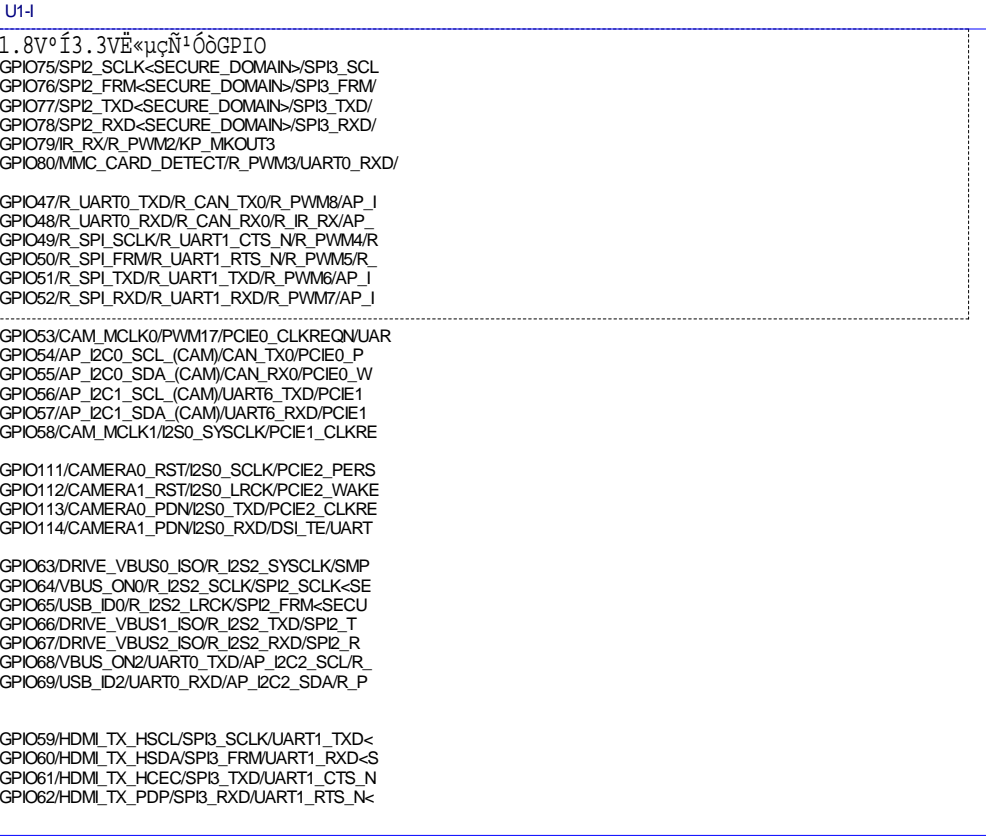
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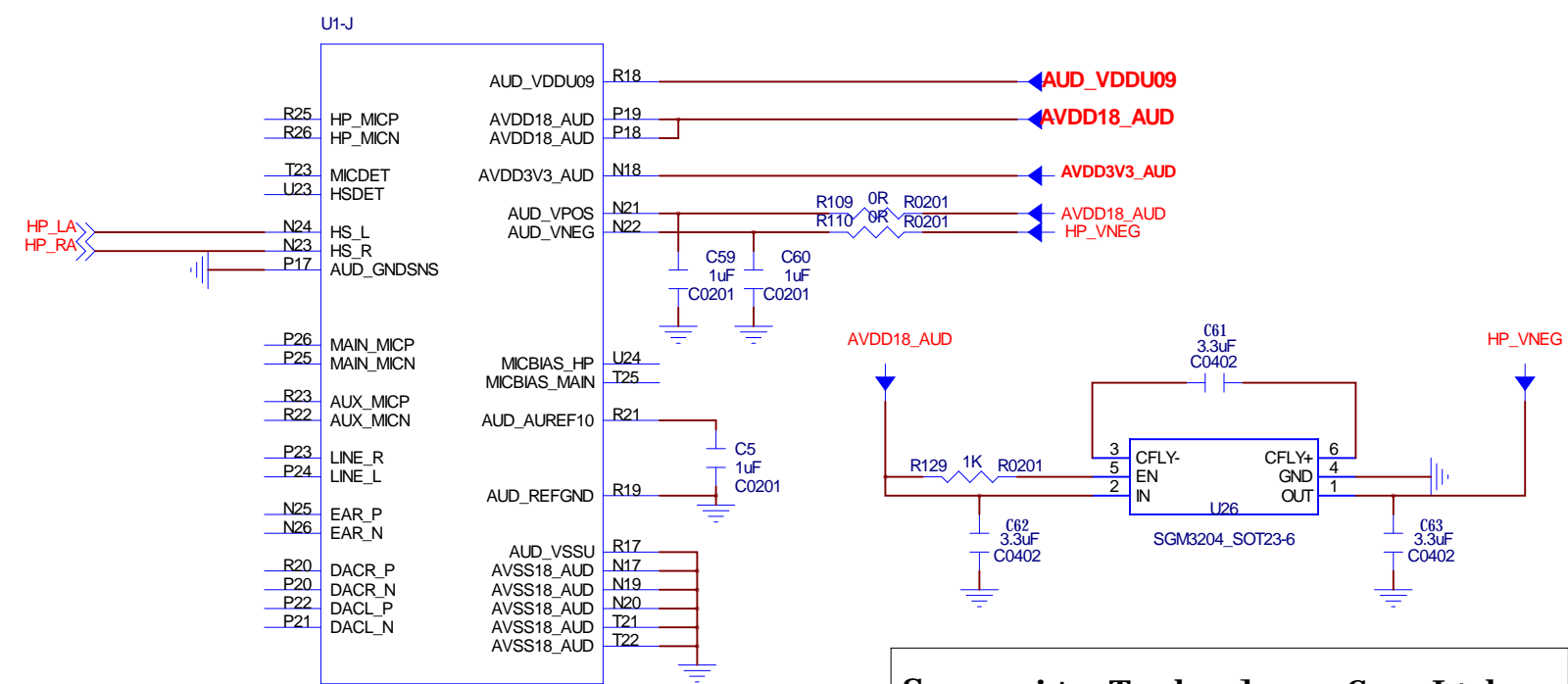
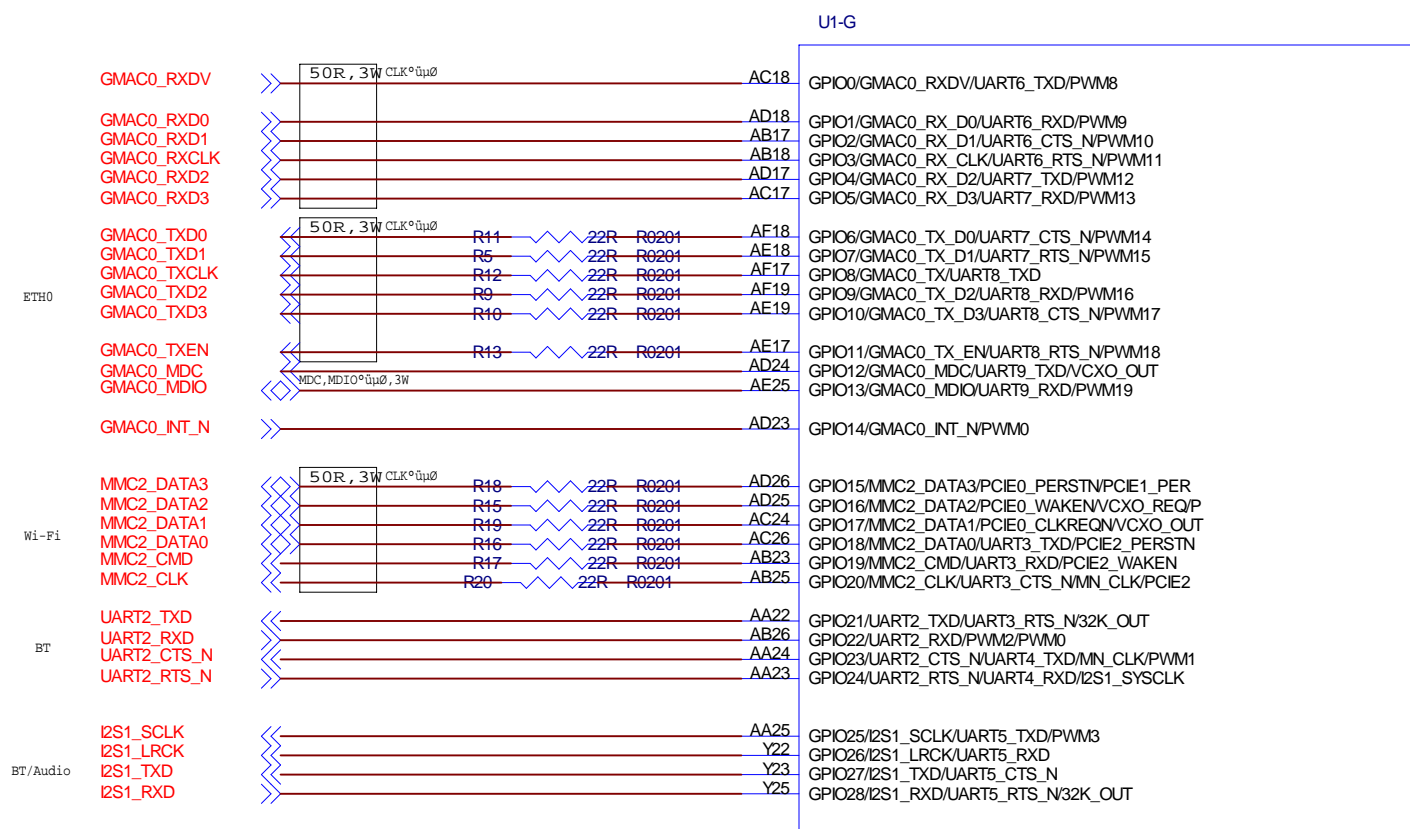
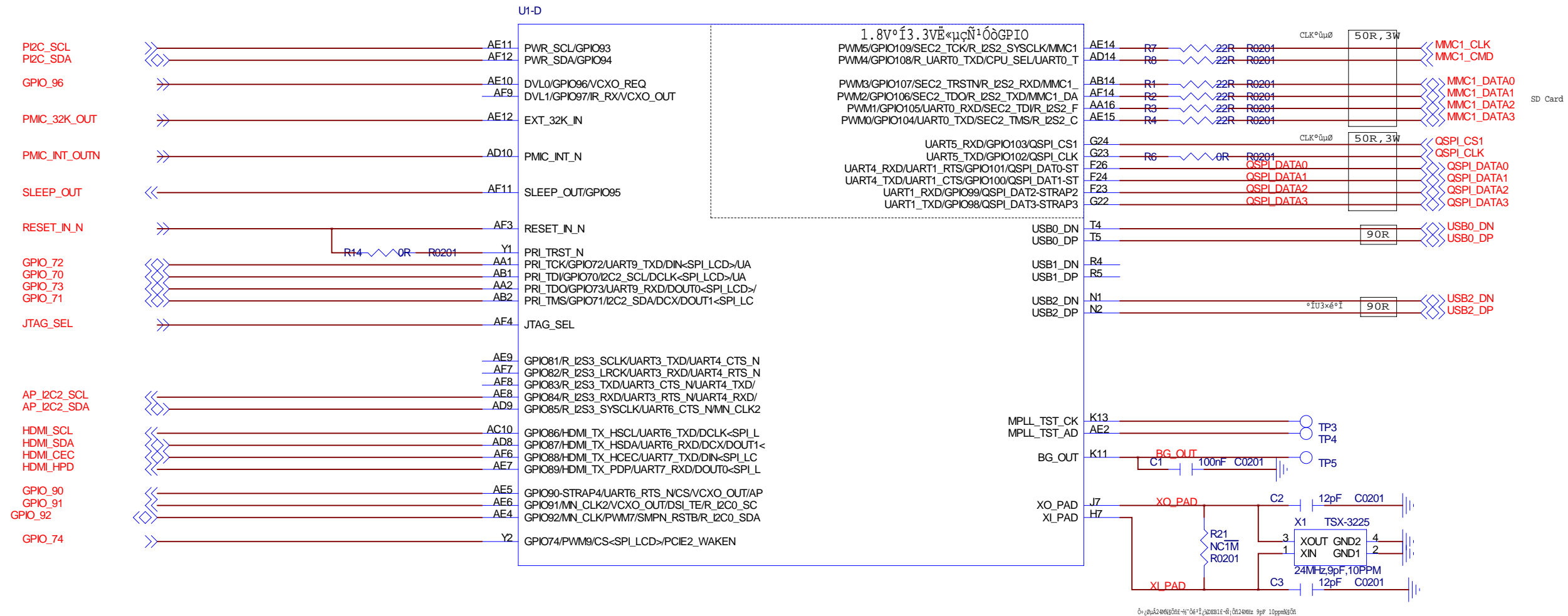
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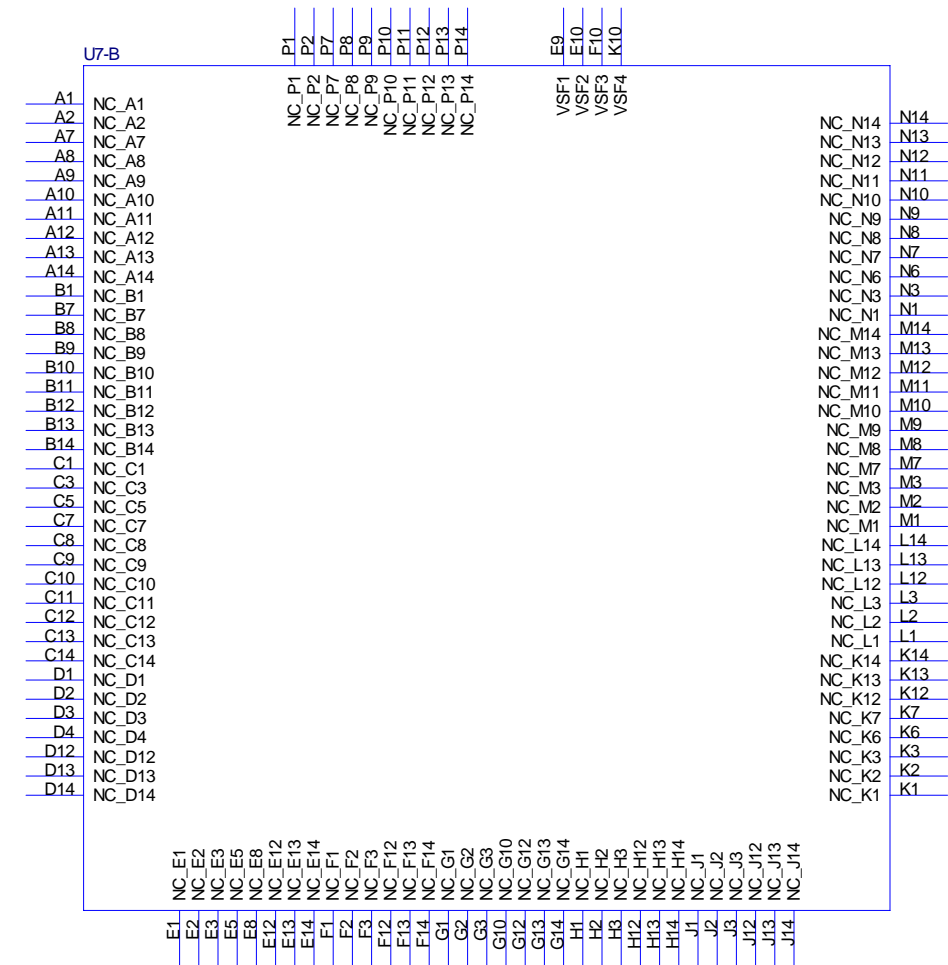
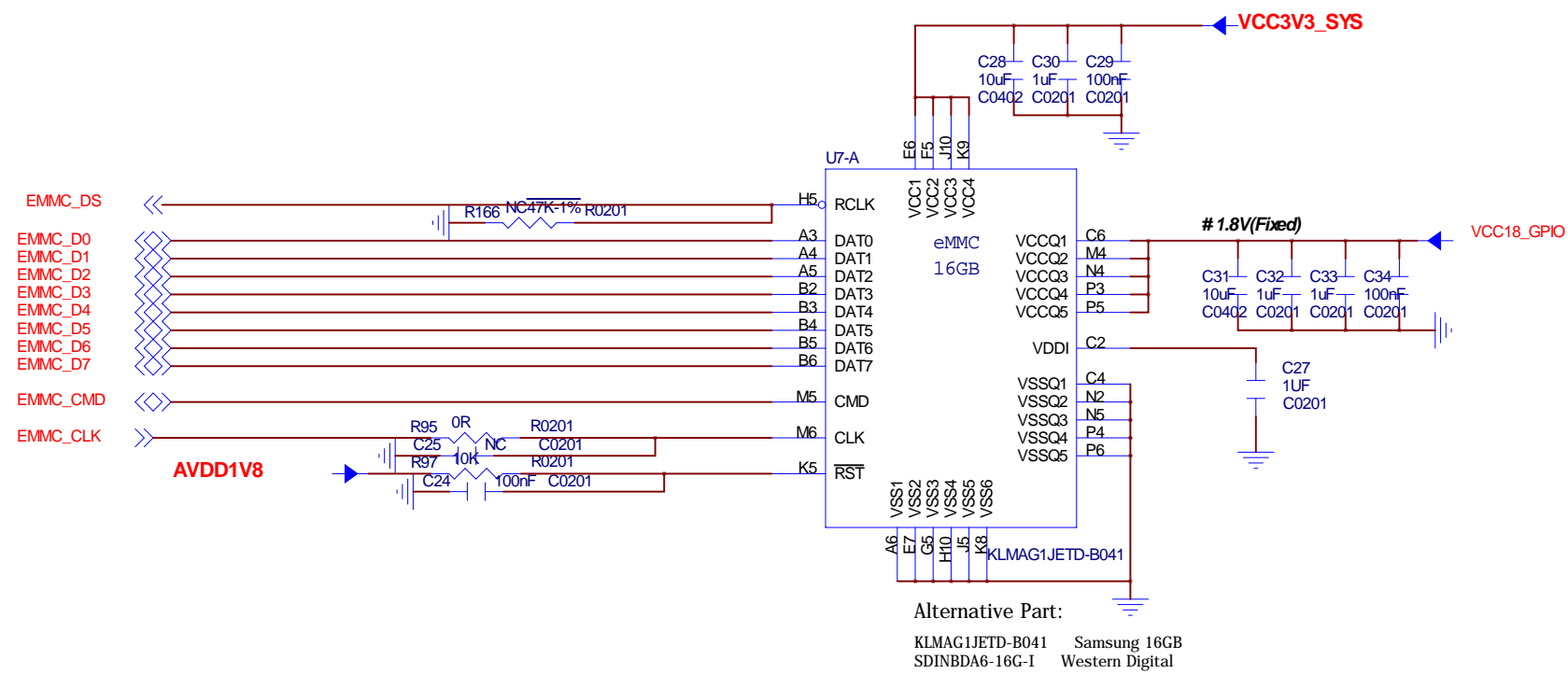
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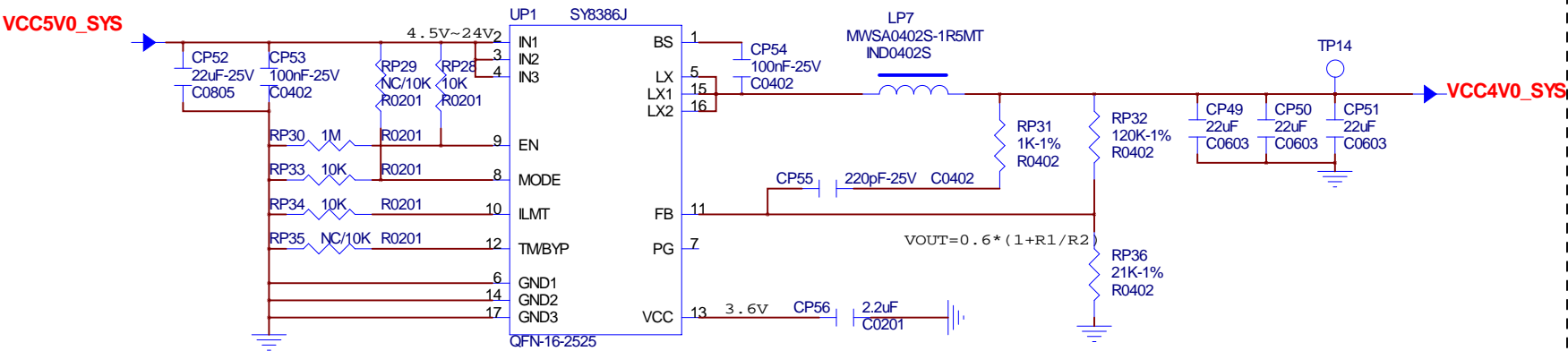
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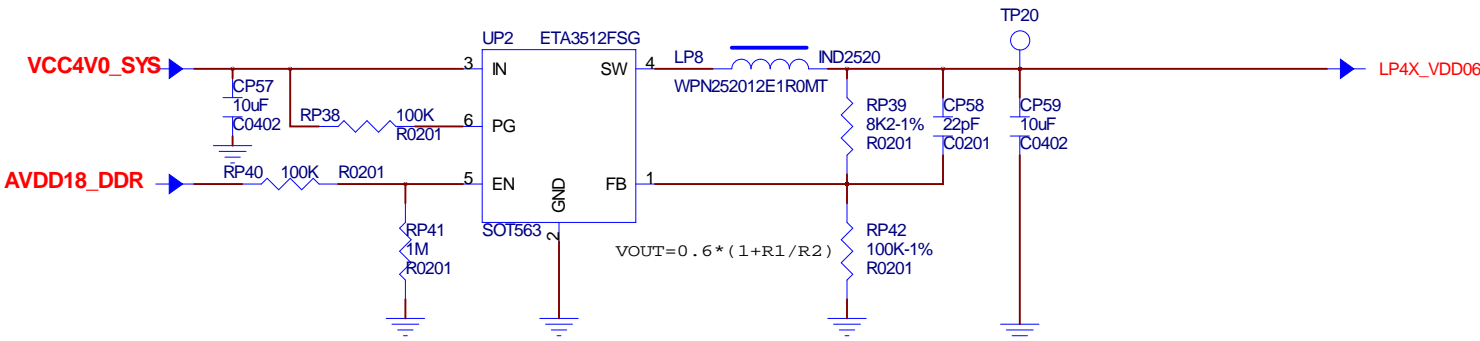
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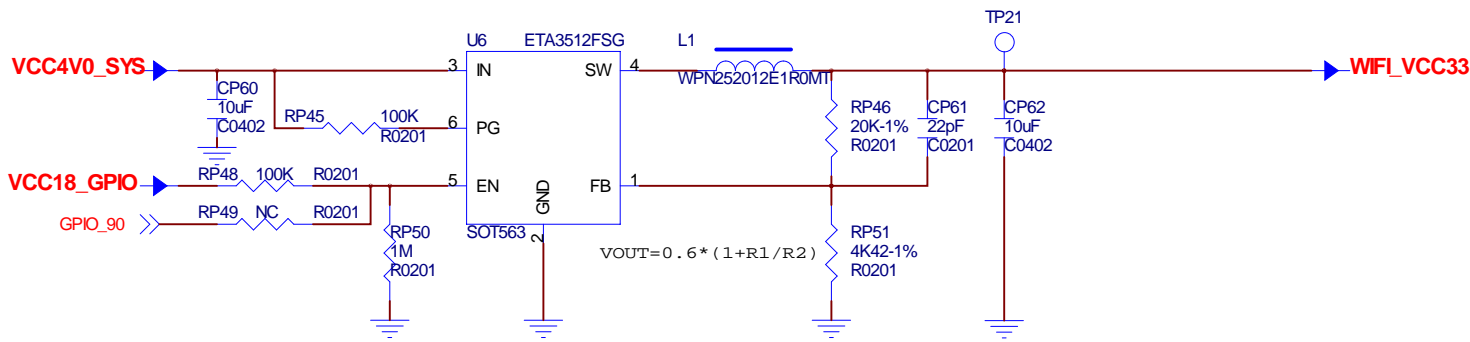
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EXT_DCDC_0V6

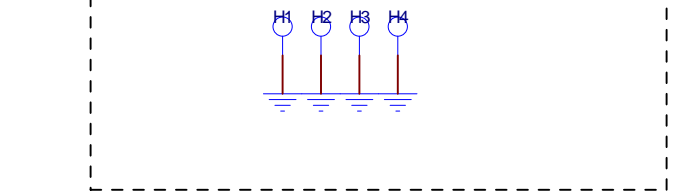
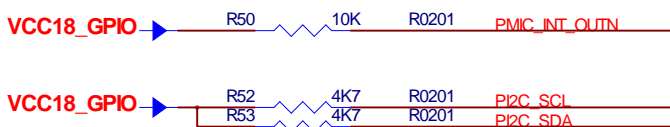
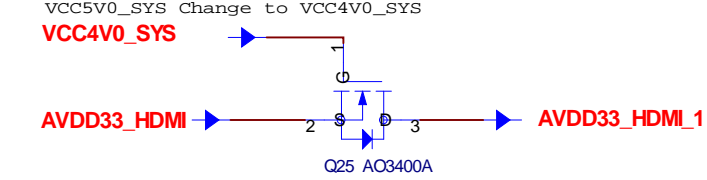
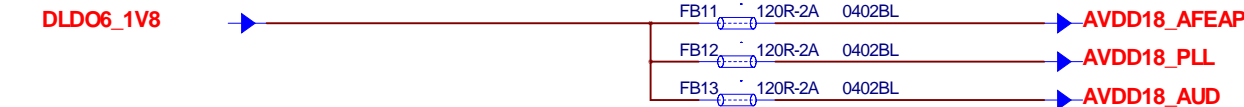
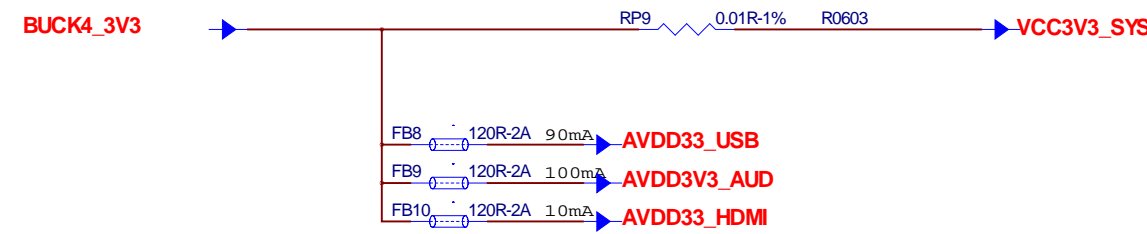
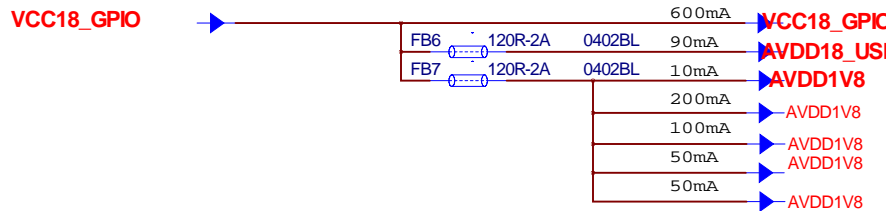
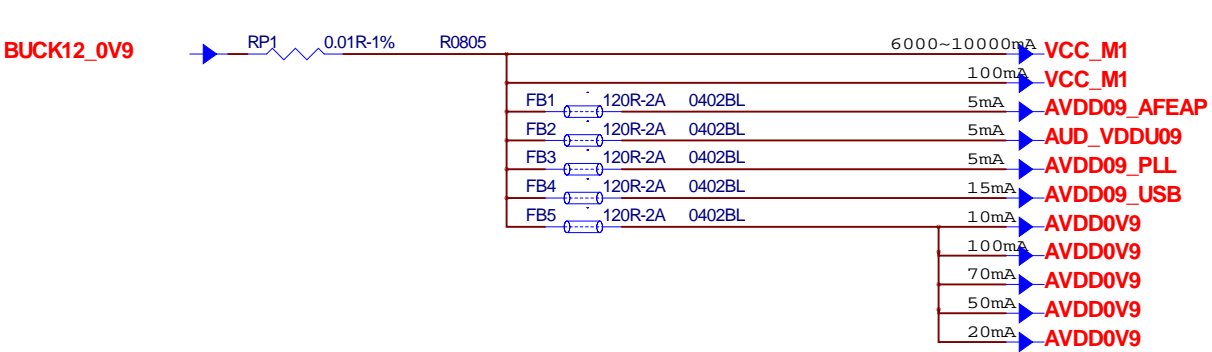
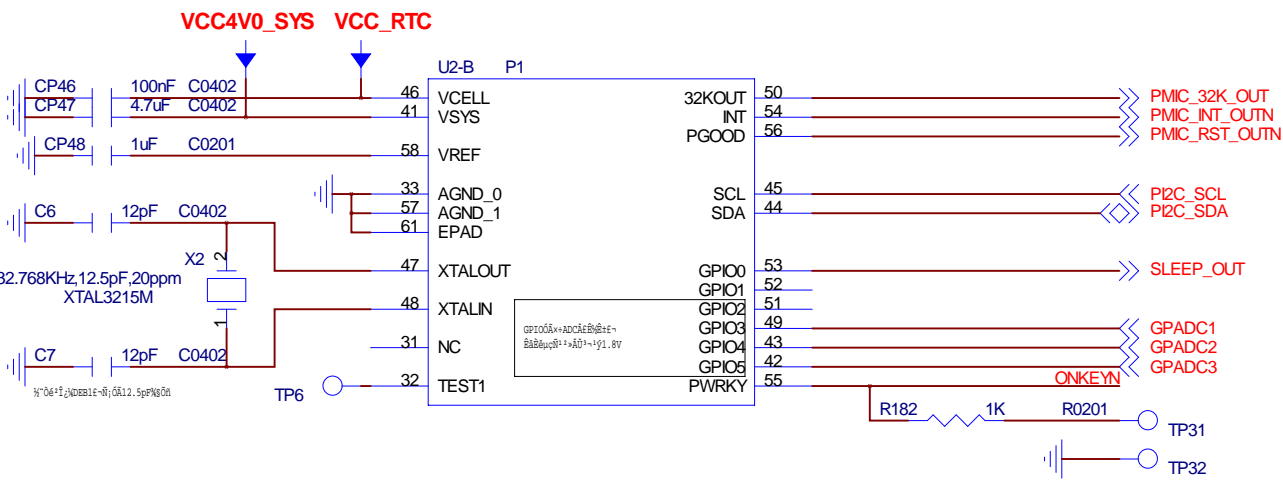
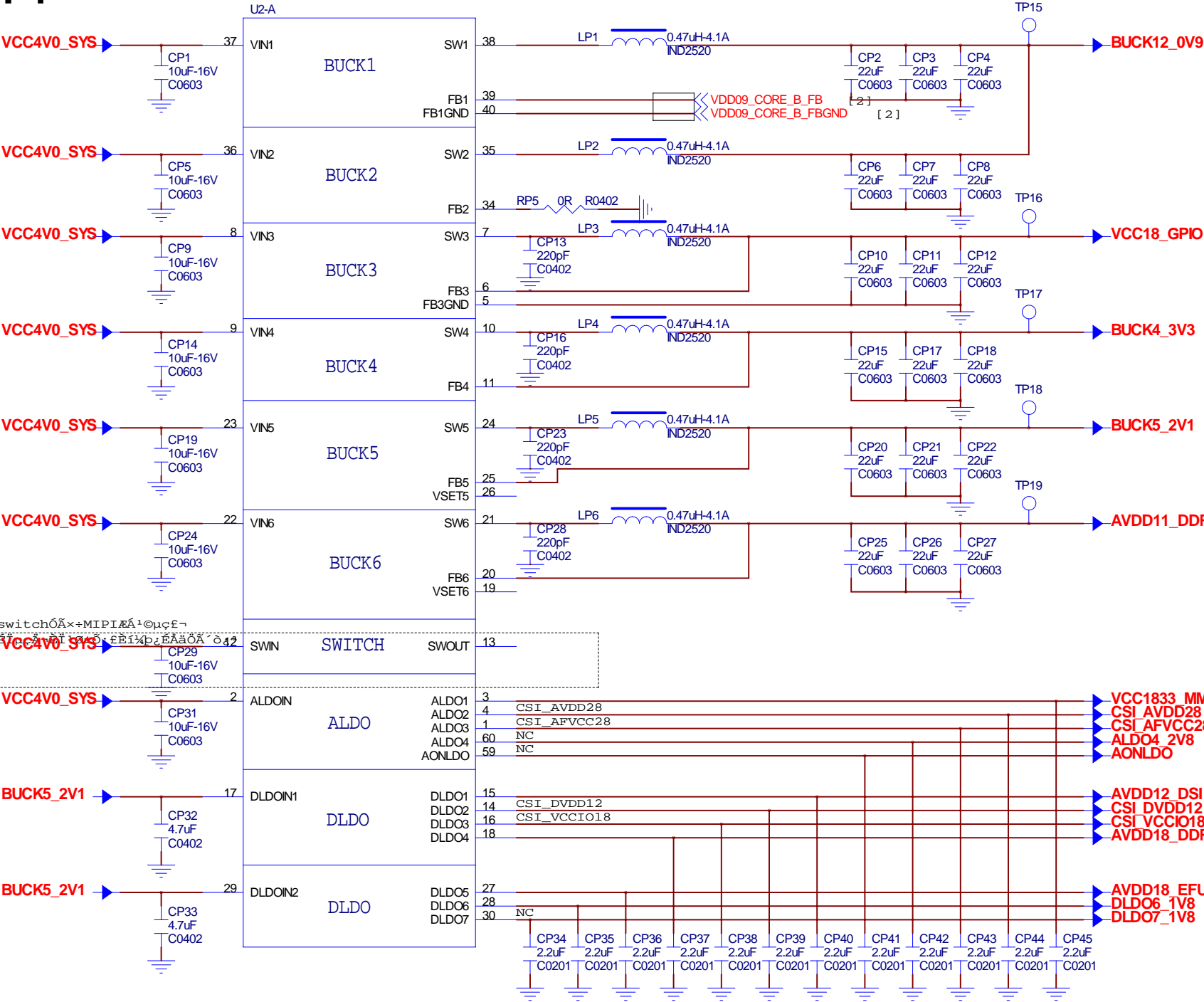


WIFI_PHY0_PHY1_3V3



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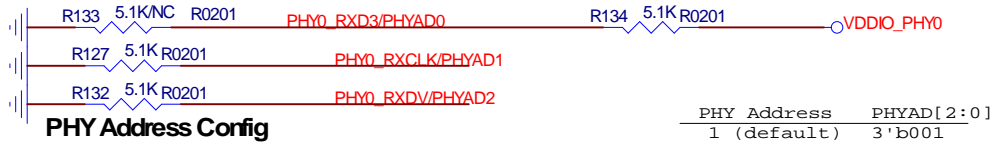
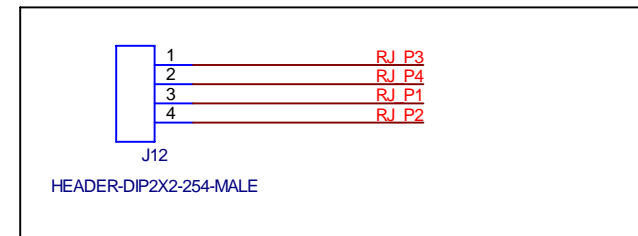
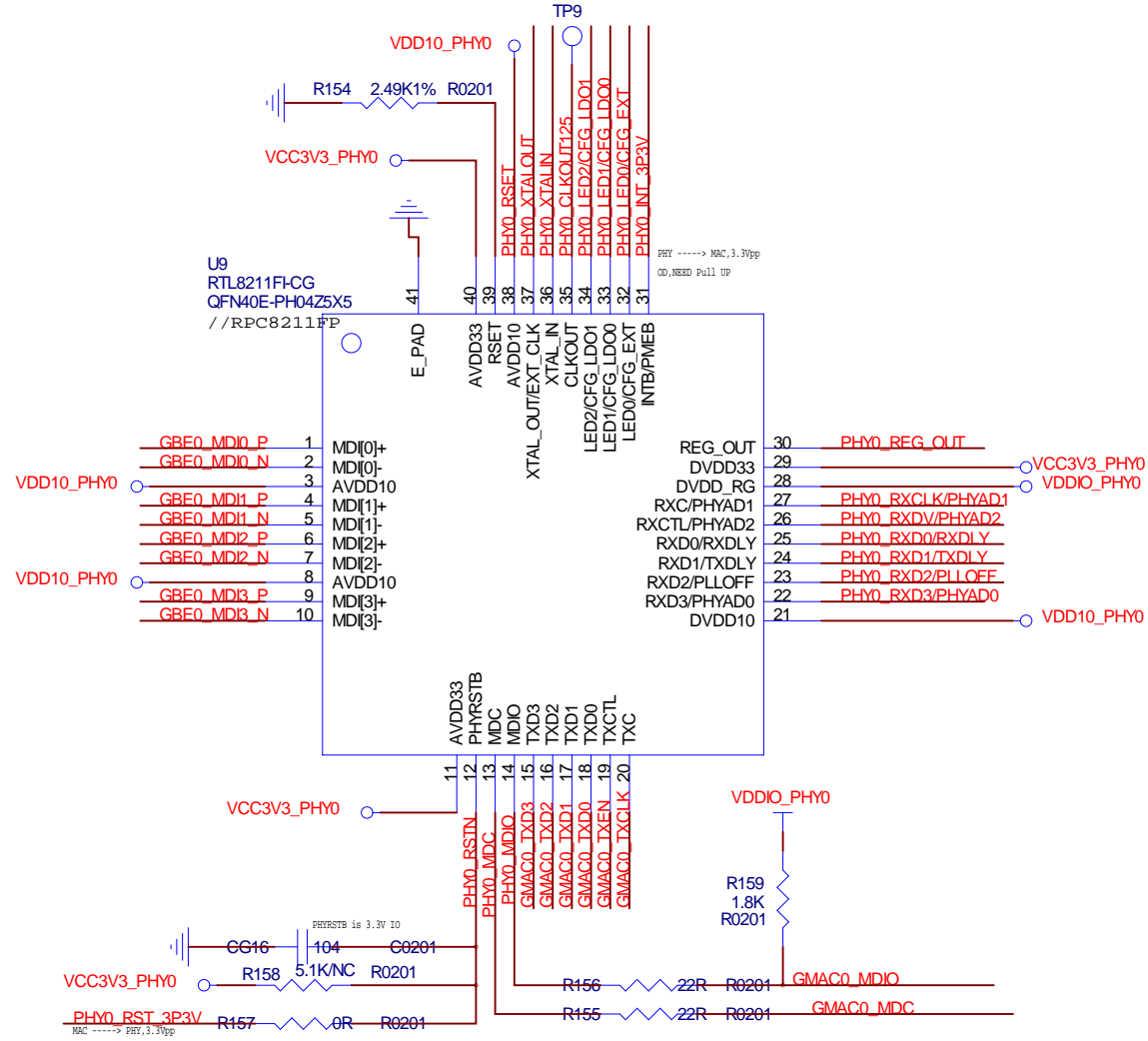
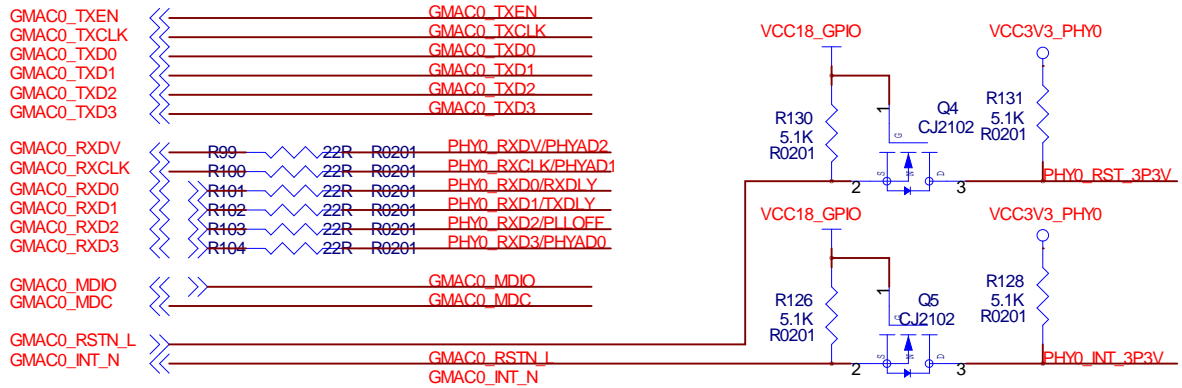
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Design NameRV4B_V0. 1

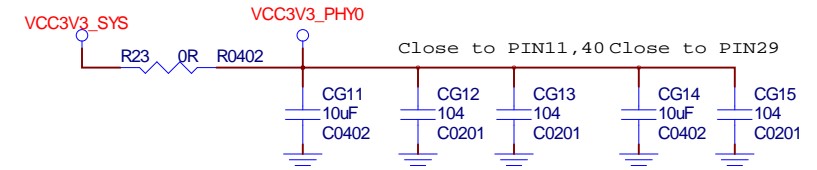
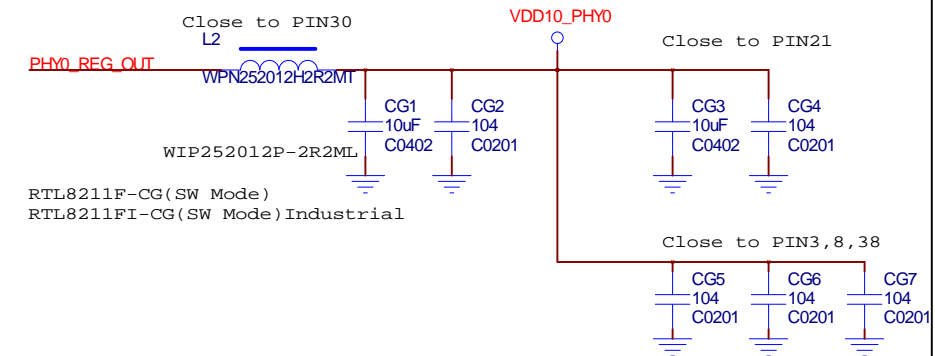
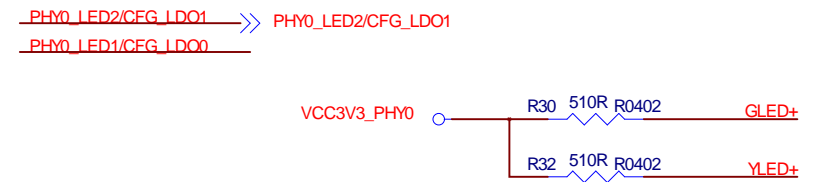
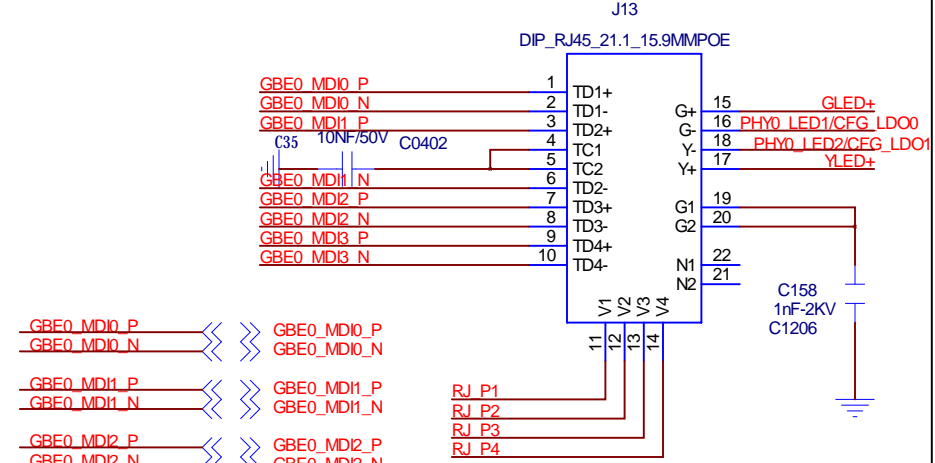
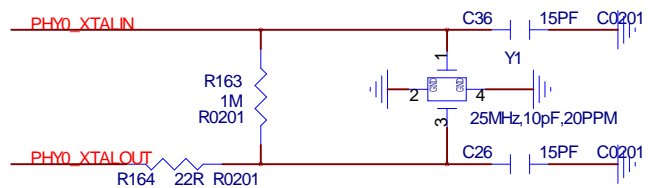
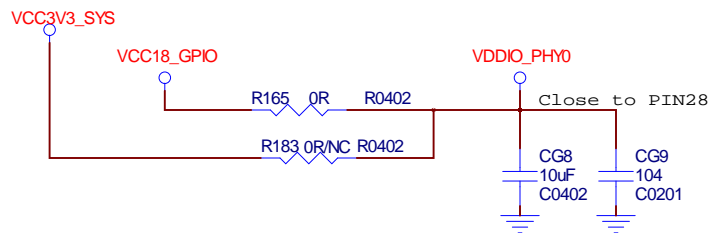
SizeBPage NamePOWER-P1

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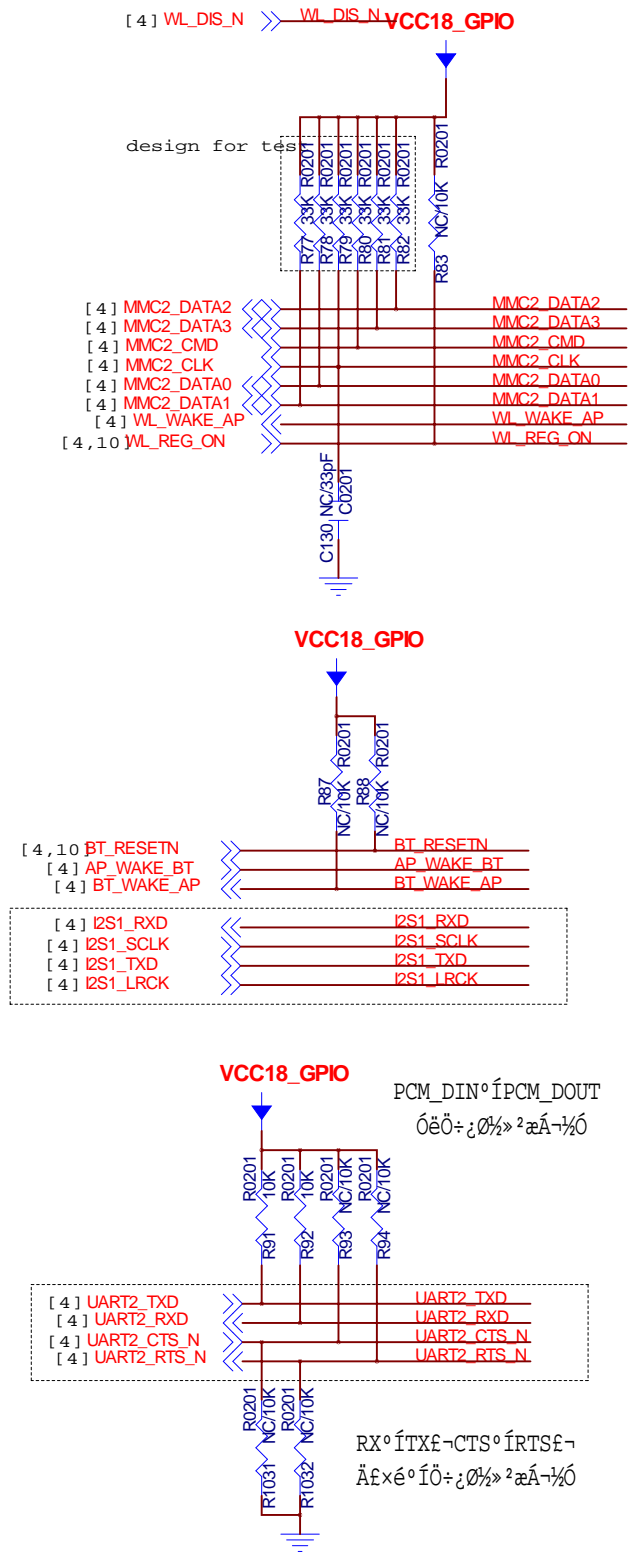
Ethernet PHY0

RGMII PWR CFG_EXT CFG_LDO[1:0]

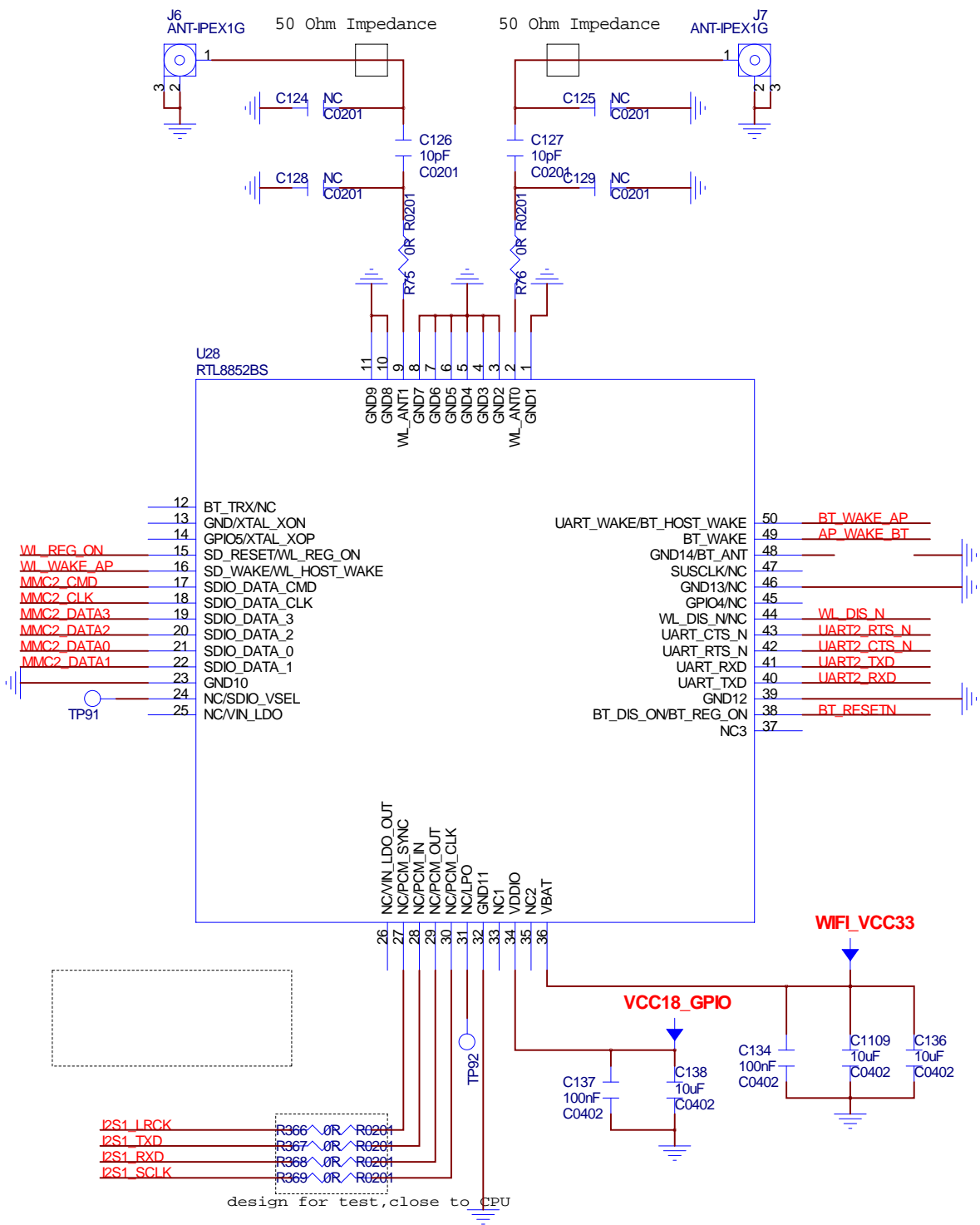
EXT. 3V3	1'b1	2'b00
EXT. 2V5	1'b1	2'b01
EXT. 1V8	1'b1	2'b10
EXT. 1V5	1'b1	2'b11
INT. RSVD	1'b0	2'b00
INT. 2V5	1'b0	2'b01
INT. 1V8	1'b0	2'b10
INT. 1V5	1'b0	2'b11



RTL8852BS



R1



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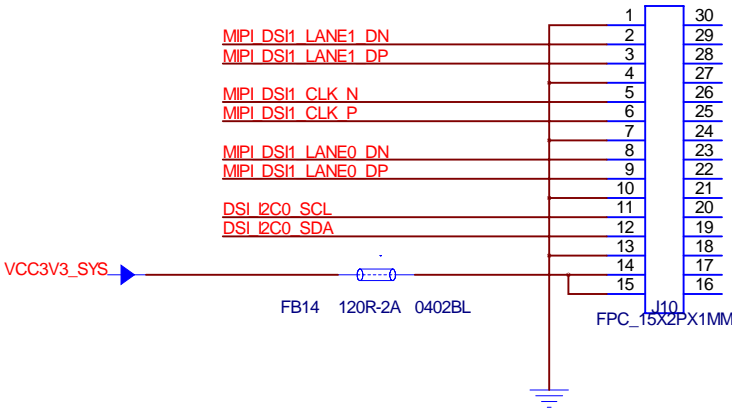
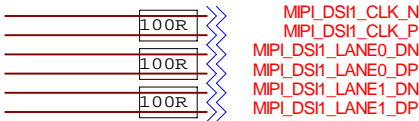
Design Name
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Size
B Page Name
WIFI/BT

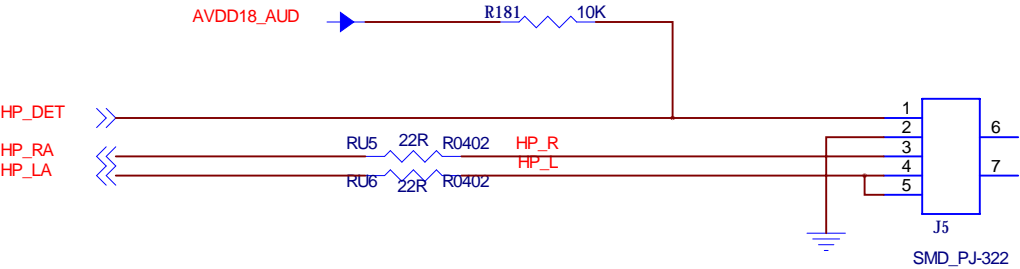
Date: Tuesday, January 7, 2025 Sheet 18 of 25

MIP-DSI

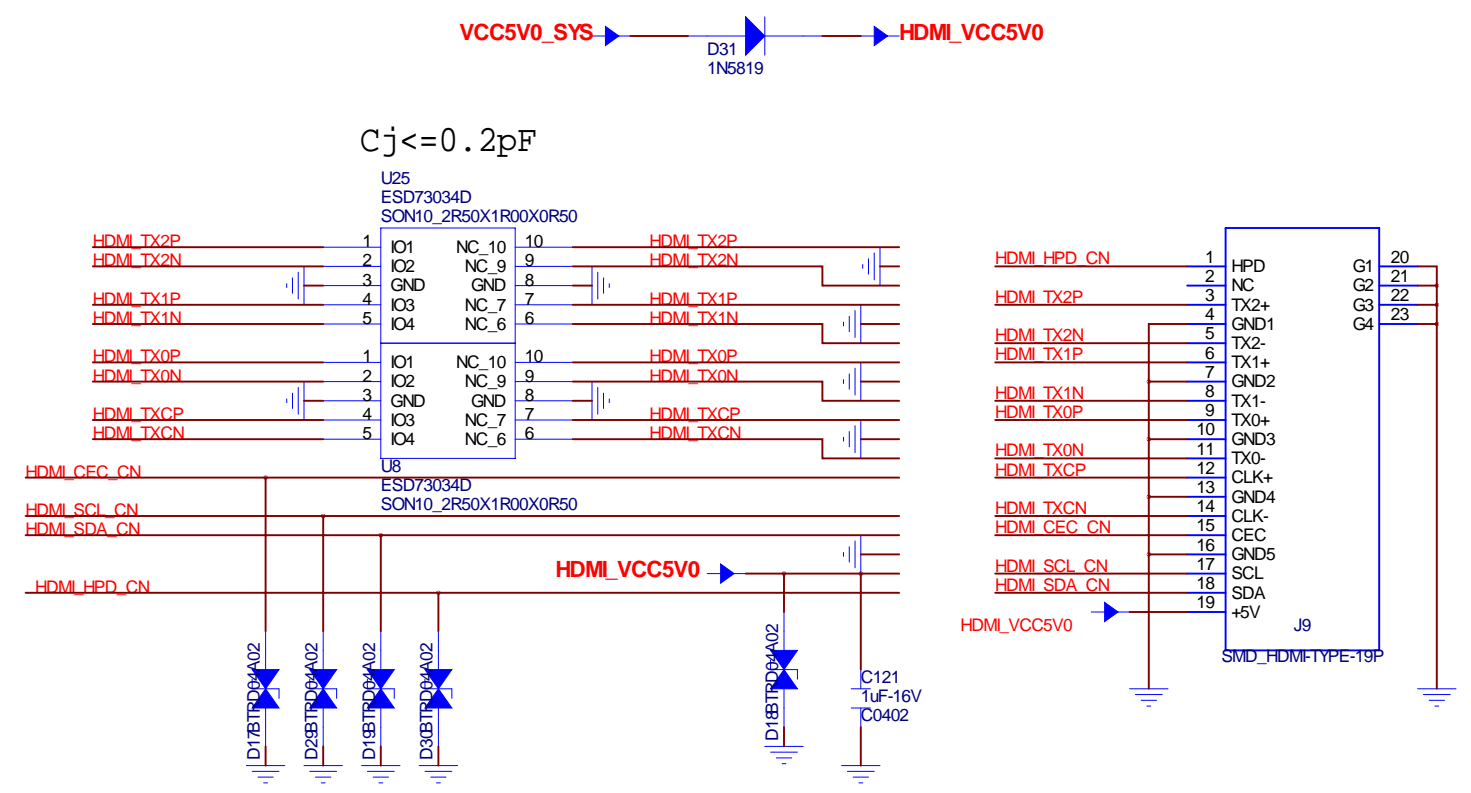
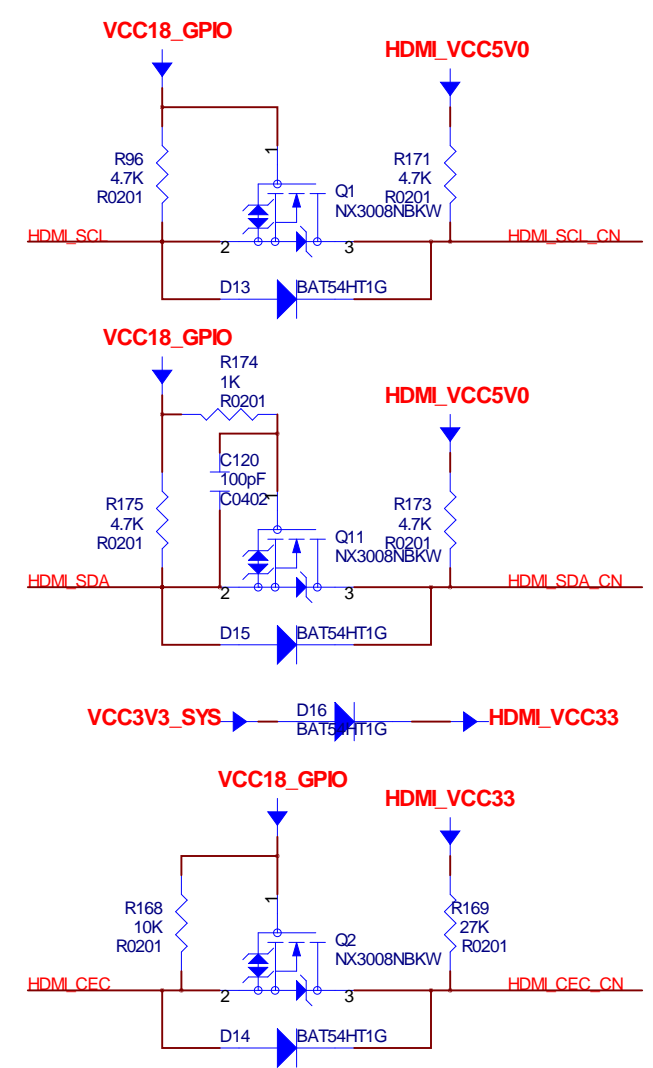
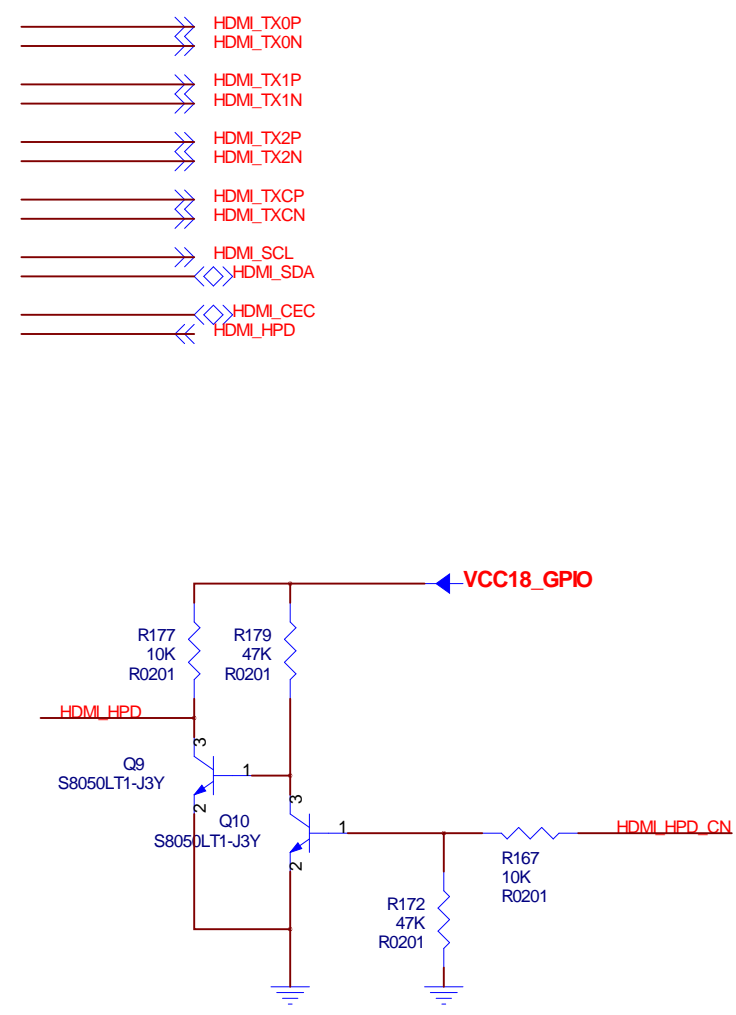
VCC18_GPIO



HP_AUDIO

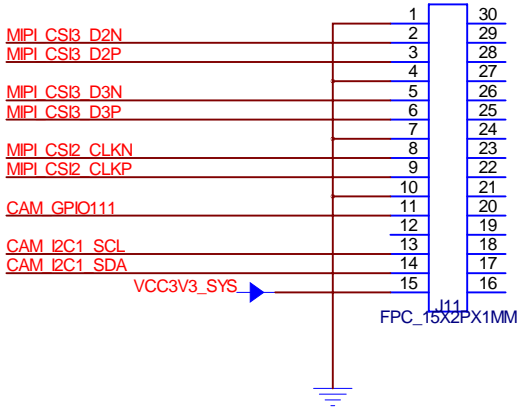
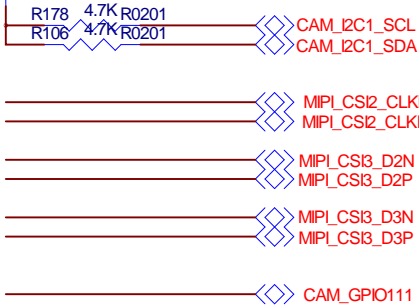


HDMI



CAMERA

VCC18_GPIO



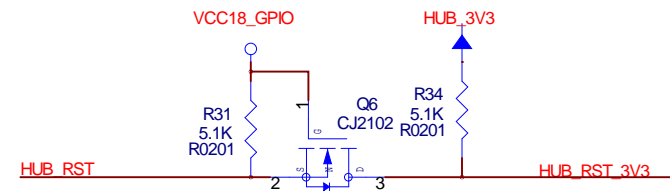
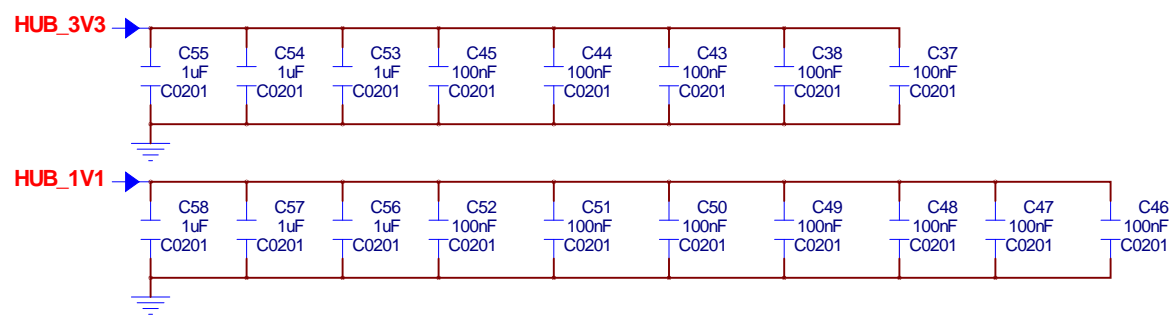
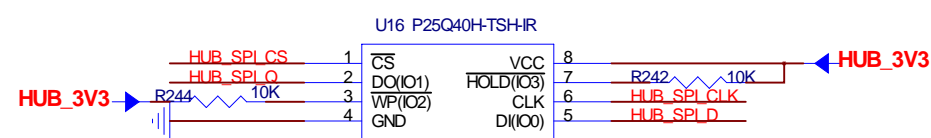
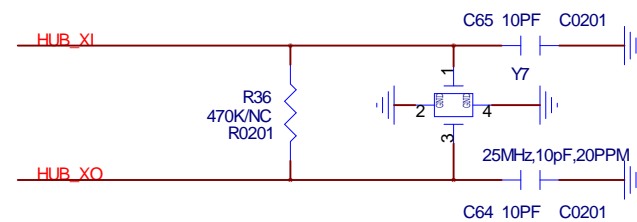
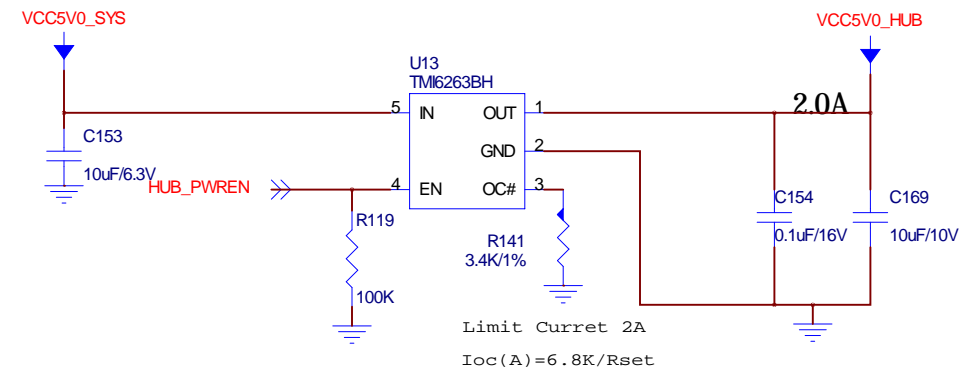
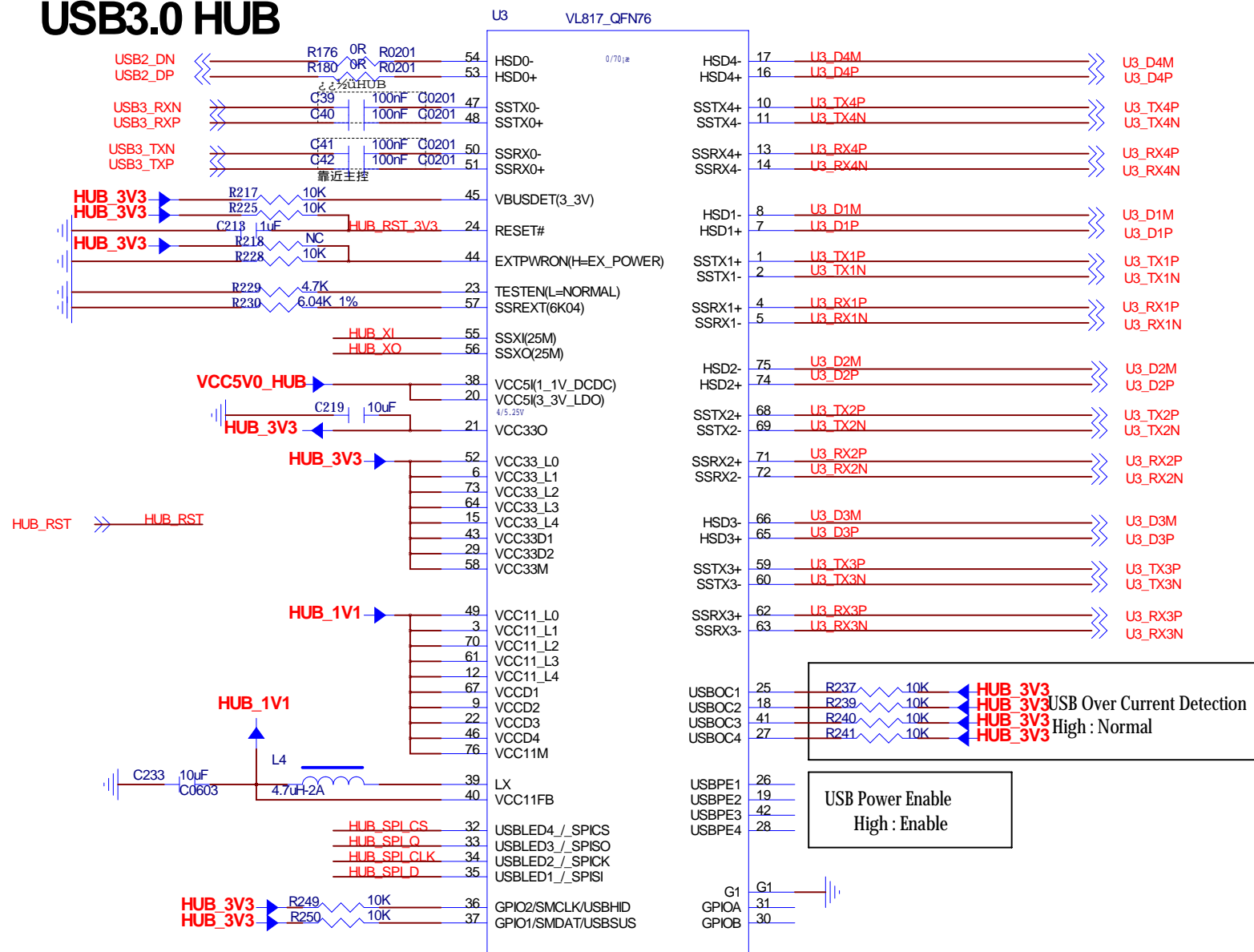
4+2+2		ĐÁ°Á	Ê±ÖÓ	I2C	RST&PDN
	CSI1	MIPI_CSI1_D0 MIPI_CSI1_D1 MIPI_CSI1_D2 MIPI_CSI1_D3	CAM_MCLK0 MIPI_CSI1_CLK	CAM_I2C0	CAMERA0_PDN CAMERA0_RST
	CSI2	MIPI_CSI3_D2 MIPI_CSI3_D3	CAM_MCLK1 MIPI_CSI2_CLK	CAM_I2C1	CAMERA1_PDN CAMERA1_RST
	CSI3	MIPI_CSI3_D0 MIPI_CSI3_D1	CAM_MCLK2 MIPI_CSI3_CLK	CAM_I2C2	CAMERA2_PDN CAMERA2_RST

4+4		ĐÁ°Áİİİ		I2C	RST&PDN
	CSI1	MIPI_CSI1_D0 MIPI_CSI1_D1 MIPI_CSI1_D2 MIPI_CSI1_D3	CAM_MCLK0 MIPI_CSI1_CLK	CAM_I2C0	CAMERA0_PDN CAMERA0_RST
	CSI2	MIPI_CSI3_D0 MIPI_CSI3_D1 MIPI_CSI3_D2 MIPI_CSI3_D3	CAM_MCLK1 MIPI_CSI3CLK	CAM_I2C1	CAMERA1_PDN CAMERA1_RST

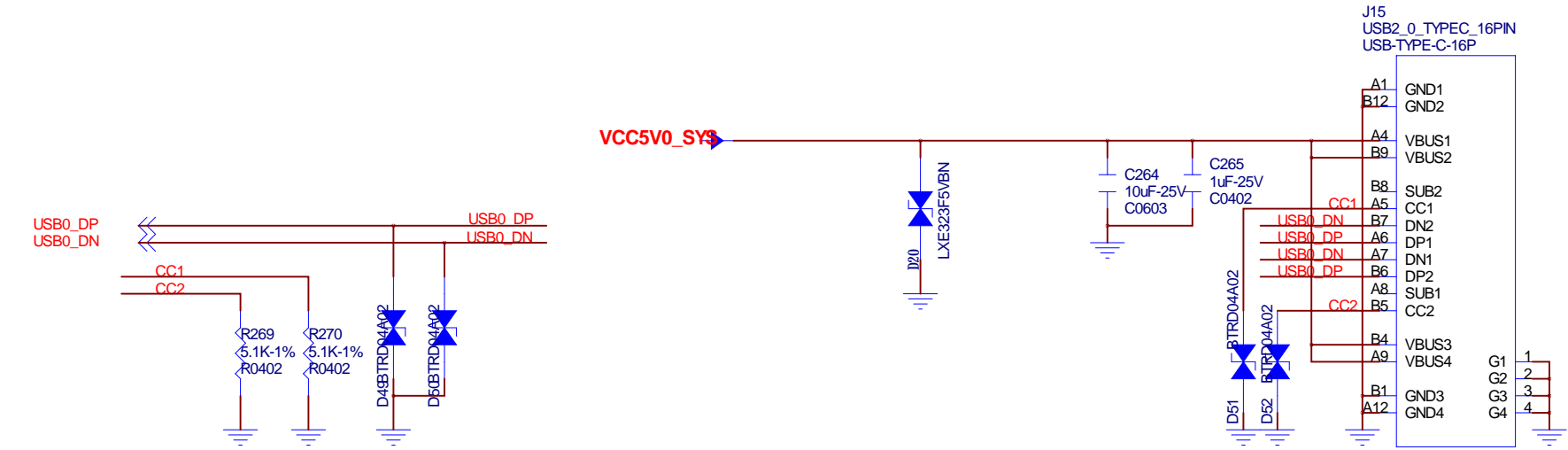
NOTE: NOTE:
Close to connector

- 1.The working voltage and current of power need determine according to the peripheral specification.
- 2.AFVCC-CSI has timing requirements, don't share the same power with DOVDD-CSI.
- 3.The front and rear cameras need to consider the compatibility of DVDD-CSI voltage.

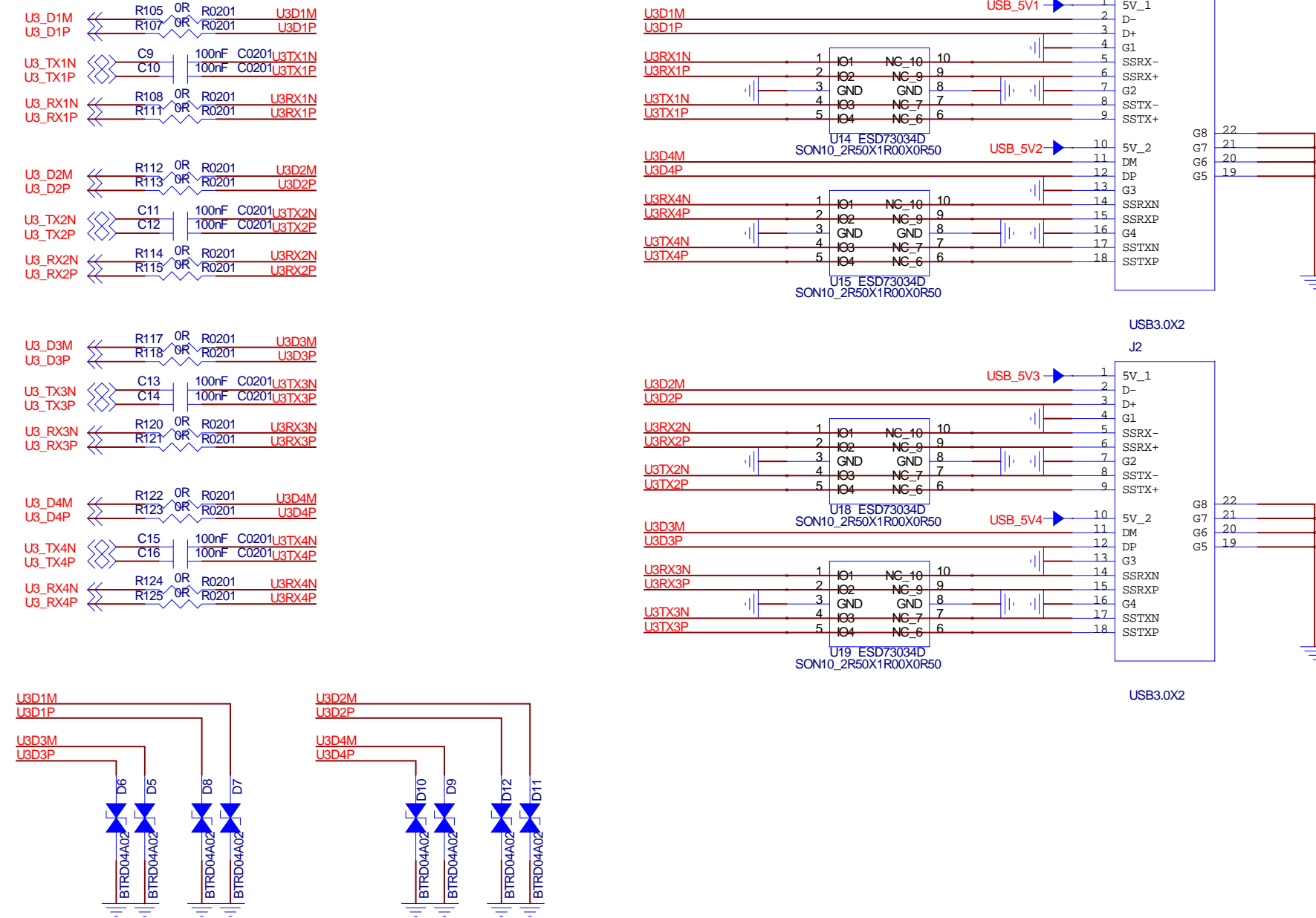
USB3.0 HUB



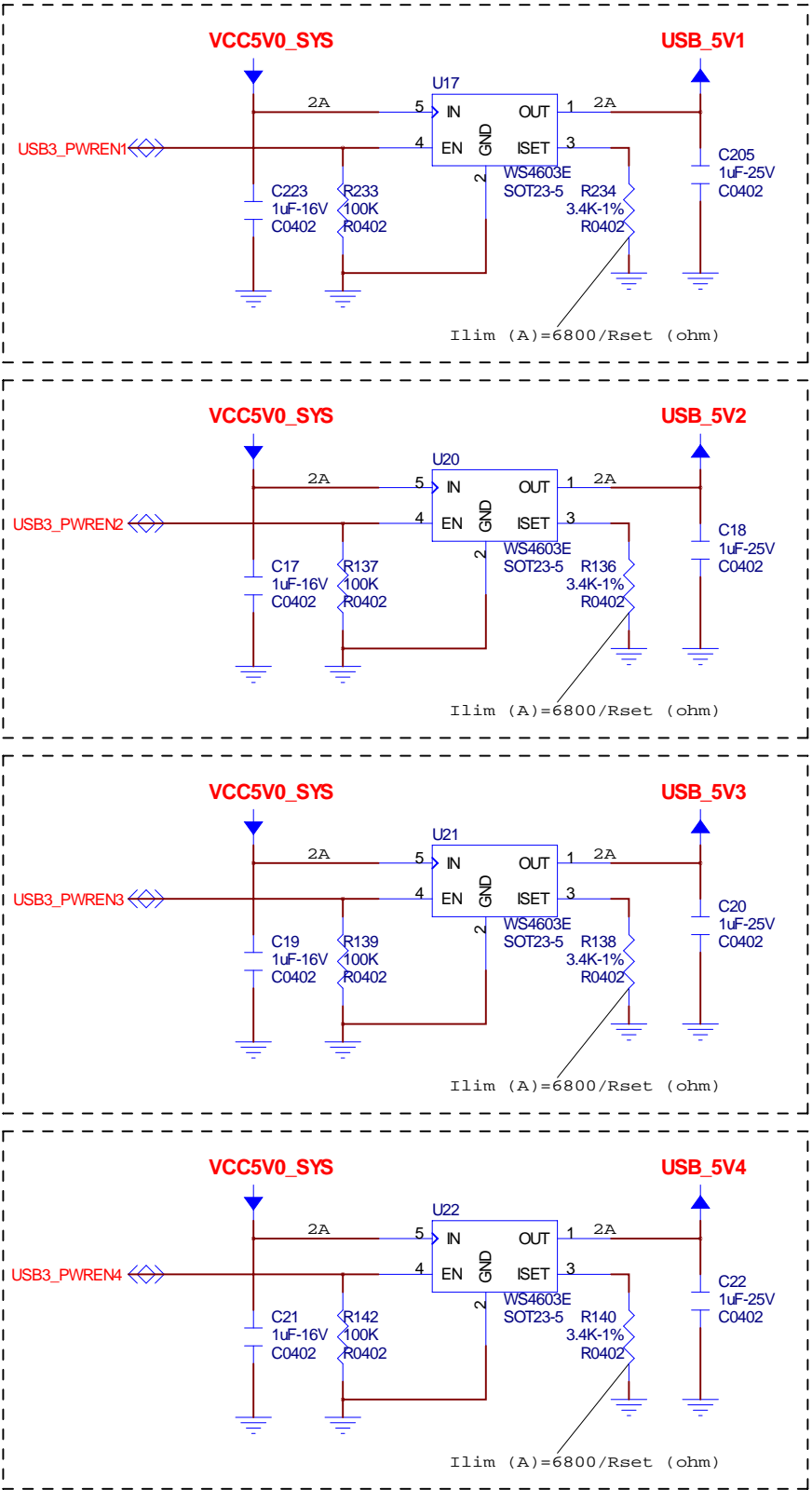
USB2.0 TYPEC



USB3.0 HOST



USB3.0-POWER



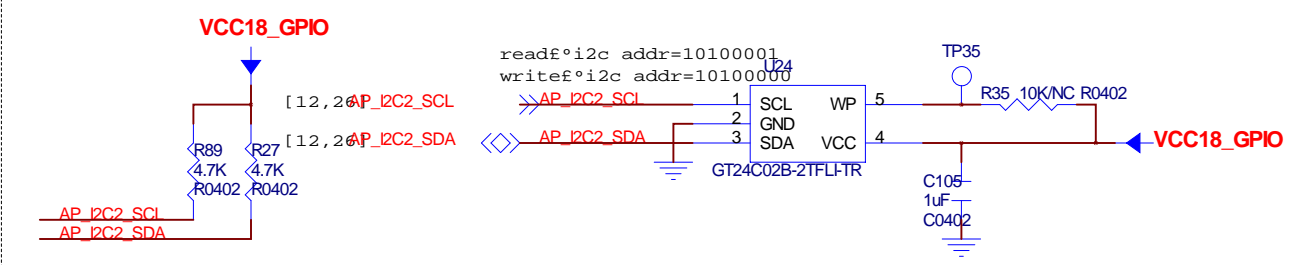
Spacemitt Technology Co., Ltd

Design Name
RV4B_V0.1

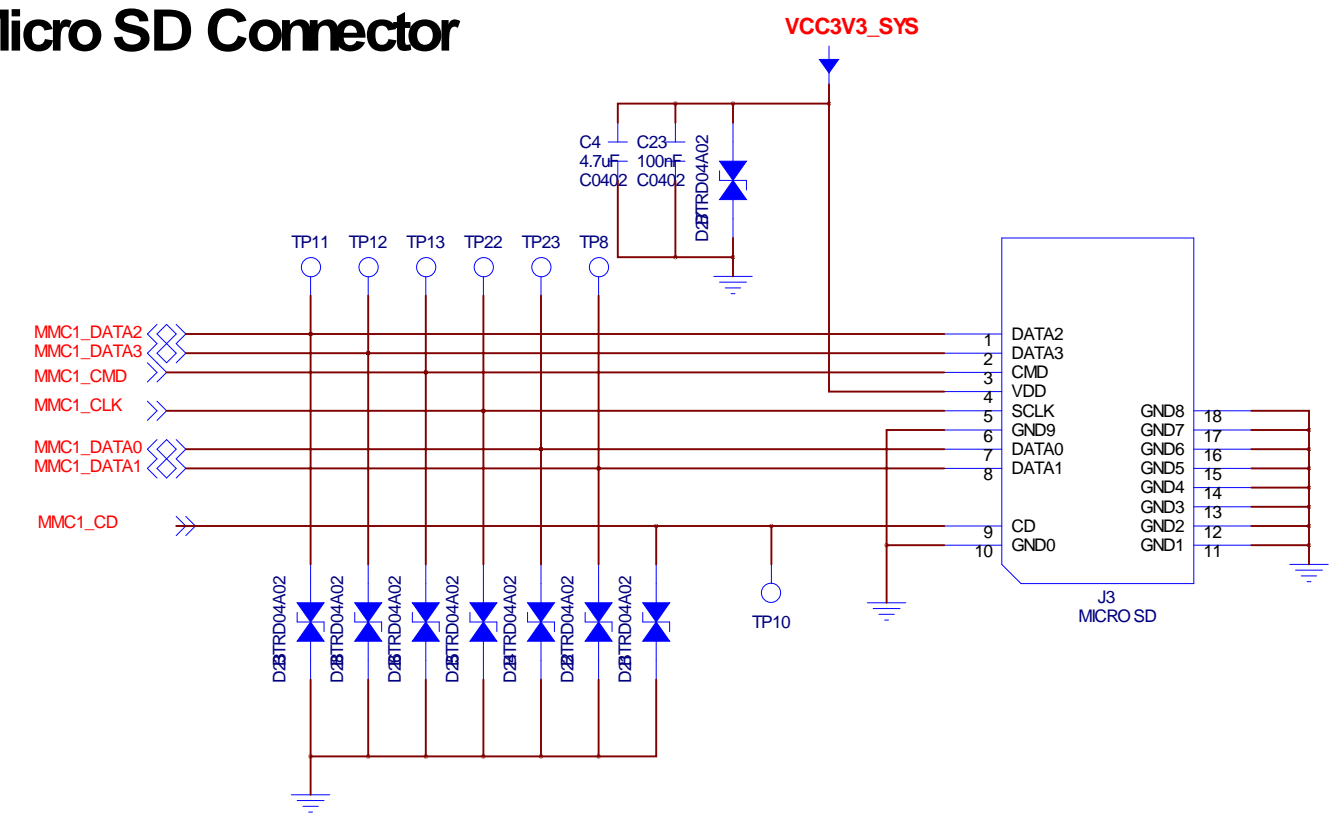
Size
B Page Name
OTG/USB

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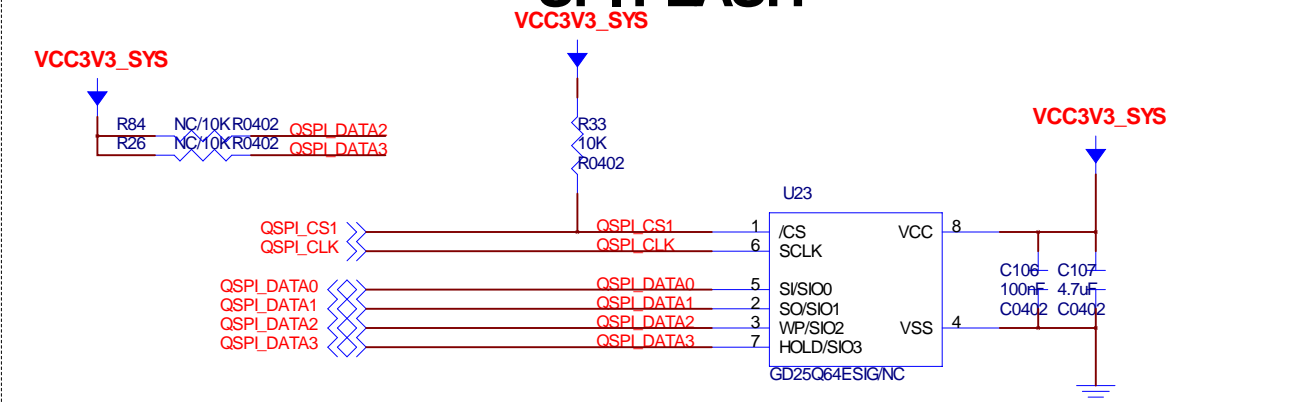
EEPROM



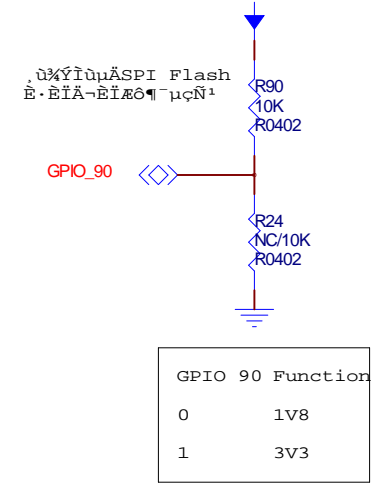
Micro SD Connector



SPI FLASH



Flash Boot voltage sel



boot download sel

QSPI_DATA3	Function
0	1V8
1	3V3

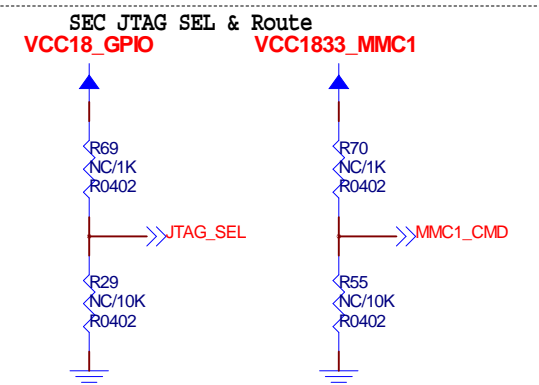
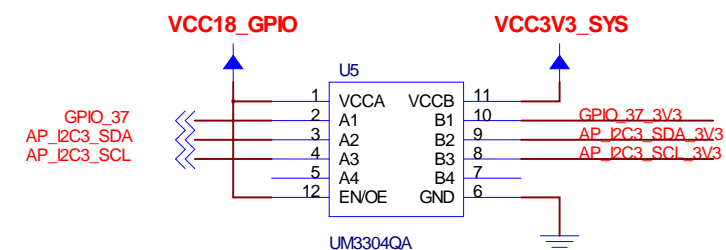
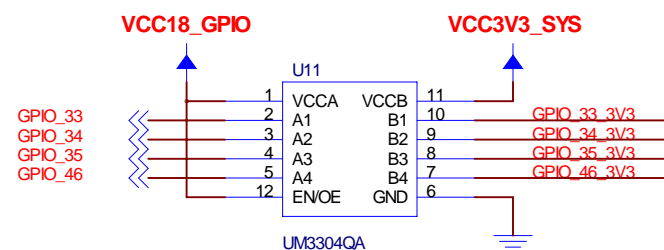
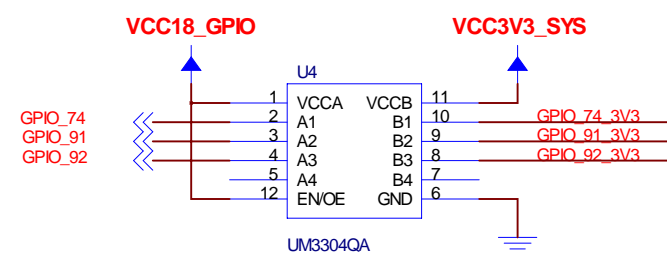
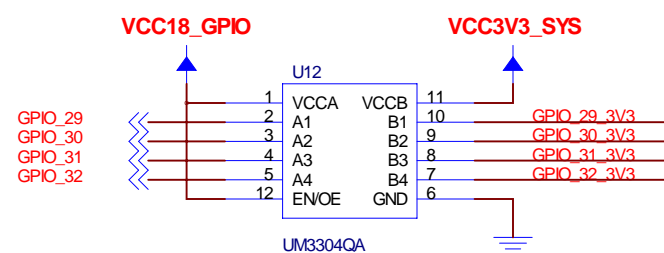
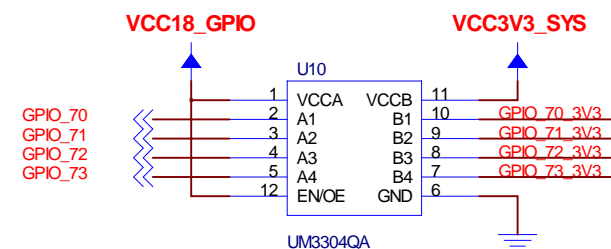
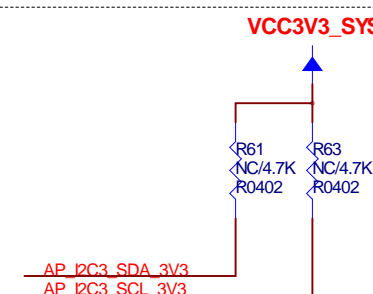
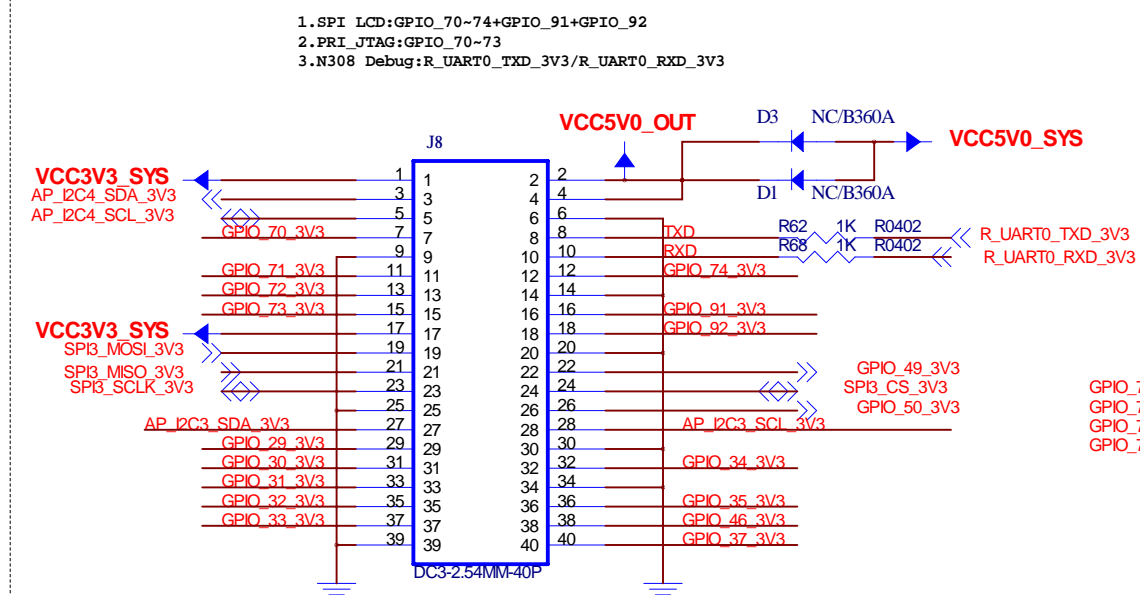
download sel

QSPI_DATA2	Function
0	USB
1	UART

Boot SEL

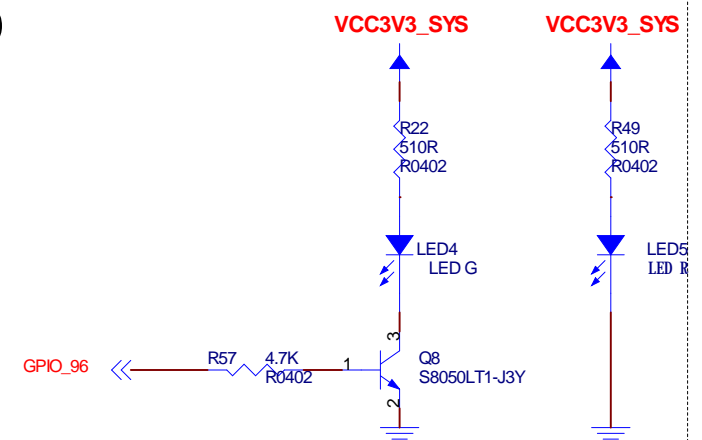
QSPI_DATA1	QSPI_DATA0	Function
0	1	TF Card -> SPI NOR
1	0	TF Card -> SPI NAND
1	1	TF Card -> SD

JTAG SEL

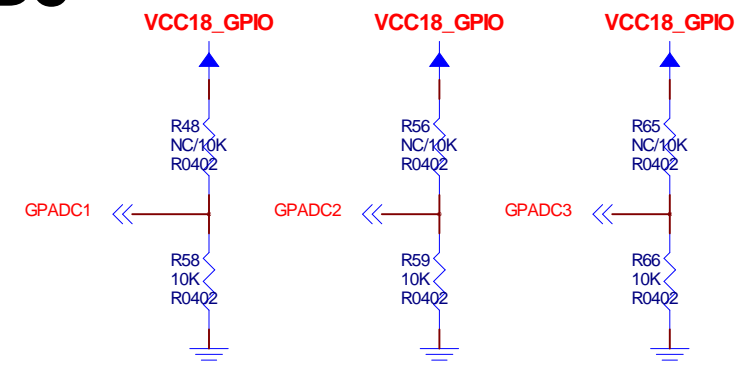


JTAG_SEL	Function	MMC1_CMD	JTAG Route
0	Other	0	X60
1	JTAG	1	N308

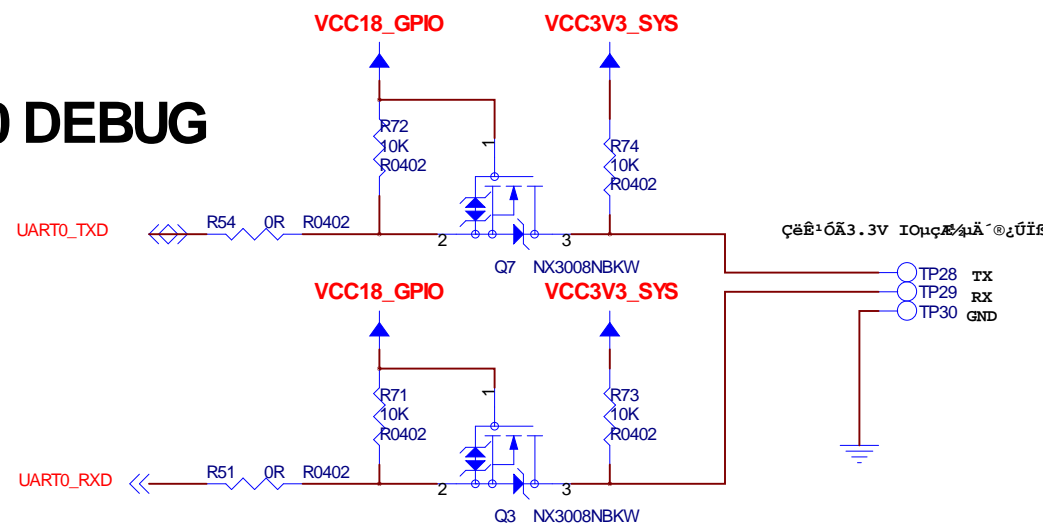
LED



ADC



X60 DEBUG



REST

