

野火_RK3566 LUBANCAT_1_原理图

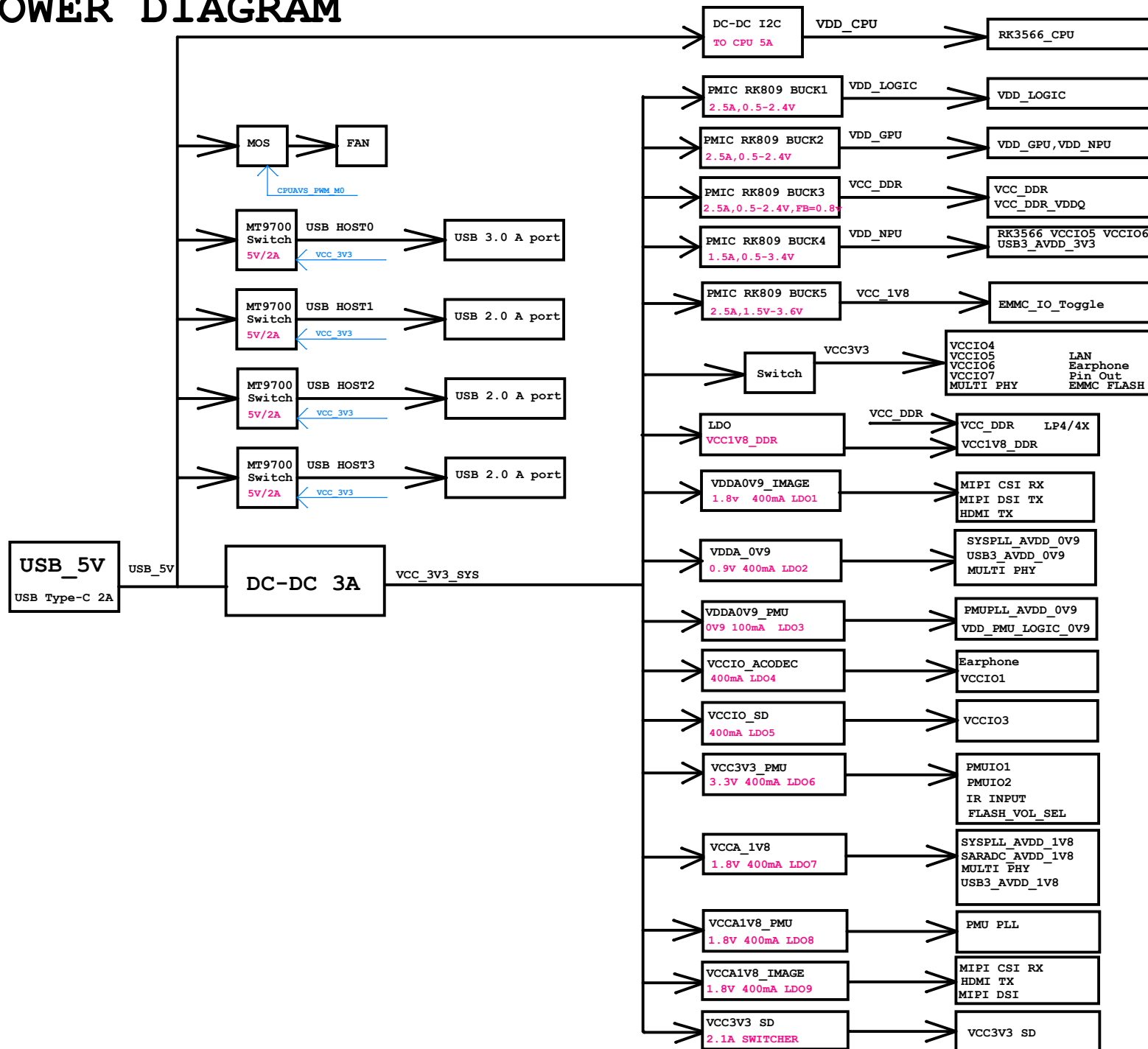
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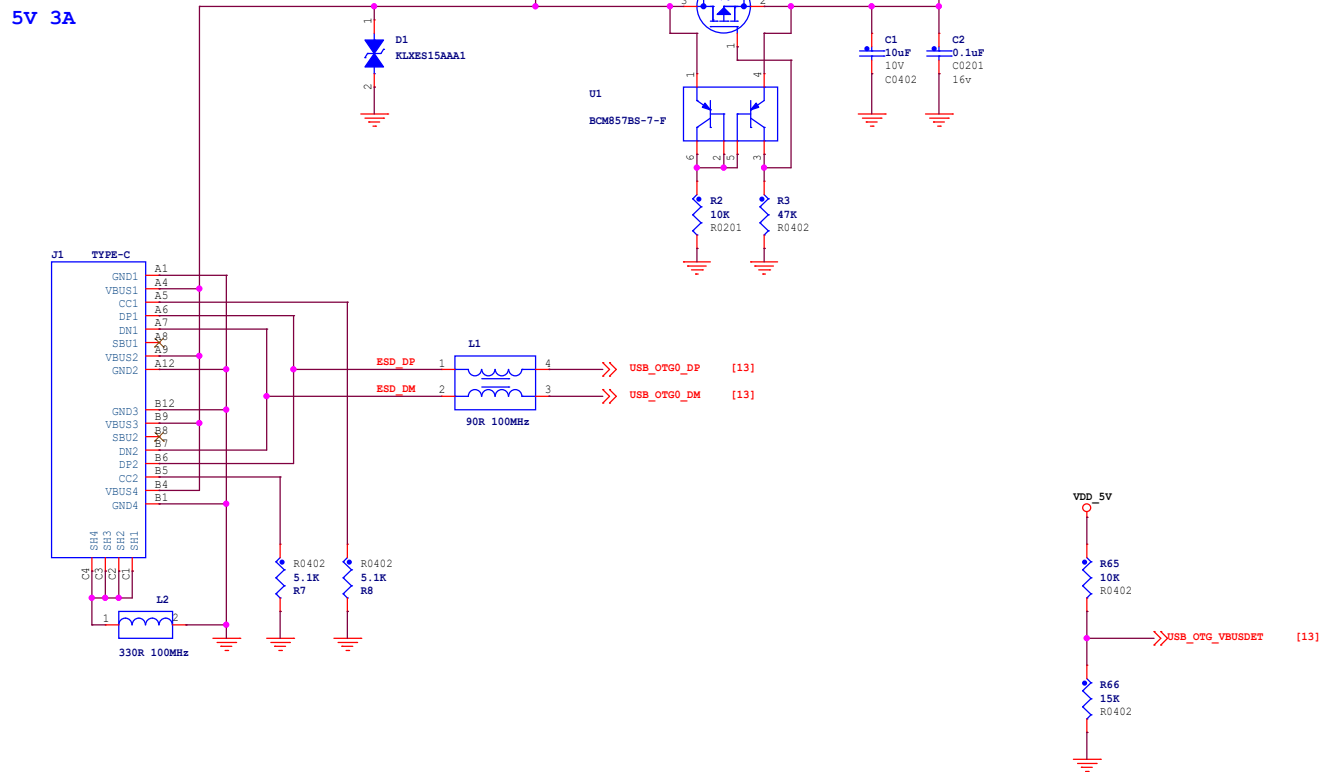
历史版本

版本号	日期	设计	描述
V0.1	2022-03-18	ghs	初始版本
V1.0	2022-12-12	ghs	修正PHY芯片的RST引脚复位电平不匹配问题
V1.1	2023-04-17	ghs	新增一个BTB的2lane 的mipi csi接口
V2R2	2023-03-09	ghs	将两个MIPI CSI接口的连接器更换为BTB类型，mini PCIE接口处增加钽电容保证稳定性

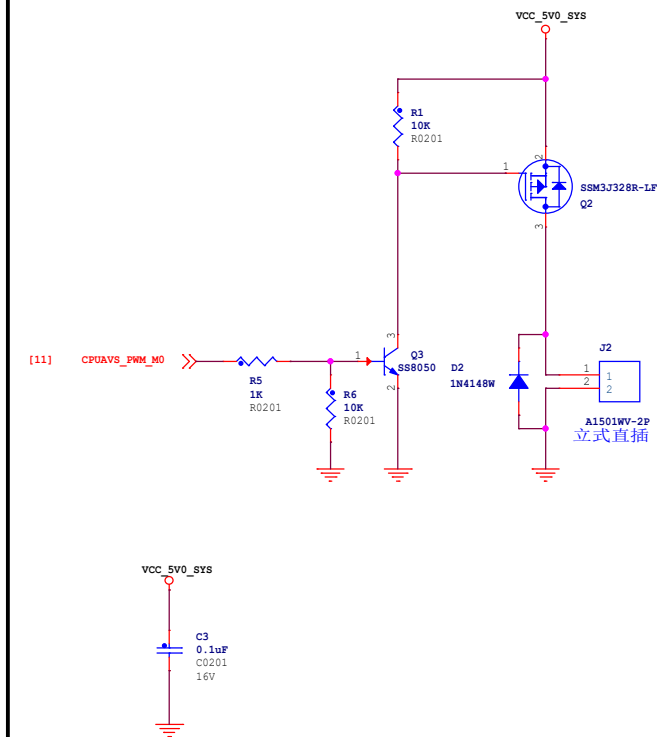
POWER DIAGRAM



POWER IN

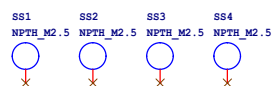


Active Cooling

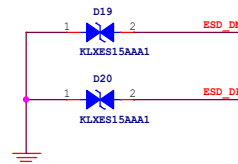


机械定位孔

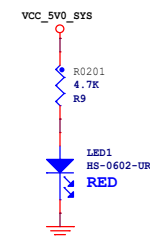
4*M3



USB ESD

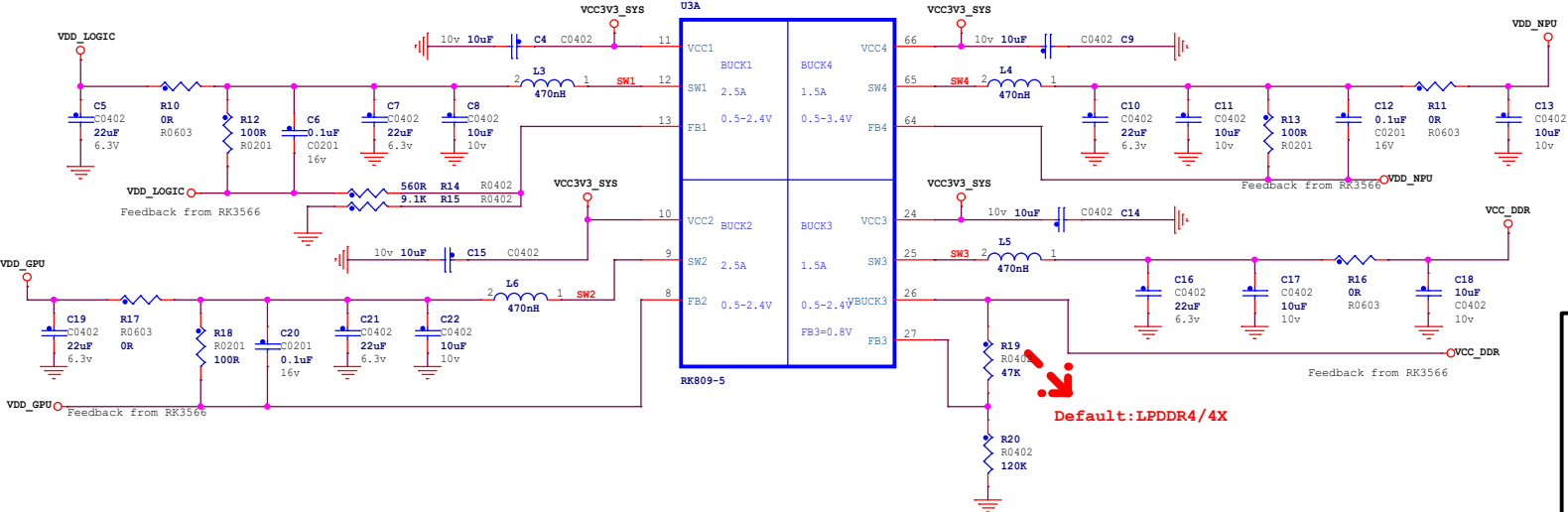


PWR_LED



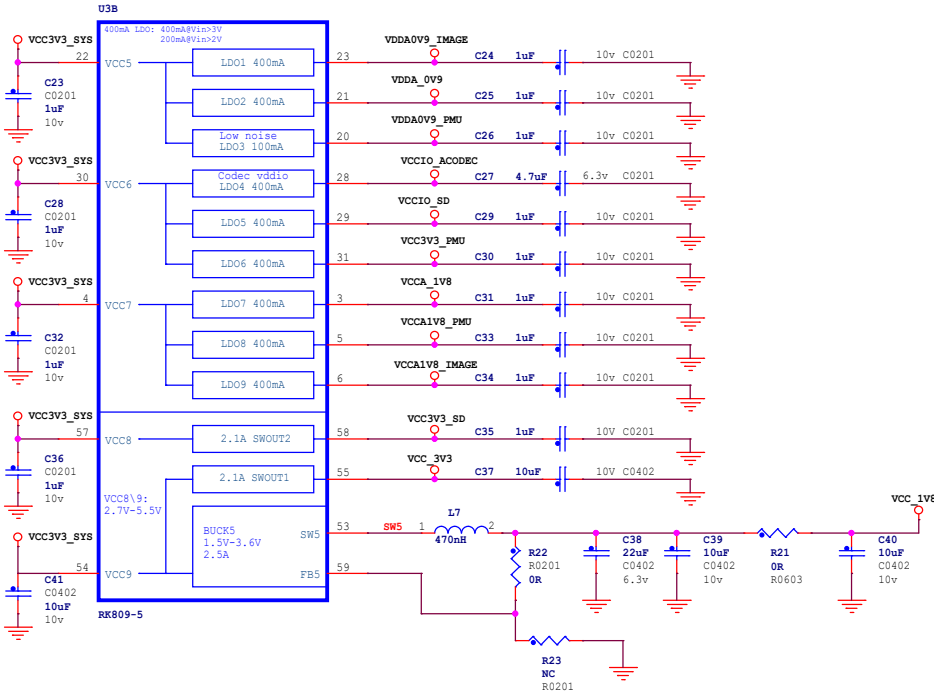
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PMIC RK809 DCDC



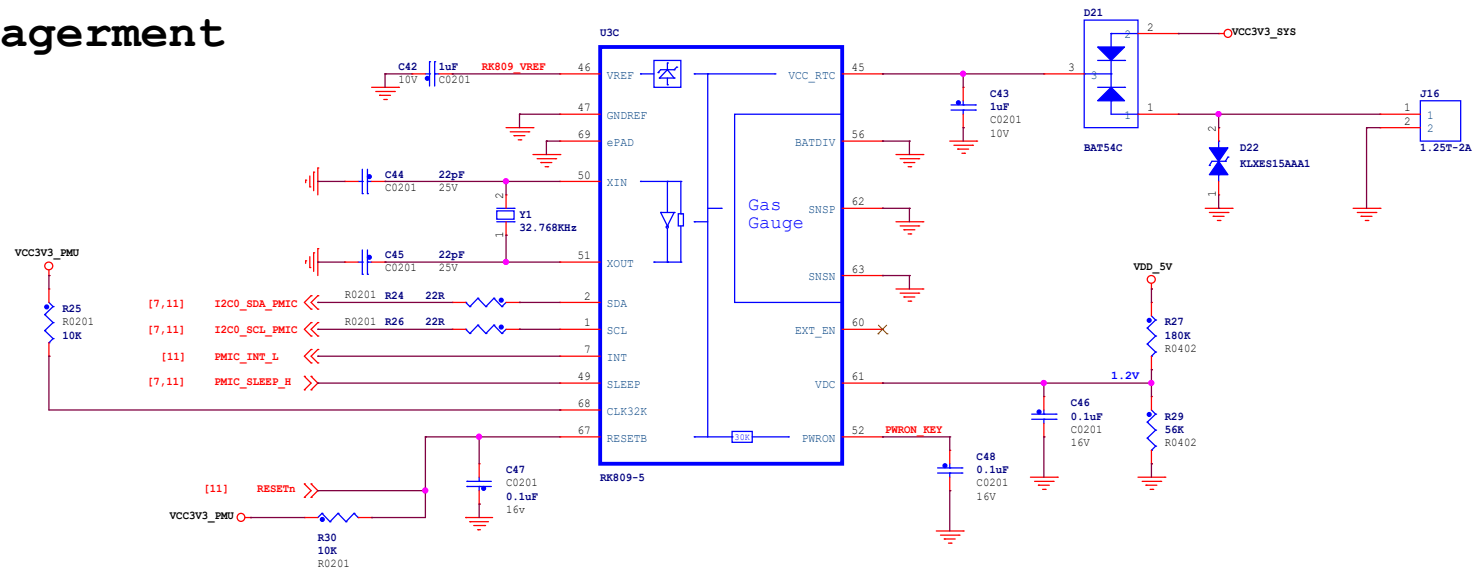
RK3566 BUCK FB

PMIC RK809 LDO

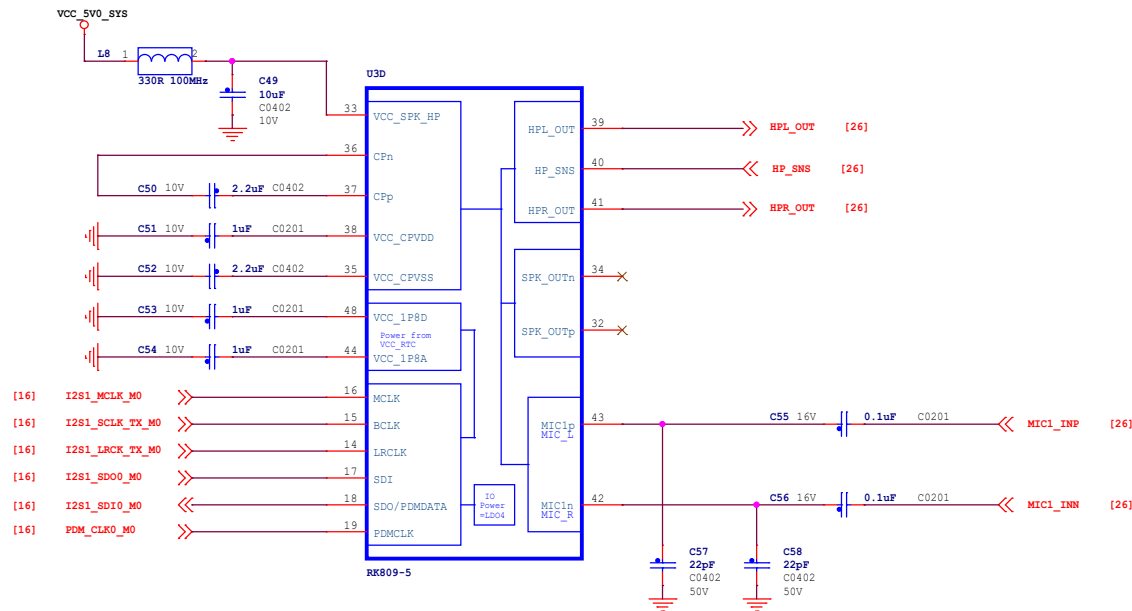


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PMIC RK809 Managerment



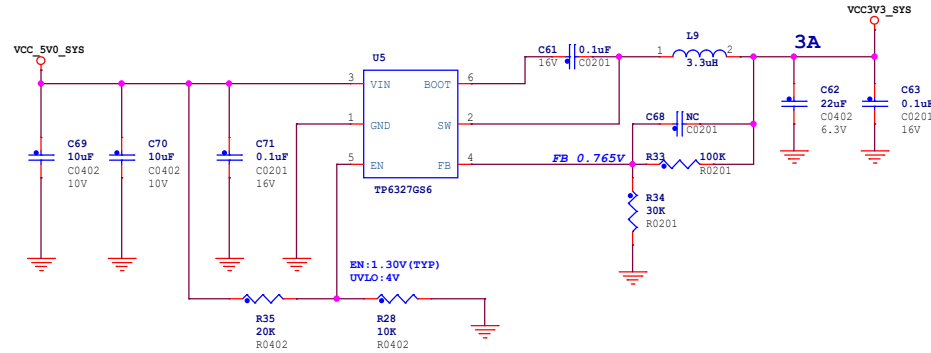
PMIC RK809 CODEC



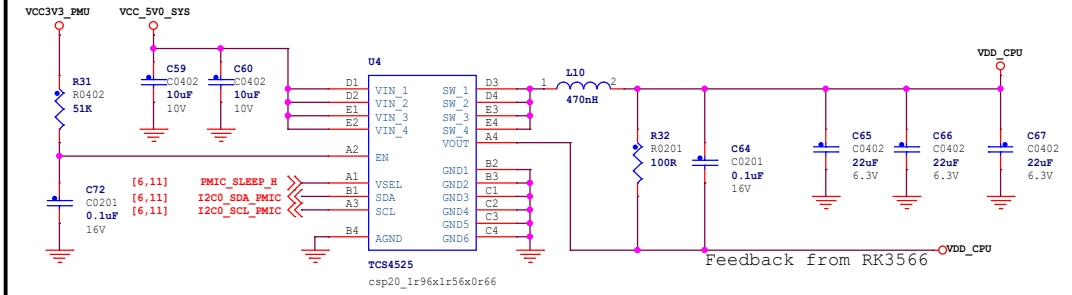
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野火_RK3566_LUBANCAT_1_原理图		
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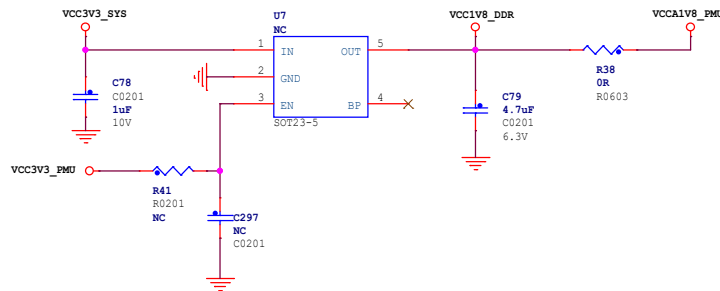
SYS_Power



RK3566 CPU Power VDD_CPU_EXT

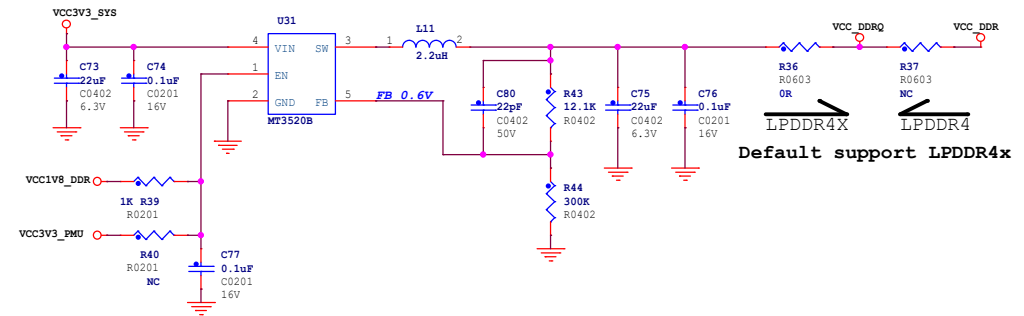


Auxiliary power supply LPDDR4_VCC1V8_DDR



LPDDR4X Power

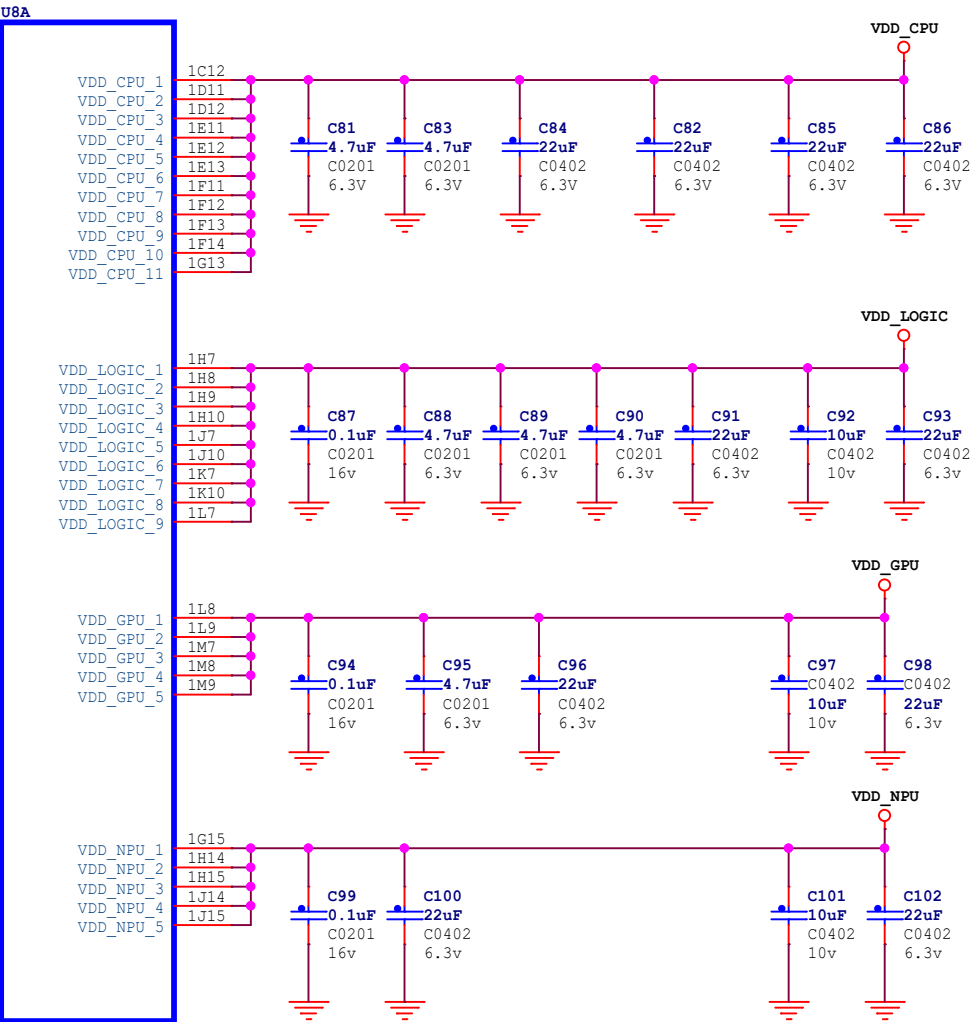
output: 0.6V



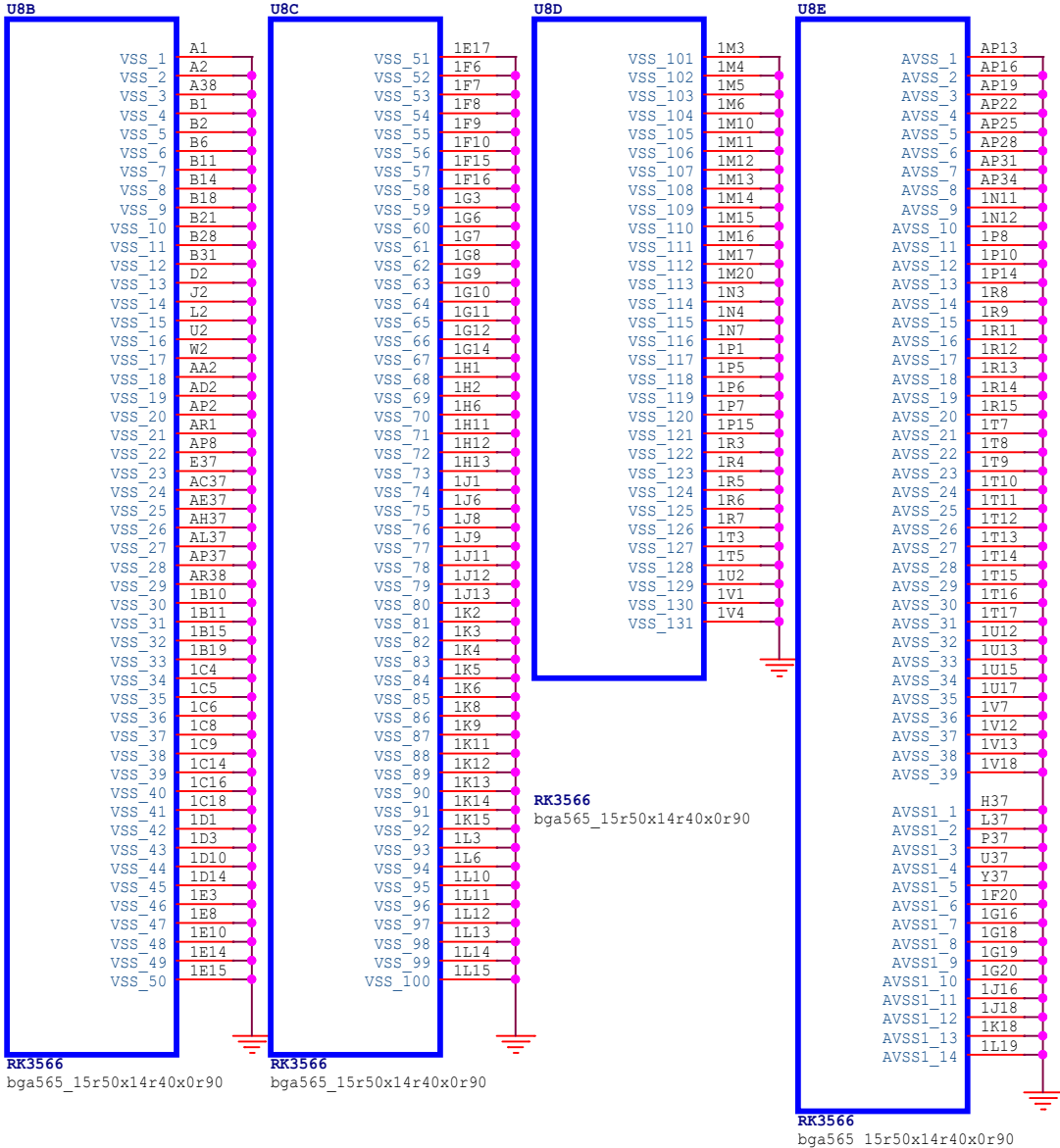
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RK3566_ABCDE

(Power&GND)



RK3566
bga565_15r50x14r40x0r90



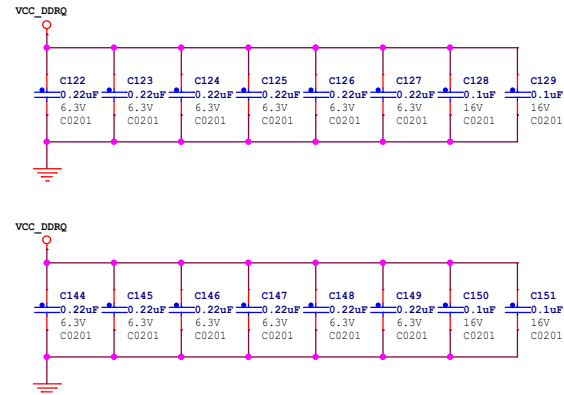
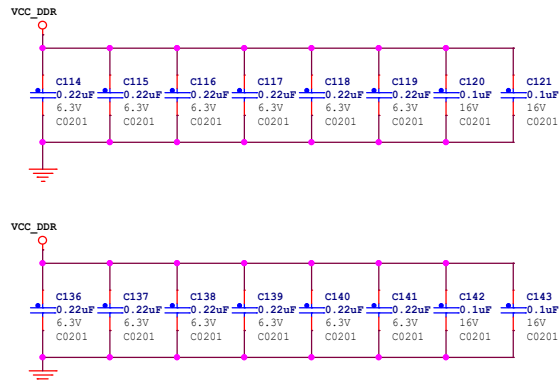
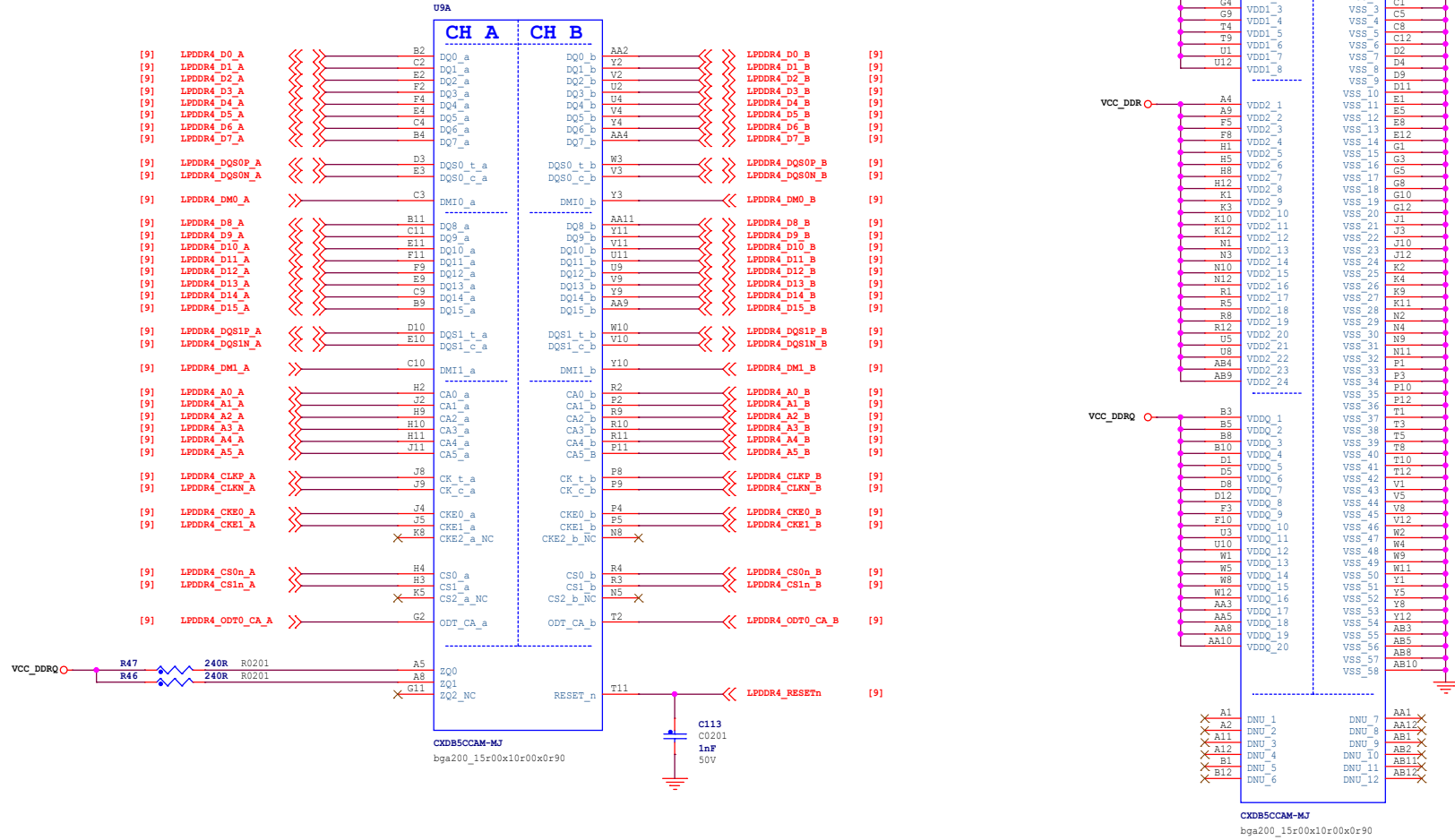
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RK3566_F (DDR PHY)

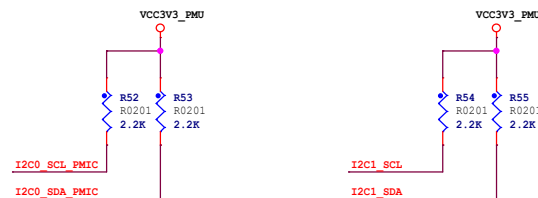
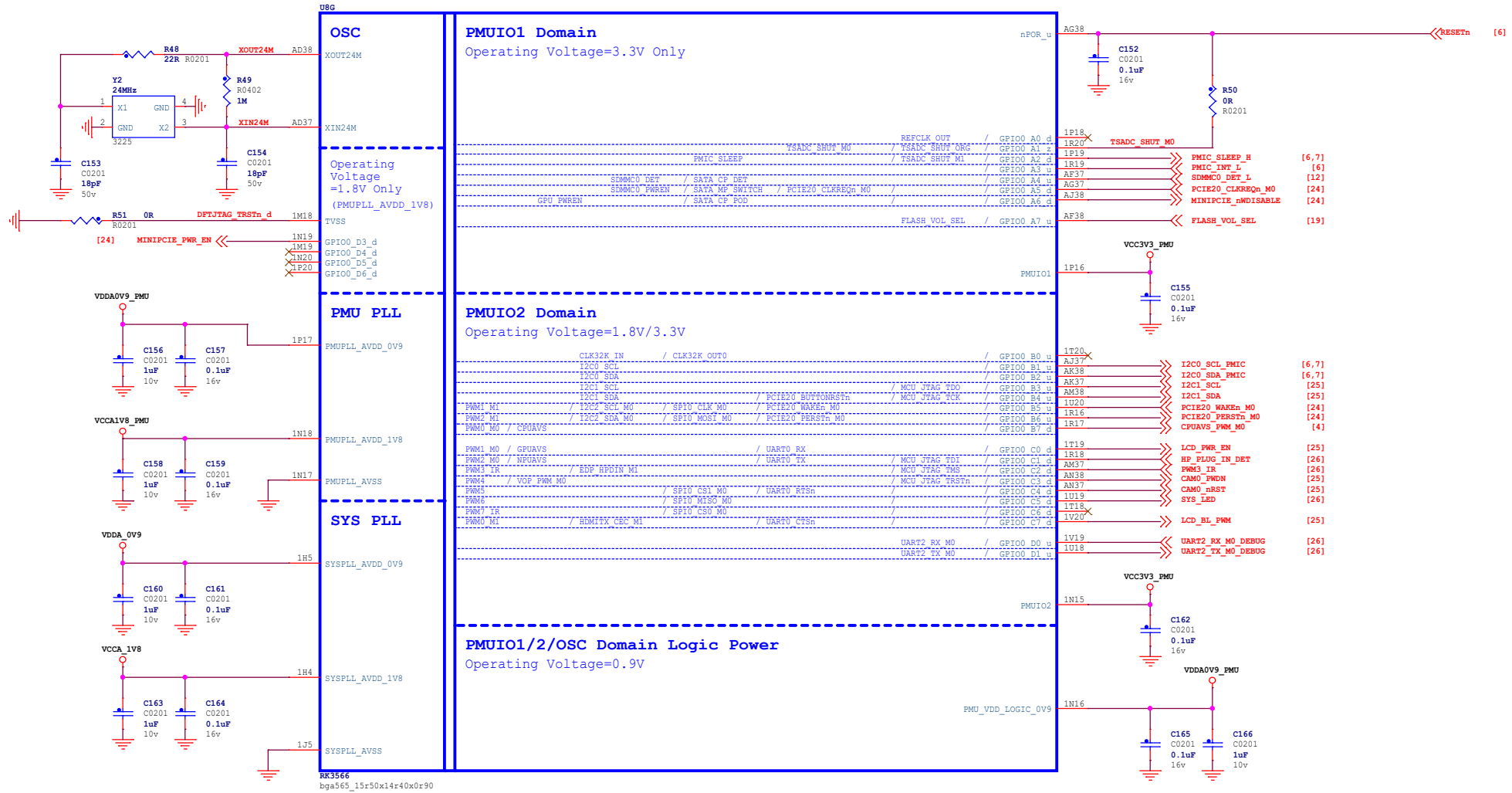


LPDDR4/4X

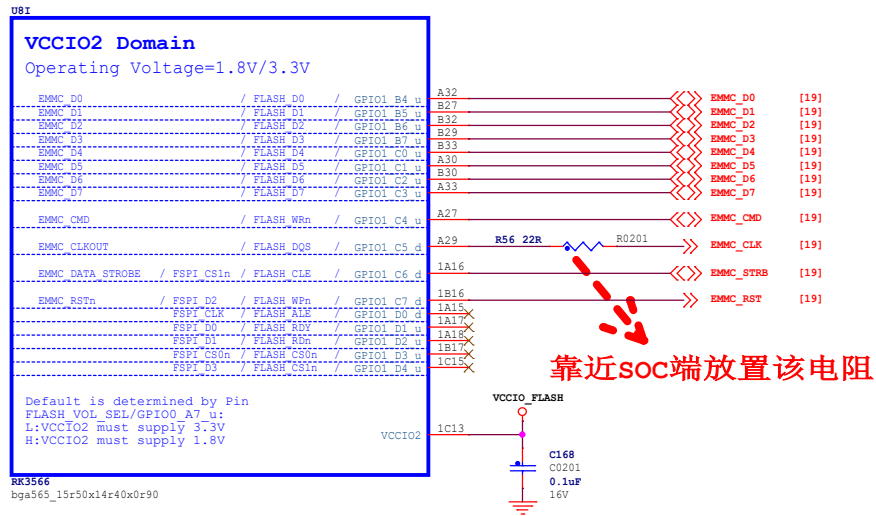


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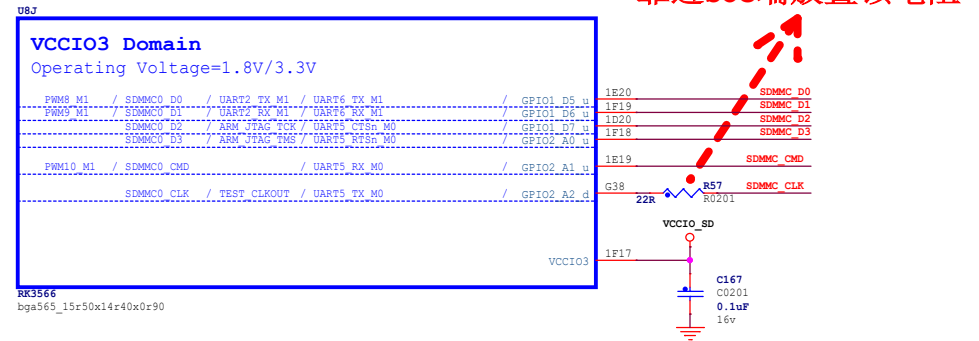
RK3566_G (OSC/PLL/PMUIO1/2)



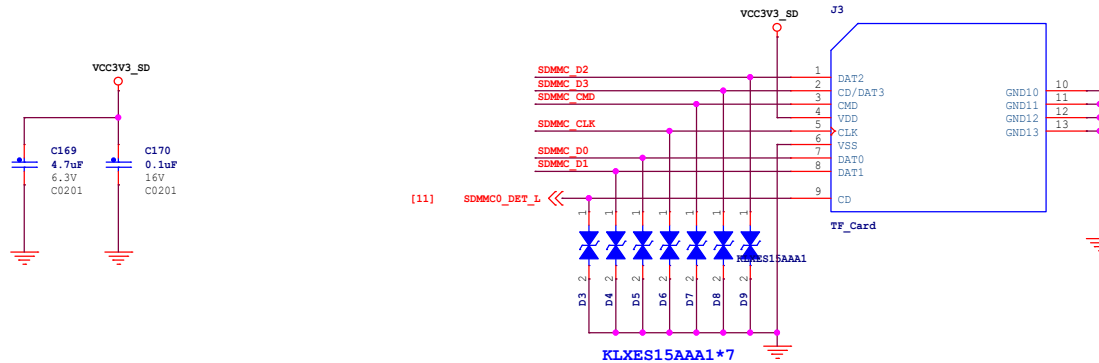
RK3566_I (VCCIO2 Domain) EMMC_IO



RK3566_J (VCCIO3 Domain) SDMMC_IO

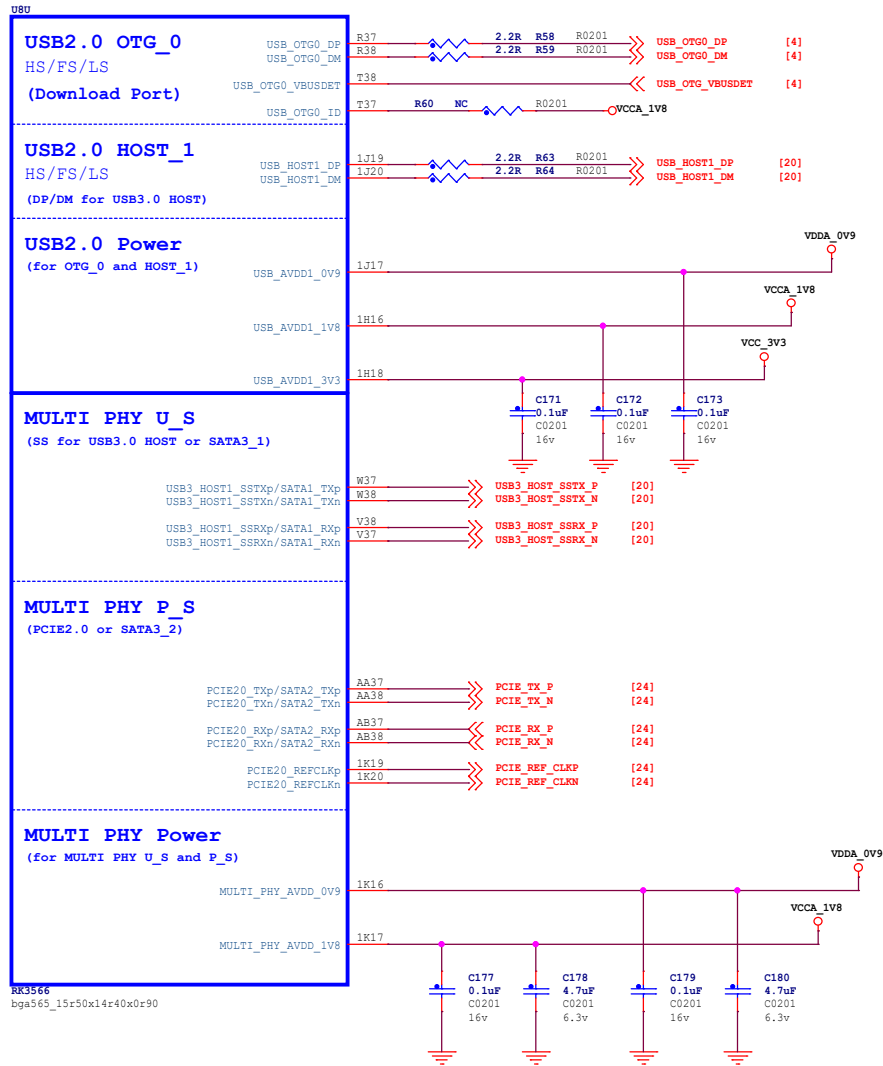


TF_CARD

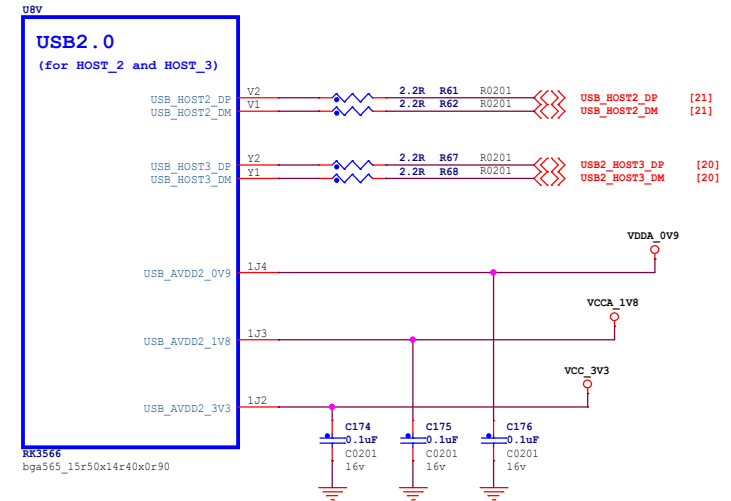


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RK3566_U (USB3.0/SATA/PCIE2.0 x1)



RK3566_V (USB2.0 HOST)

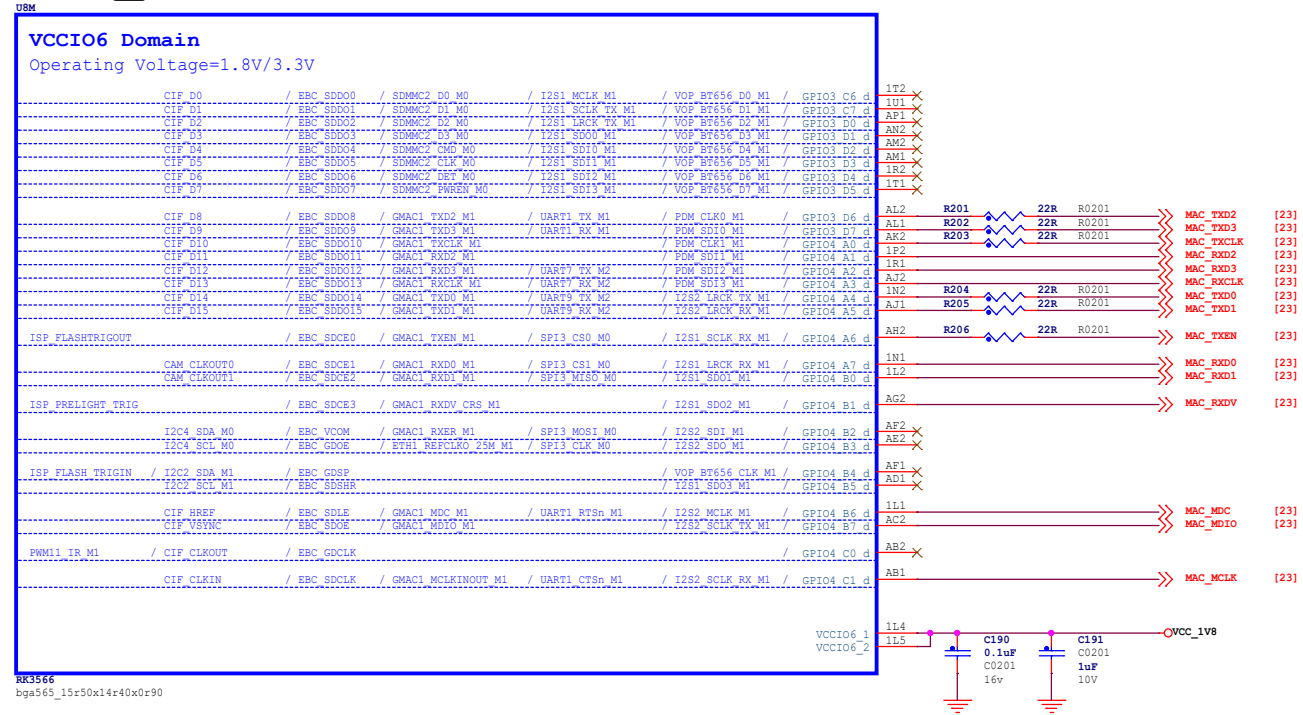


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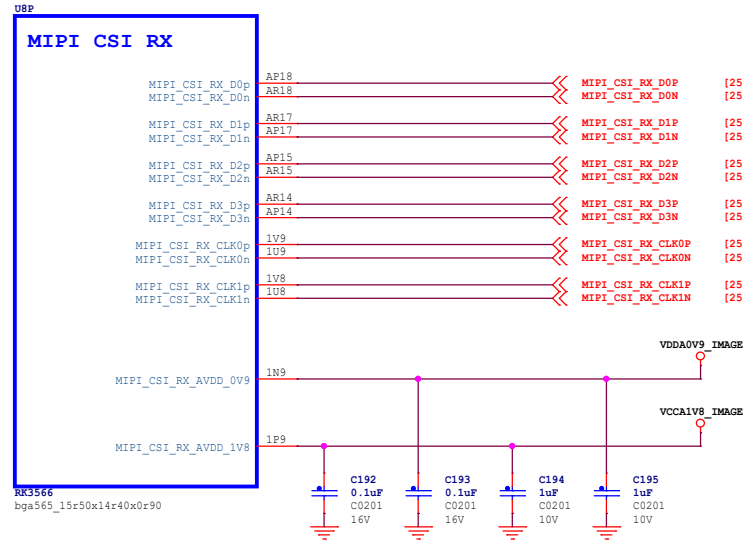
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RK3566_M(VCCIO6 Domain)

GMAC_Controller



RK3566_P(MIPI_CSI_RX)



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A3	MIPI_CSI/GMAC_Controller	V2R2
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RK3566_H (VCCIO1 Domain)

U8H

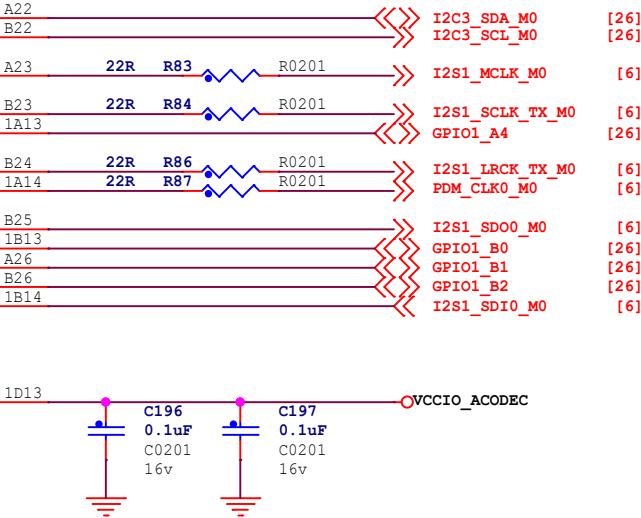
VCCIO1 Domain

Operating Voltage=1.8V/3.3V

				/ I2C3 SDA M0	/ UART3 RX M0	/ AUDIOPWM LOUT_p	/ GPIO1 A0 u
				/ I2C3 SCL M0	/ UART3 TX M0	/ AUDIOPWM LOUT_n	/ GPIO1 A1 u
SCR_CLK				/ I2S1 MCLK M0	/ UART3 RTSn M0		
SCR_IO				/ I2S1 SCLK TX M0	/ UART3 CTSn M0		
				I2S1 SCLK RX M0	/ UART4 RX M0	/ PDM_CLK1 M0	/ SPDIF TX M0
SCR_RST				/ I2S1 LRCK TX M0	/ UART4 RTSn M0		
				I2S1 LRCK RX M0	/ UART4 TX M0	/ PDM_CLK0 M0	/ AUDIOPWM ROUT_p
SCR_DET				/ I2S1 SDO0 M0	/ UART4 CTSn M0		
				I2S1 SD01 M0	/ I2S1 SDI3 M0	/ PDM SDI3 M0	/ PCIE20_CLKREQn M2
				I2S1 SD02 M0	/ I2S1 SDI2 M0	/ PDM SDI2 M0	/ PCIE20_WAKEn M2
				I2S1 SD03 M0	/ I2S1 SDI1 M0	/ PDM SDI1 M0	/ PCIE20_PERSTn M2
						I2S1 SDI0 M0	/ PDM SDI0 M0

RK3566
bga565_15r50x14r40x0r90

VCCIO1



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RK3566_L (VCCIO5 Domain)

U8L

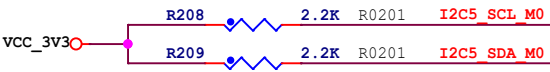
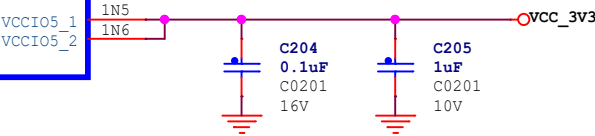
VCCIO5 Domain

Operating Voltage=1.8V/3.3V

VOP_BT1120_D0	/ SPI1_CS0_M1	/ GMAC1_TXD2_M0	/ I2S3_MCLK_M0	/ SDMMC2_D0_M1	/ GPIO3_A1_d
VOP_BT1120_D1		/ GMAC1_TXD3_M0	/ I2S3_SCLK_M0	/ SDMMC2_D1_M1	/ GPIO3_A2_d
VOP_BT1120_D2		/ GMAC1_RXD2_M0	/ I2S3_LRCK_M0	/ SDMMC2_D2_M1	/ GPIO3_A3_d
VOP_BT1120_D3		/ GMAC1_RXD3_M0	/ I2S3_SDO_M0	/ SDMMC2_D3_M1	/ GPIO3_A4_d
VOP_BT1120_D4		/ GMAC1_TXCLK_M0	/ I2S3_SDI_M0	/ SDMMC2_CMD_M1	/ GPIO3_A5_d
VOP_BT1120_D5		/ GMAC1_RXCLK_M0		/ SDMMC2_CLK_M1	/ GPIO3_A6_d
				/ SDMMC2_DET_M1	/ GPIO3_A7_d
VOP_BT1120_D6		ETH1_REFCLKO_25M_M0		/ SDMMC2_PWREN_M1	/ GPIO3_B0_d
PWM8_M0	/ VOP_BT1120_D7	/ GMAC1_RXD0_M0	/ UART4_RX_M1		/ GPIO3_B1_d
PWM9_M0	/ VOP_BT1120_D8	/ GMAC1_RXD1_M0	/ UART4_TX_M1		/ GPIO3_B2_d
VOP_BT1120_D9	/ I2C5_SCL_M0	/ GMAC1_RXDV_CRS_M0		/ PDM_SDI0_M2	/ GPIO3_B3_d
VOP_BT1120_D10	/ I2C5_SDA_M0	/ GMAC1_RXER_M0		/ PDM_SDI1_M2	/ GPIO3_B4_d
PWM10_M0	/ VOP_BT1120_D11	/ I2C3_SCL_M1	/ GMAC1_TXD0_M0		/ GPIO3_B5_d
PWM11_IR_M0	/ VOP_BT1120_D12	/ I2C3_SDA_M1	/ GMAC1_TXD1_M0		/ GPIO3_B6_d
PWM12_M0		/ GMAC1_TXEN_M0	/ UART3_TX_M1	/ PDM_SDI2_M2	/ GPIO3_B7_d
PWM13_M0		GMAC1_MCLKINOUT_M0	/ UART3_RX_M1	/ PDM_SDI3_M2	/ GPIO3_C0_d
VOP_BT1120_D13	/ SPI1_MOSI_M1		PCIE20_PERSTn_M1	/ I2S1_SDO2_M2	/ GPIO3_C1_d
VOP_BT1120_D14	/ SPI1_MISO_M1		/ UART5_TX_M1	/ I2S1_SDO3_M2	/ GPIO3_C2_d
VOP_BT1120_D15	/ SPI1_CLK_M1		/ UART5_RX_M1	/ I2S1_SCLK_RX_M2	/ GPIO3_C3_d
PWM14_M0	/ VOP_PWM_M1	/ GMAC1_MDC_M0	/ UART7_TX_M1	/ PDM_CLK1_M2	/ GPIO3_C4_d
PWM15_IR_M0	/ SPDIF_TX_M1	/ GMAC1_MDIO_M0	/ UART7_RX_M1	/ I2S1_LRCK_RX_M2	/ GPIO3_C5_d

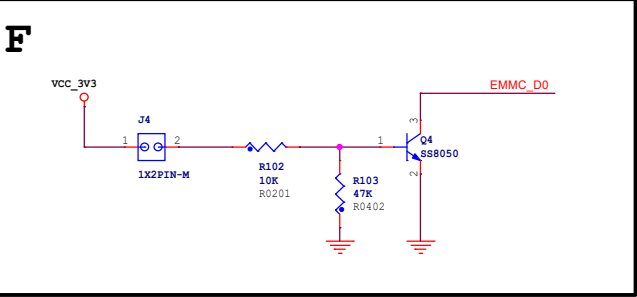
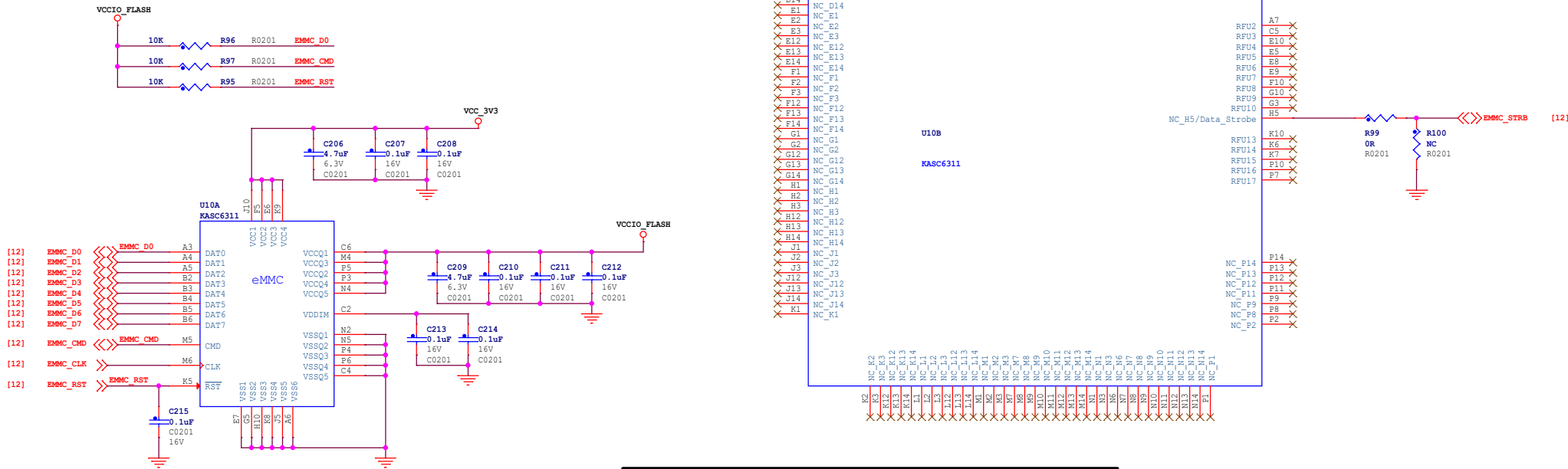
RK3566
bga565_15r50x14r40x0r90

1U5	CTP_INT	[25]
AR10	CTP_RST	[25]
AP10	LCD_TE	[25]
AR9	LCD_RST	[25]
AP9	GPIO3_A5	[26]
1U4	GPIO3_A6	[26]
1V3	GPIO3_A7	[26]
AR7	GPIO3_B0	[26]
AP7	PWM8_M0	[26]
AR6	PWM9_M0	[26]
AP6	I2C5_SCL_M0	[26]
1U3	I2C5_SDA_M0	[26]
1T4	PWM10_M0	[26]
1V2	GPIO3_B6	[26]
AP5	UART3_TX_M1	[26]
AR4	UART3_RX_M1	[26]
AP4	GPIO3_C1	[26]
AP3	GPIO3_C2	[26]
AR2	GPIO3_C3	[26]
1P3	PWM14_M0	[26]
1P4	GPIO3_C5	[26]

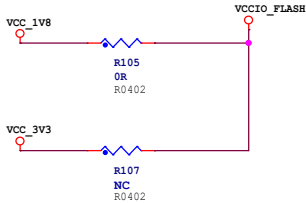


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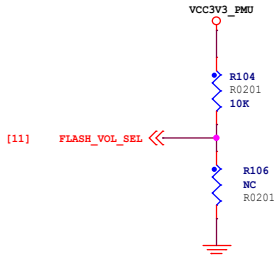
EMMC FLASH



EMMC_IO_Toggle



FLASH_VOL_SEL

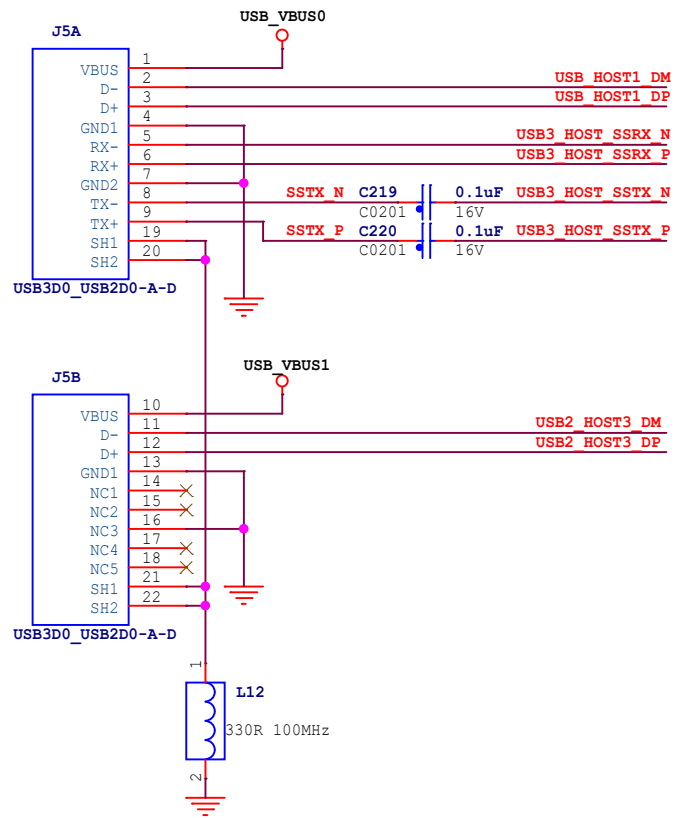


Note:
FLASH_VOL_SEL state decided
to VCCIO2 domain IO driven by default
Logic=L: 3.3V IO driven
Logic=H: 1.8V IO driven

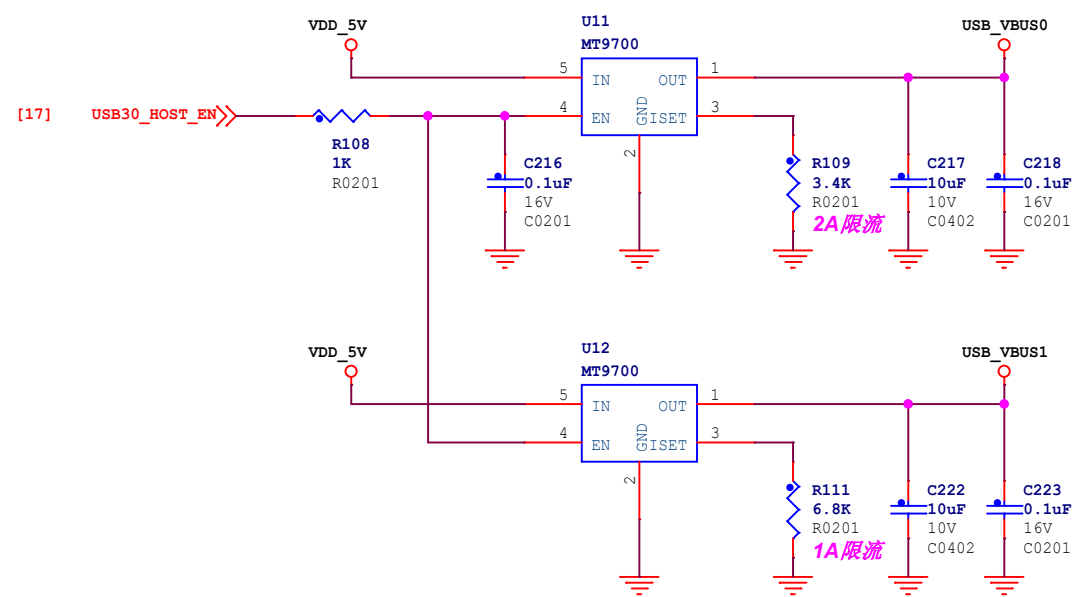
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USB 3.0 HOST x1

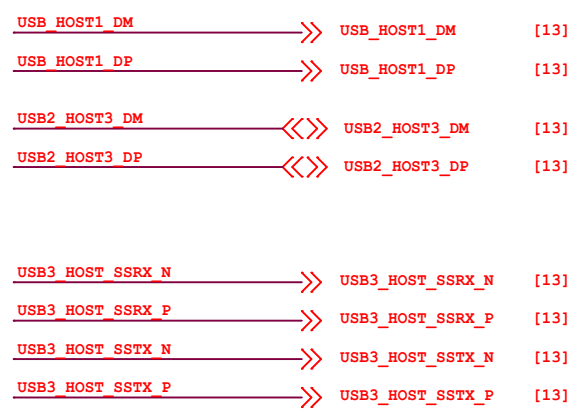
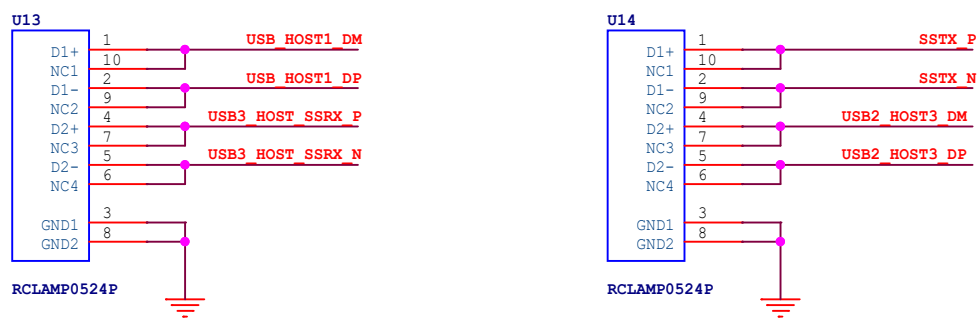
USB 2.0 HOST x1



USB POWER

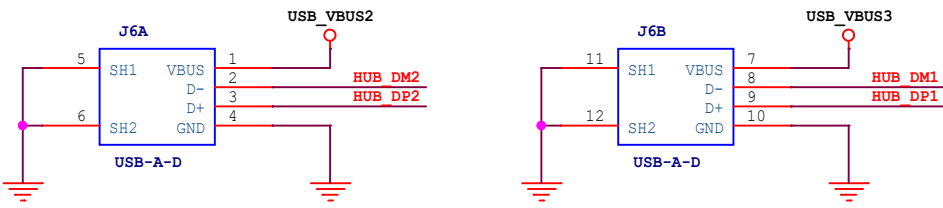


ESD

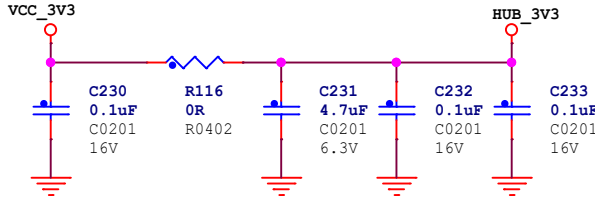


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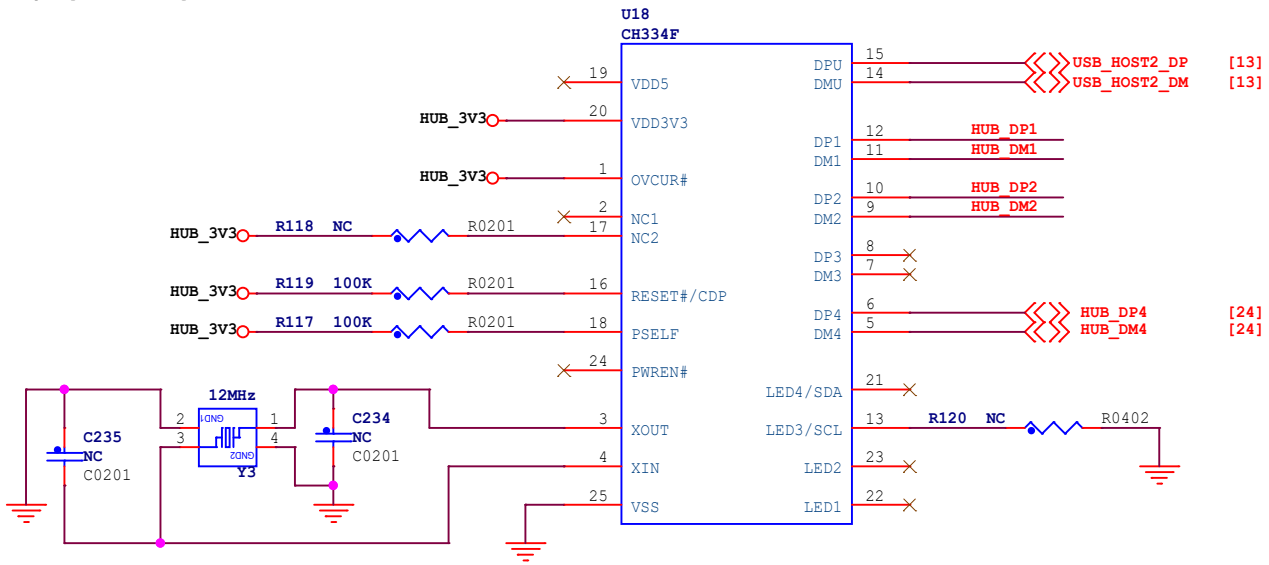
USB 2.0 HOST x2



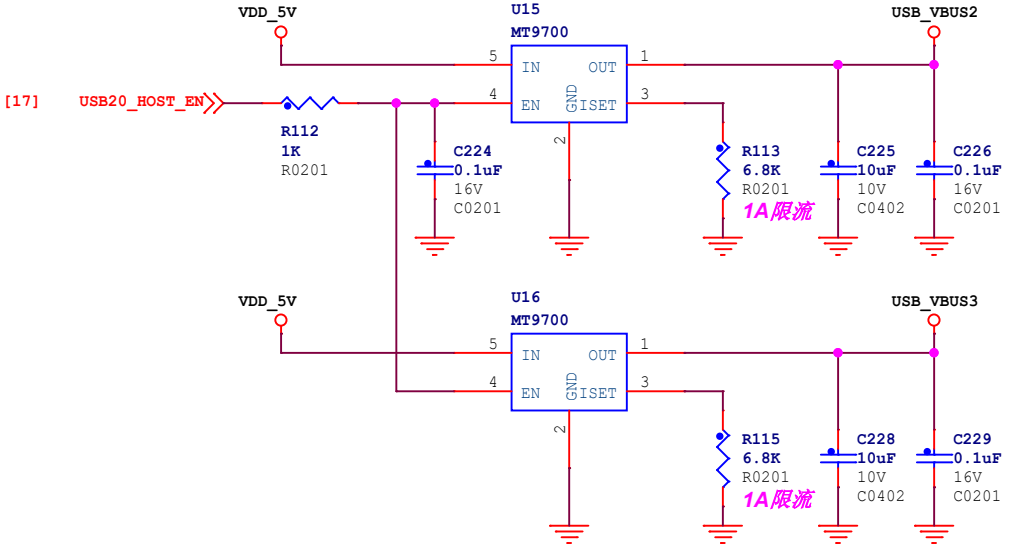
Filter capacitor



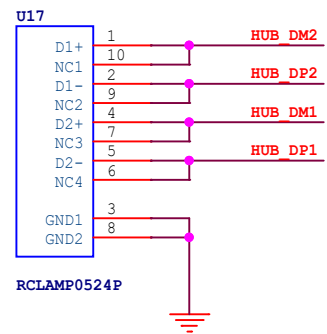
USB 2.0 HUB PHY



USB POWER

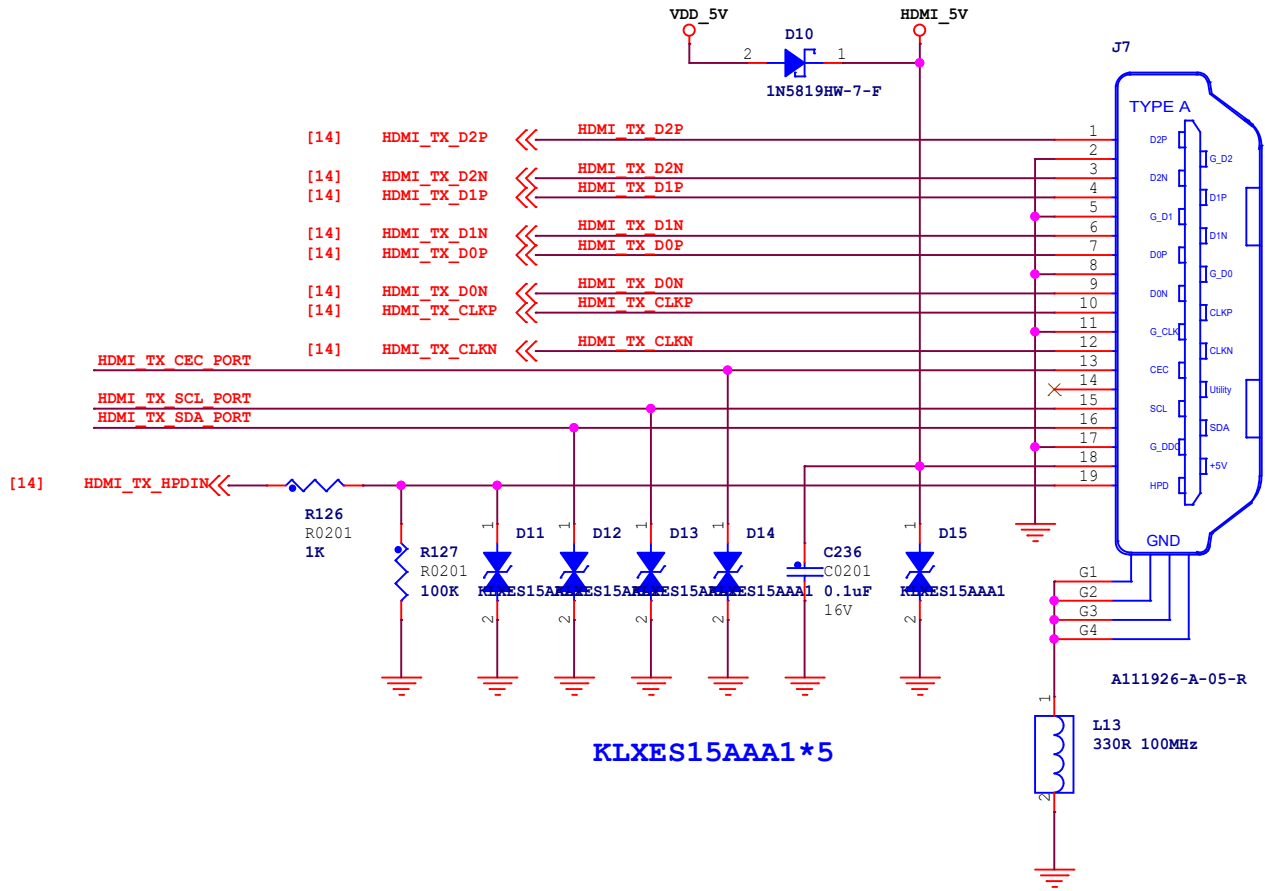
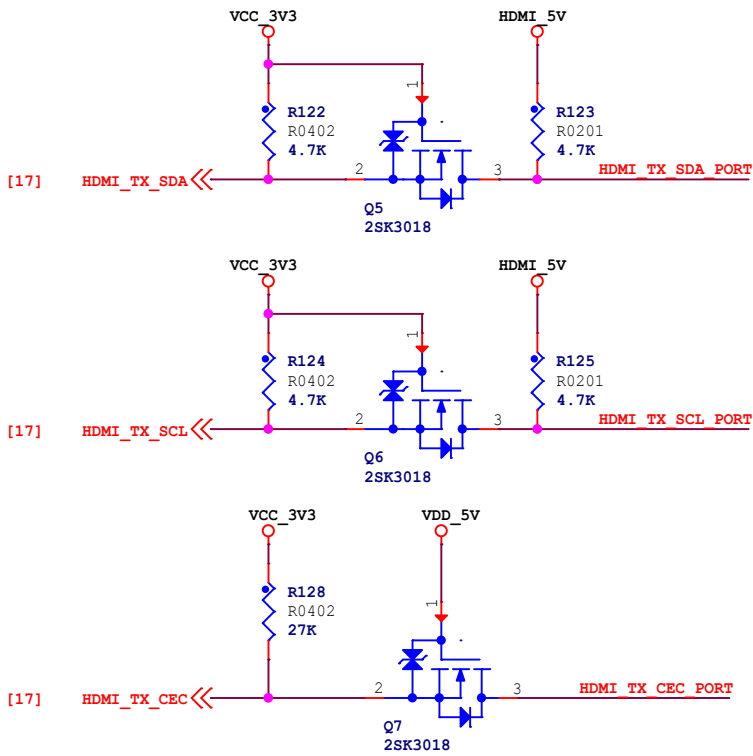


ESD

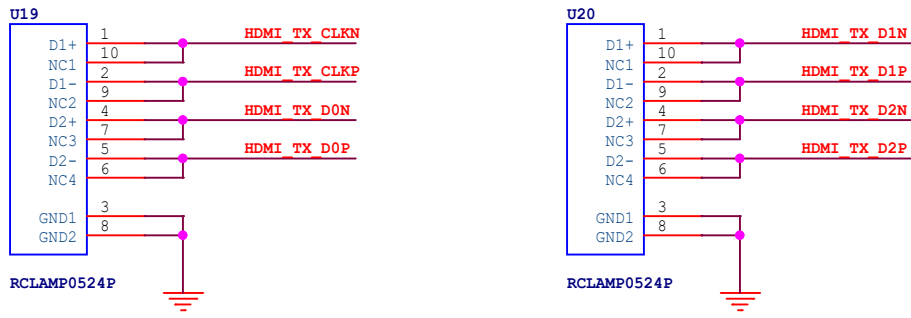


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JL2101-N040C

TXC / RXC : delays 2ns

PHY Address : 001

