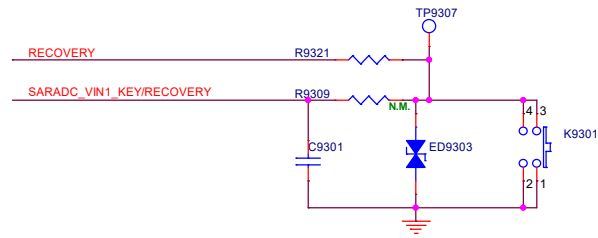
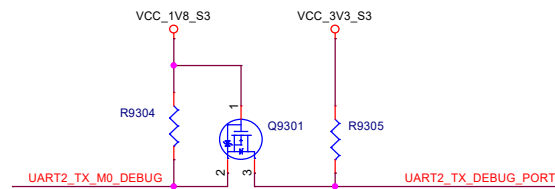
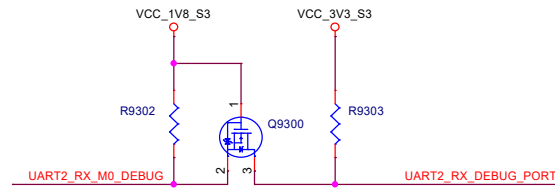
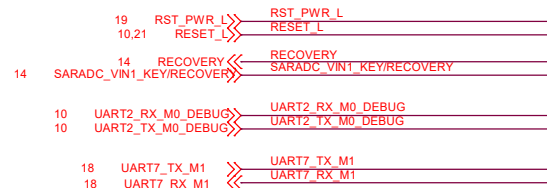
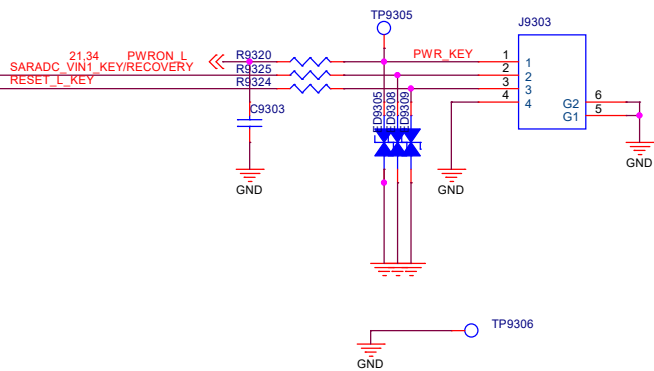
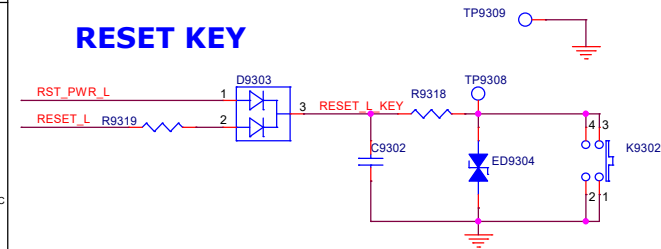


Mark									
HOLE									
1 1 H9901 1 1 H9902 1 1 H9903 1 1 H9904 1 1 H9905 1 1 H9906 1 1 H9907 1 1 H9908 1 1 H9909 1 1 H9910									
HEATSINK									

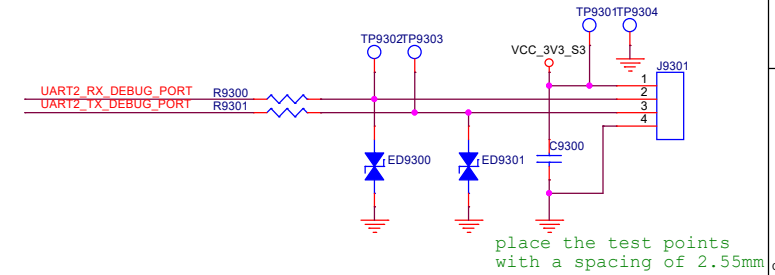
RECOVERY KEY



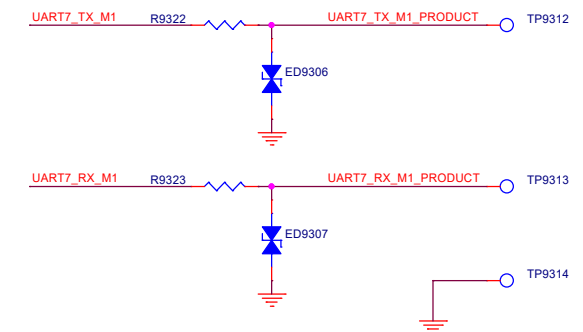
RESET KEY

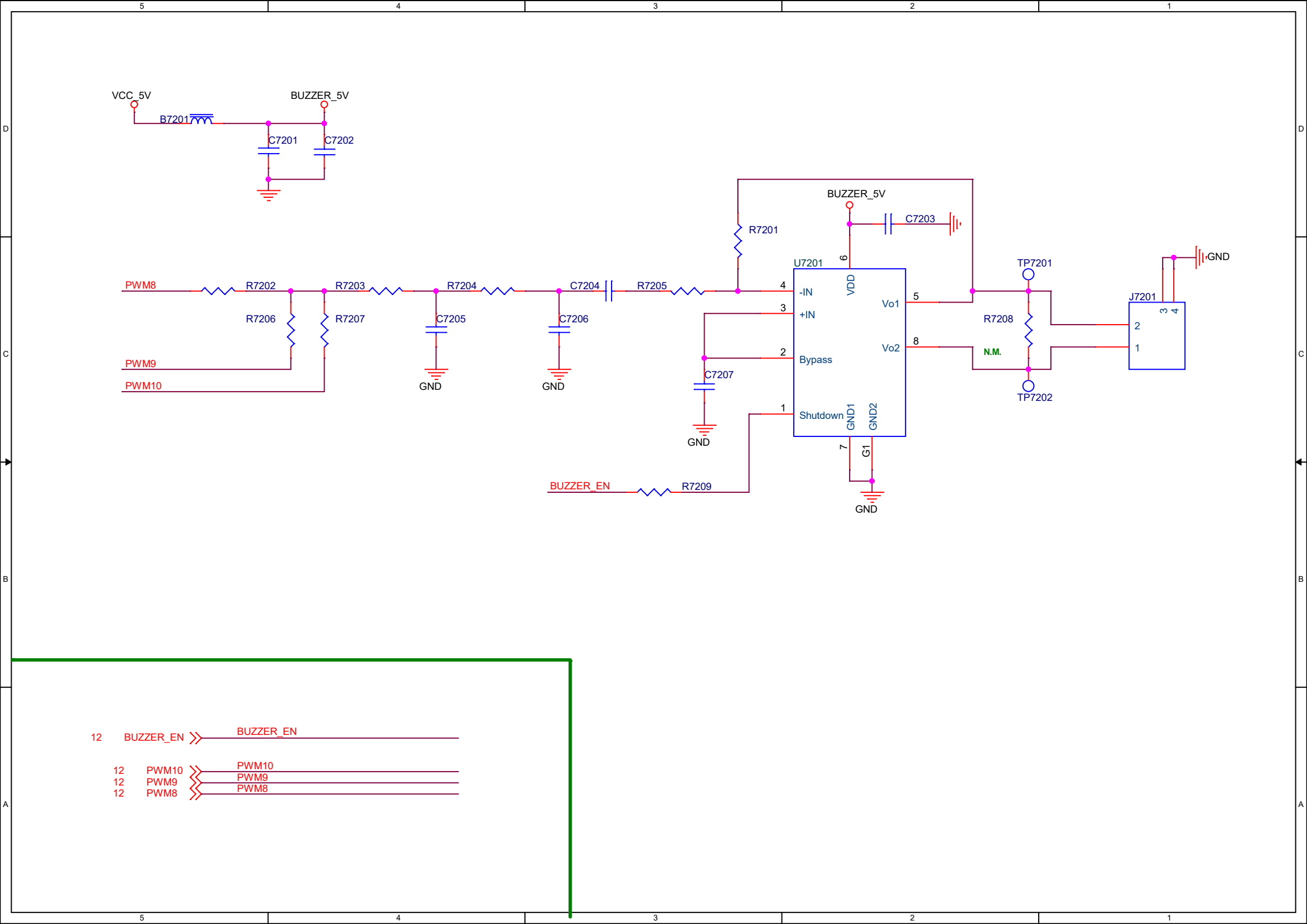


UART TO USB(DEBUG)

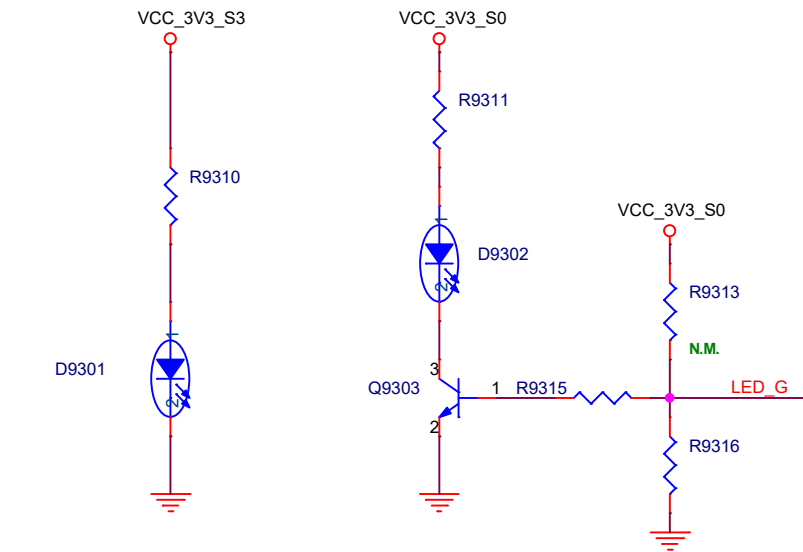


UART TO USB(PRODUCT)

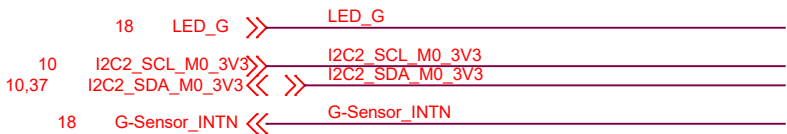
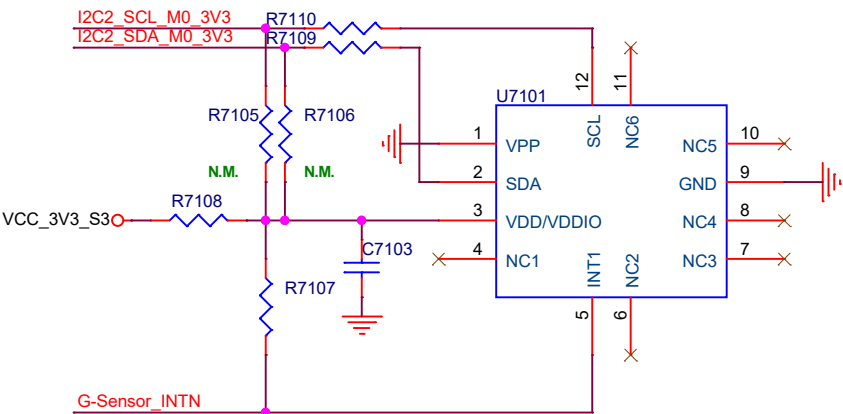
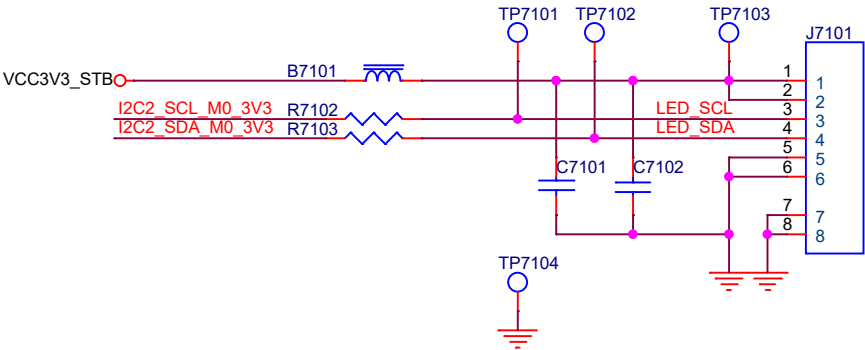


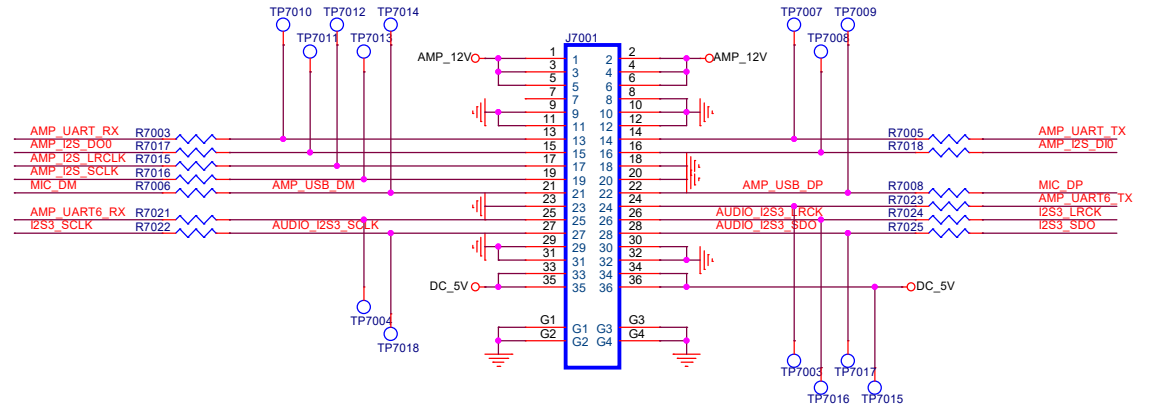
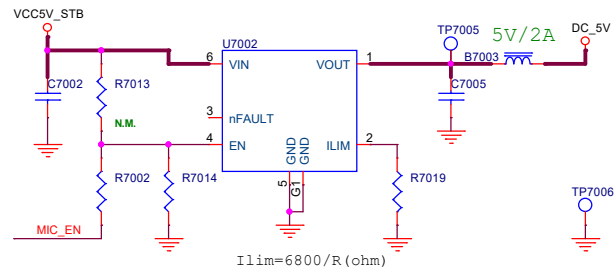
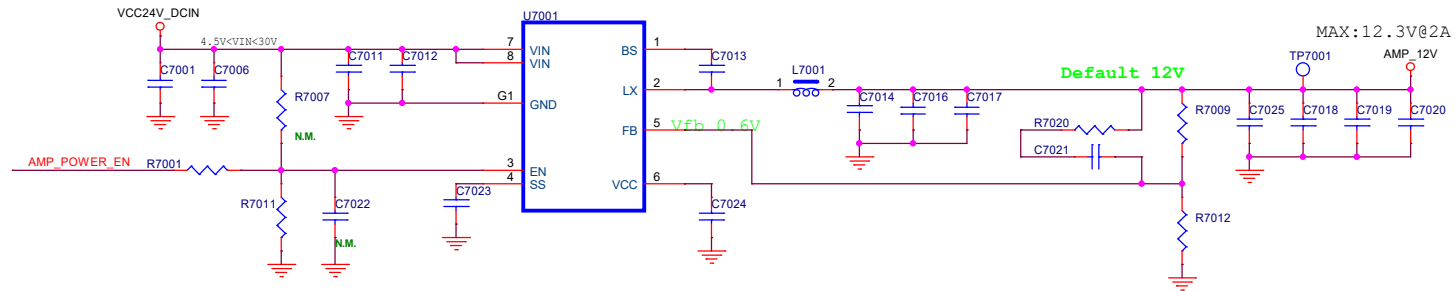


LED_POWER

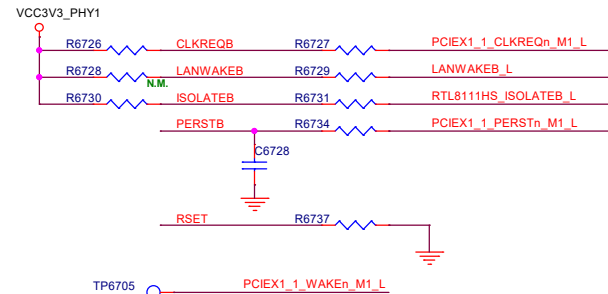
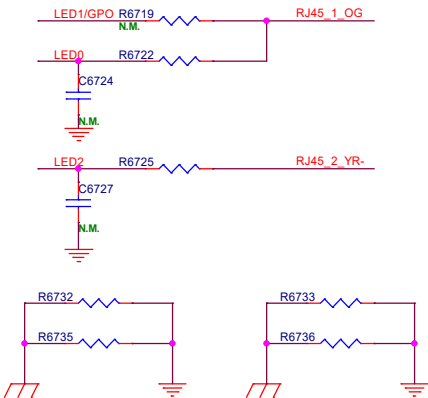
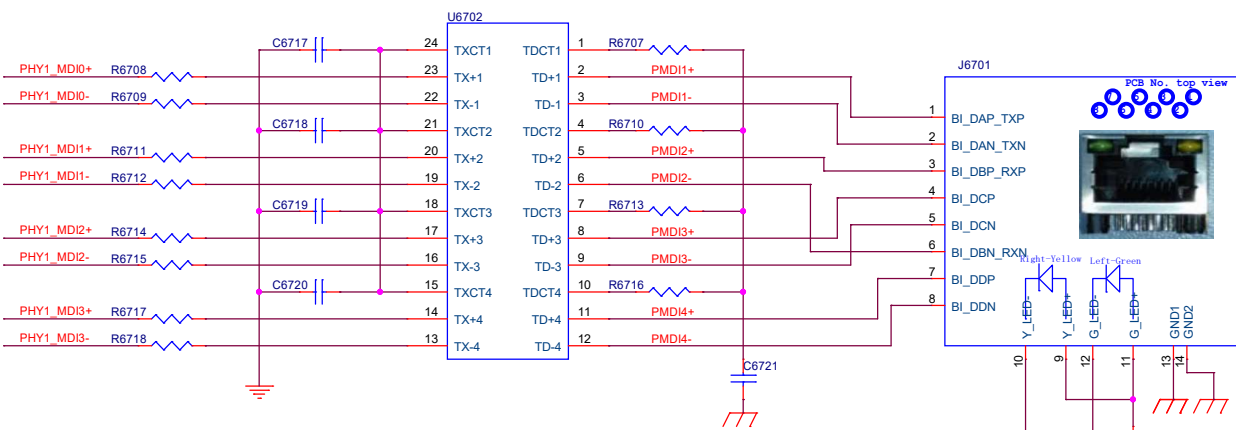
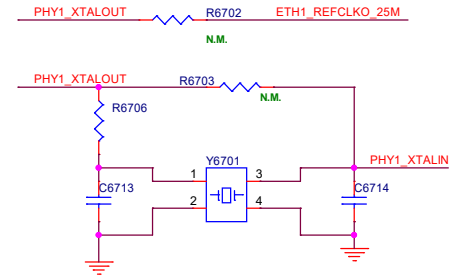


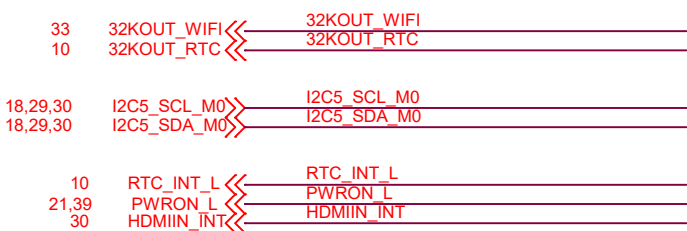
LED BOARD INTERFACE

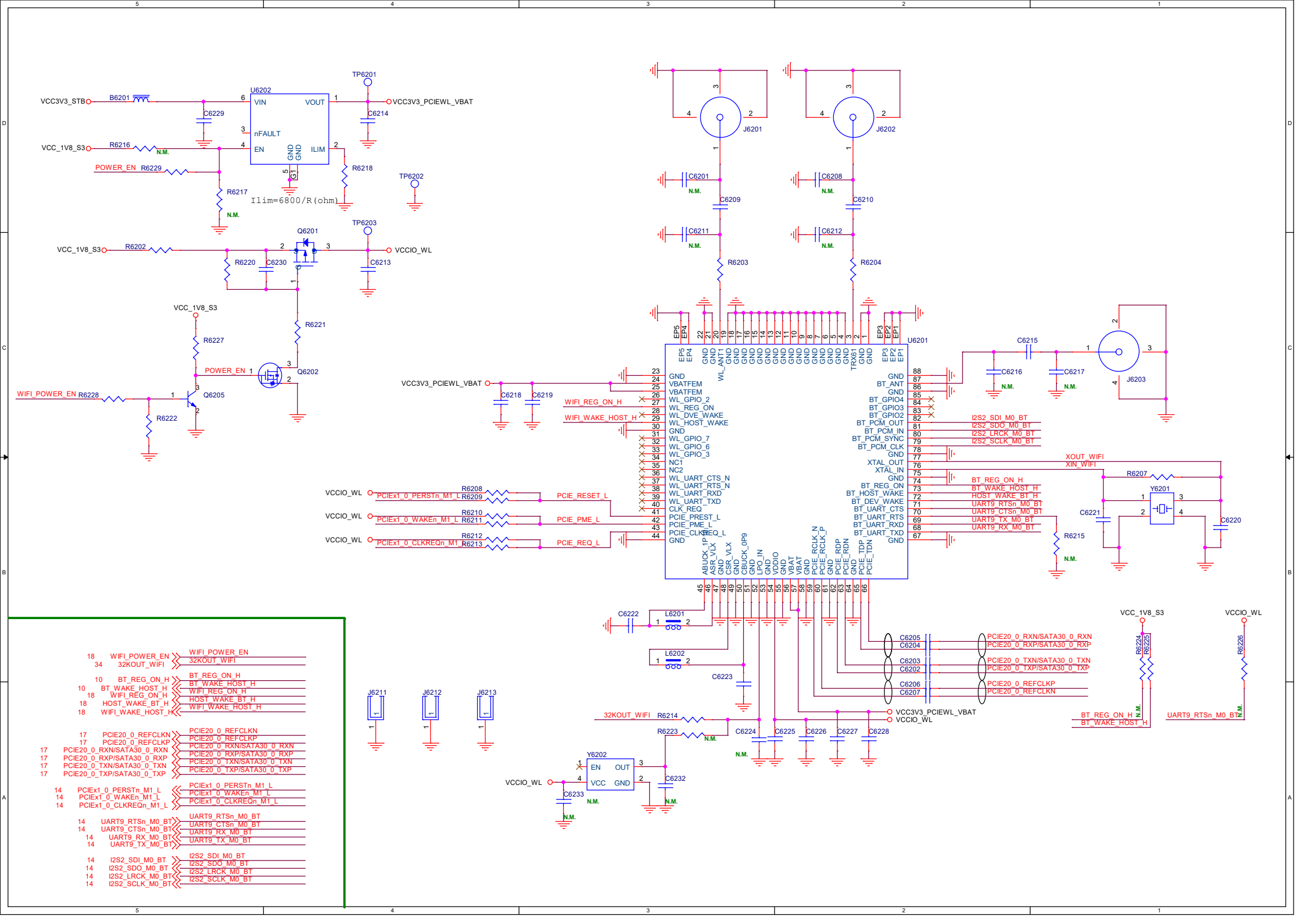


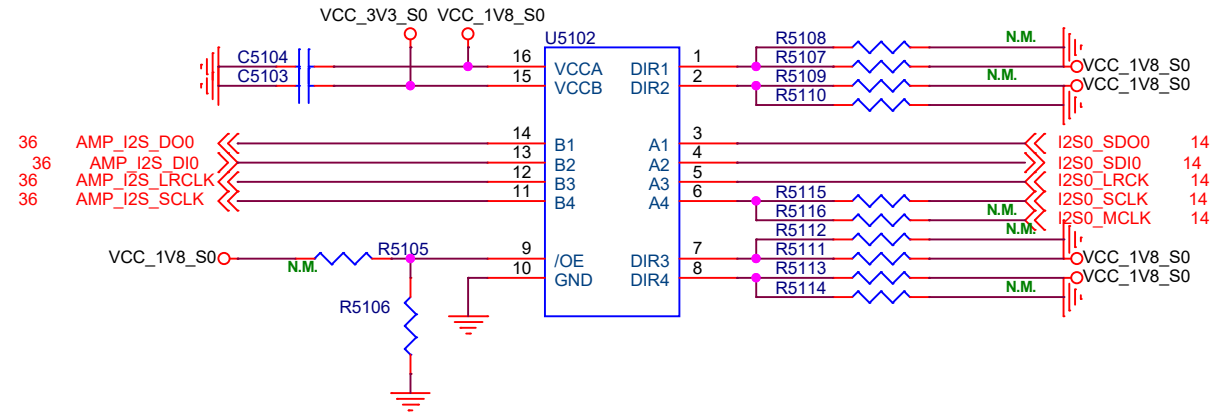
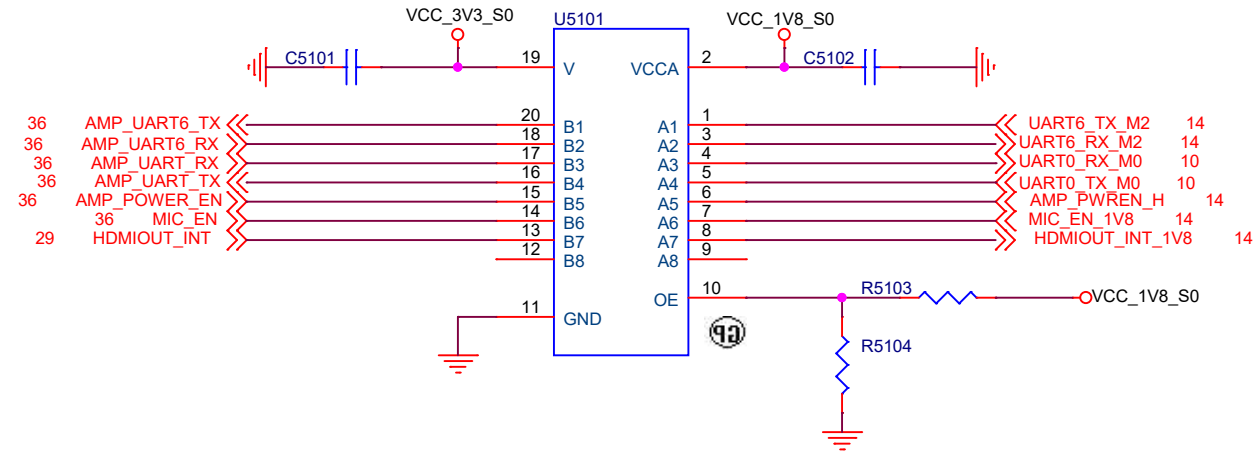


32	AMP_UART6_RX	AMP_UART6_RX
32	AMP_UART6_TX	AMP_UART6_TX
18	I2S3_SCLK	I2S3_SCLK
18	I2S3_LRCK	I2S3_LRCK
18	I2S3_SDO	I2S3_SDO
32	AMP_POWER_EN	AMP_POWER_EN
32	MIC_EN	MIC_EN
32	AMP_I2S_MCLK	AMP_I2S_MCLK
32	AMP_I2S_LRCLK	AMP_I2S_LRCLK
32	AMP_I2S_SCLK	AMP_I2S_SCLK
32	AMP_I2S_DO0	AMP_I2S_DO0
32	AMP_I2S_DIO	AMP_I2S_DIO
32	AMP_SCL	AMP_SCL
32	AMP_SDA	AMP_SDA
32	AMP_UART_TX	AMP_UART_TX
32	AMP_UART_RX	AMP_UART_RX
23	MIC_DM	MIC_DM
23	MIC_DP	MIC_DP

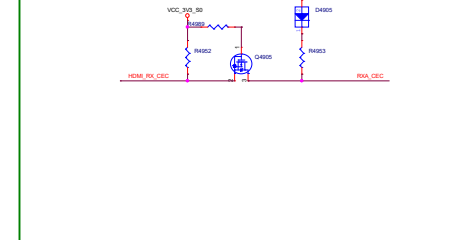
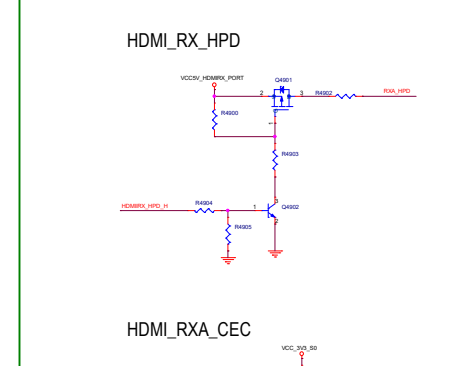
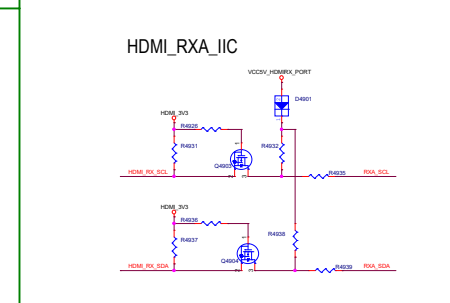
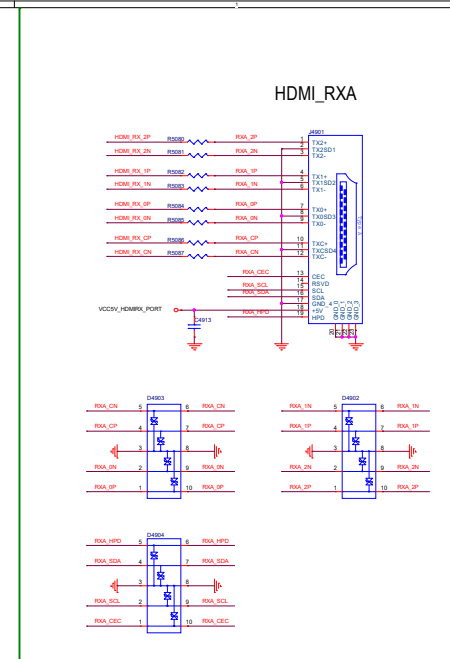
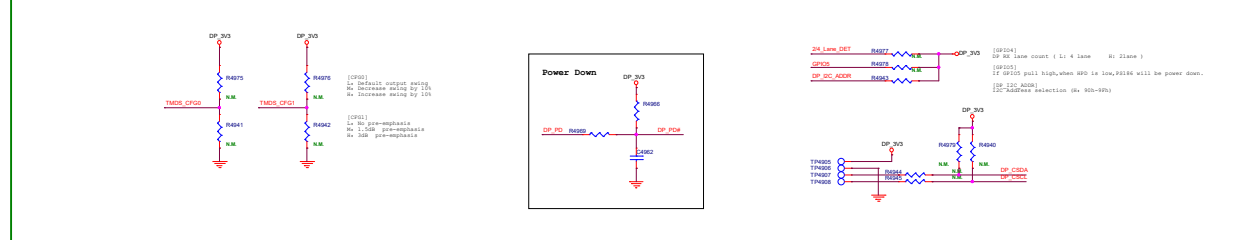
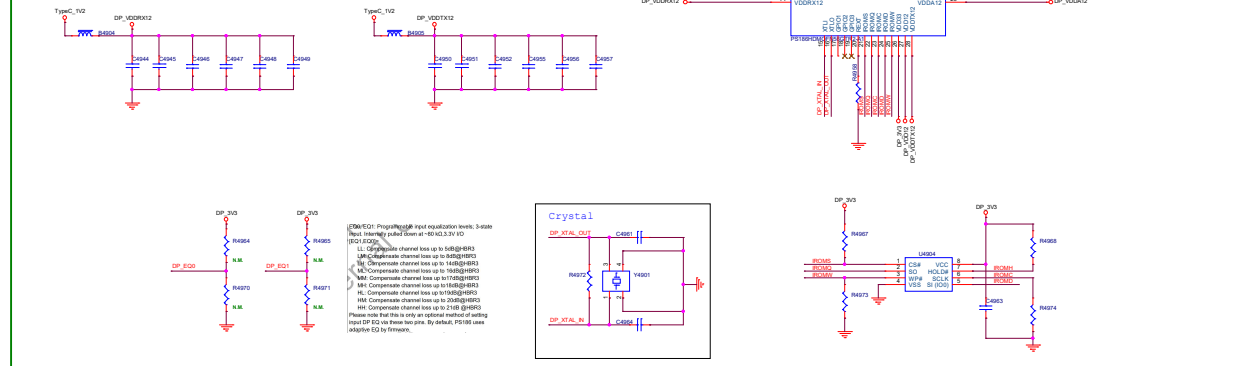
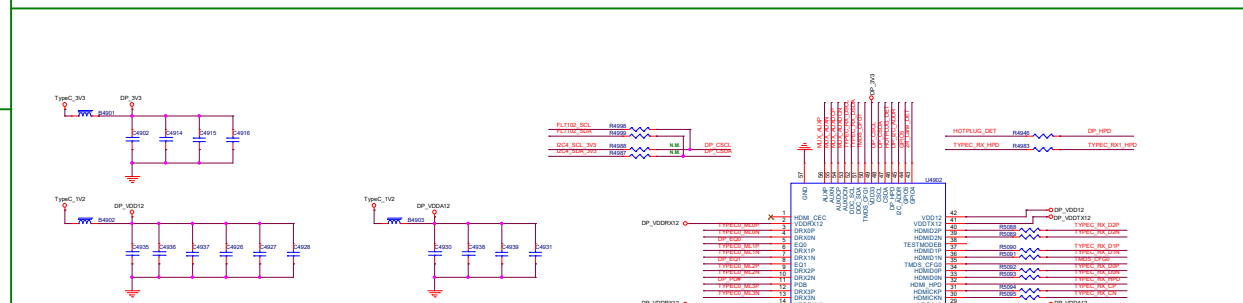
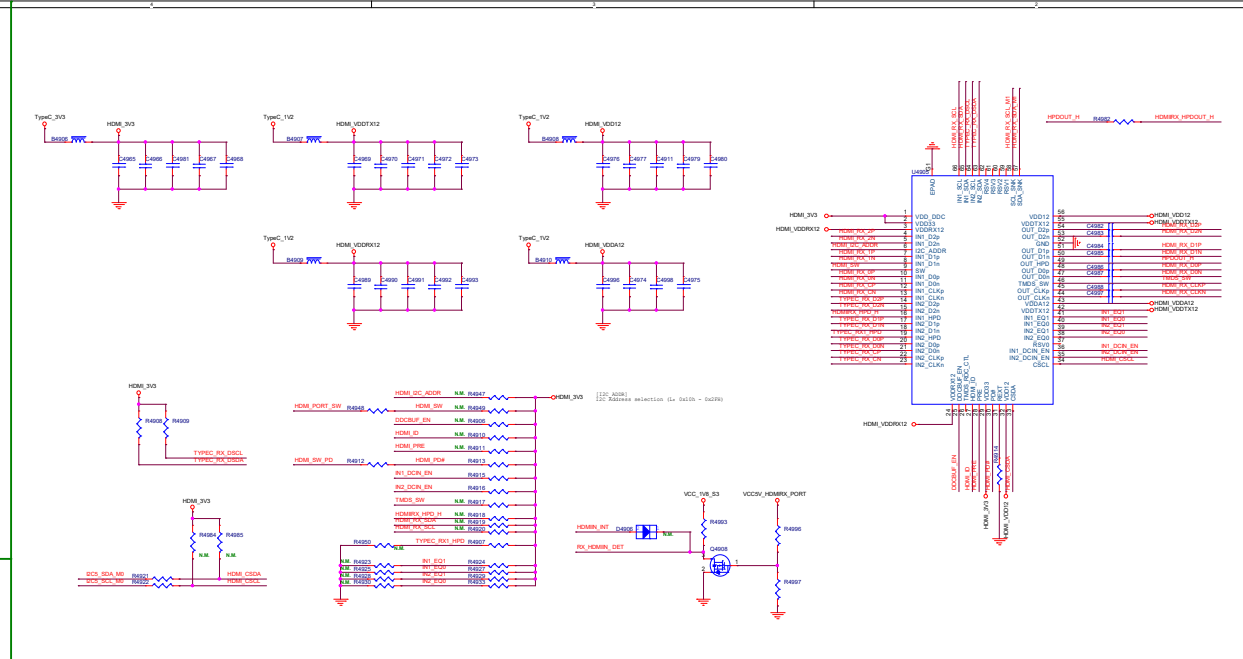
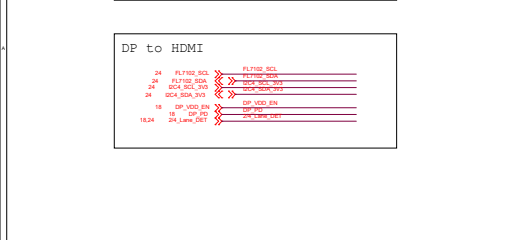
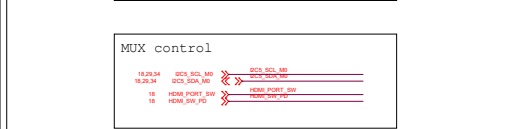
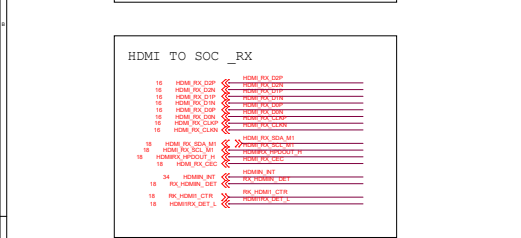
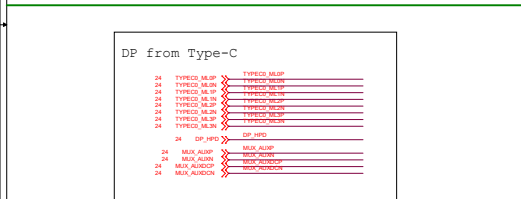
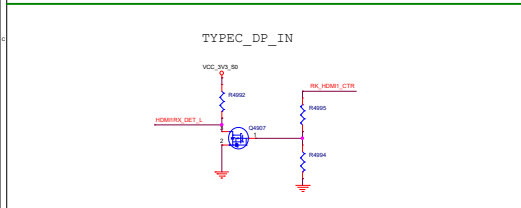
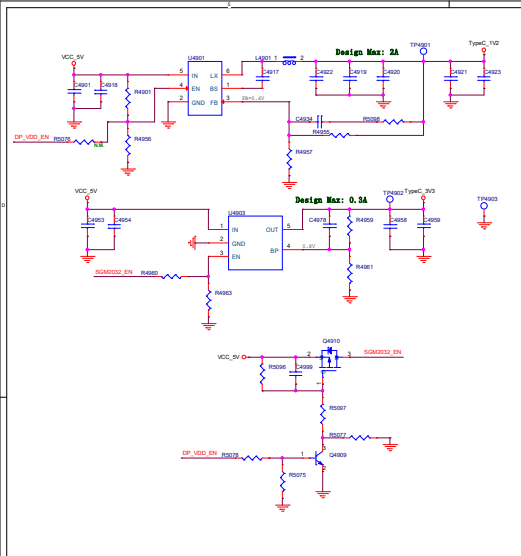


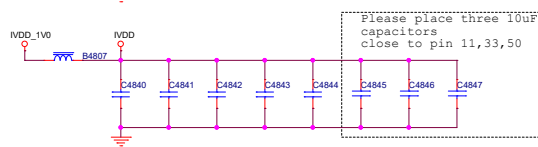
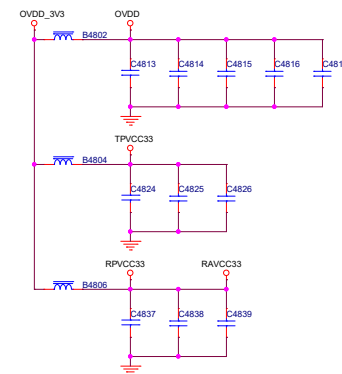
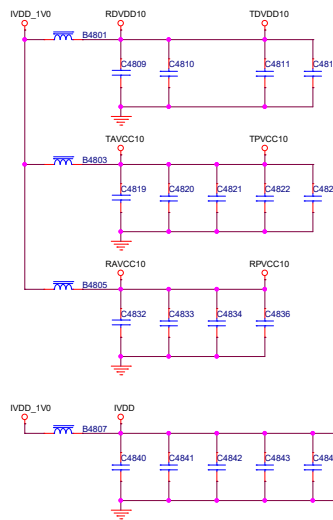
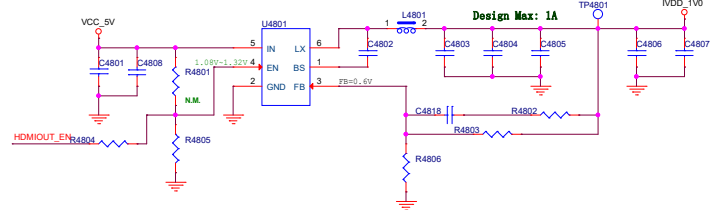




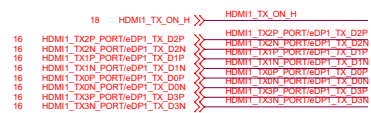


I2S0_MCLK TP5102

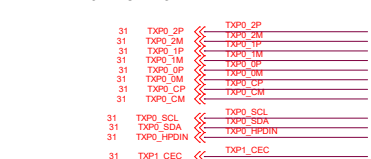




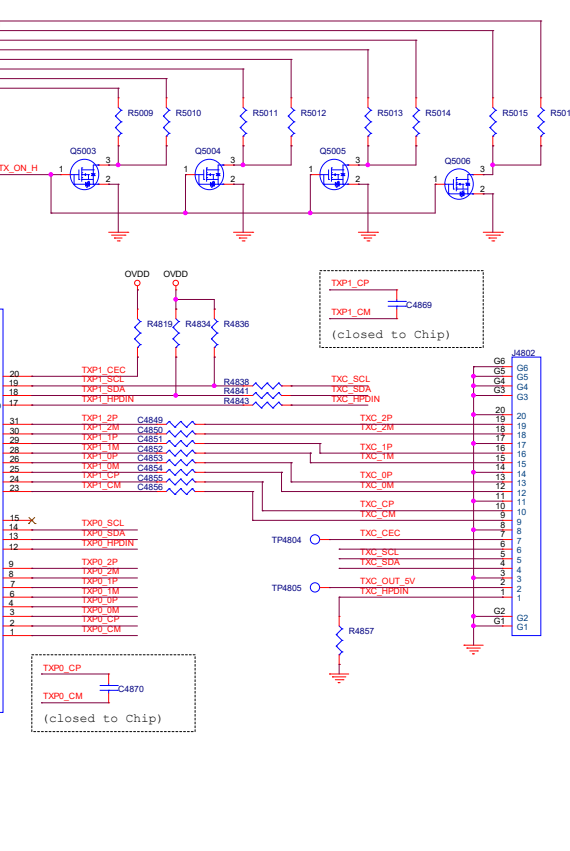
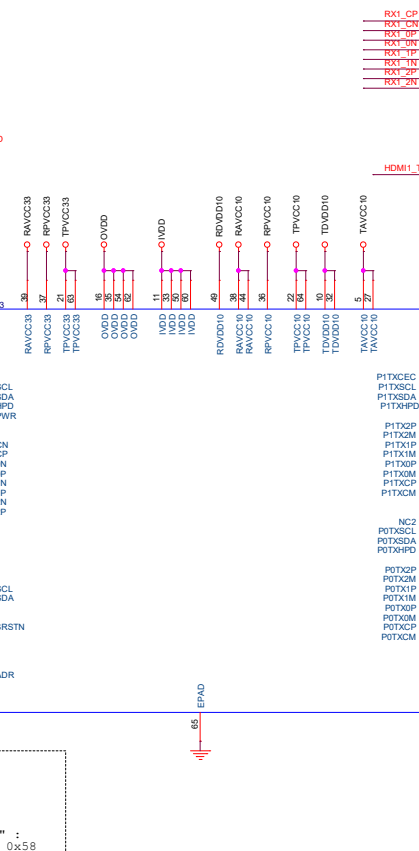
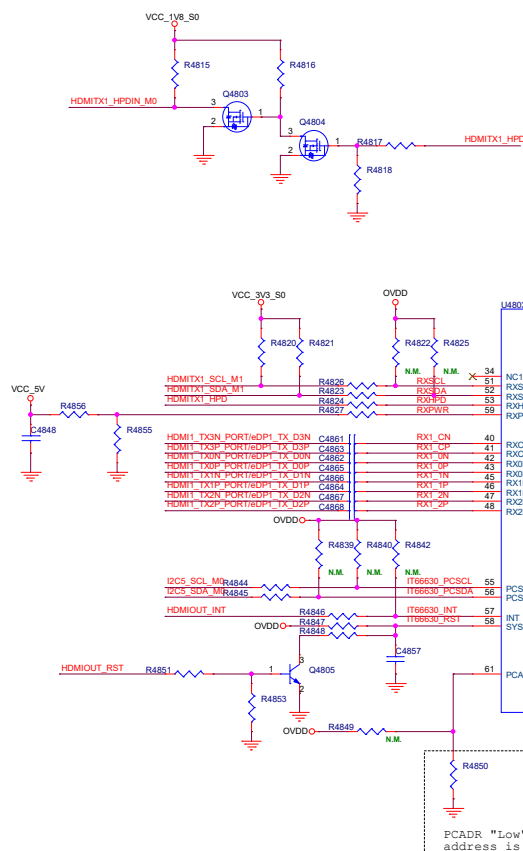
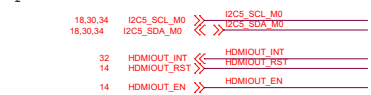
HDMI TX1 From RK3588



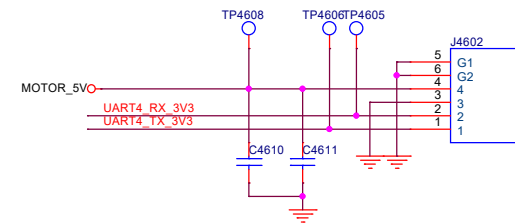
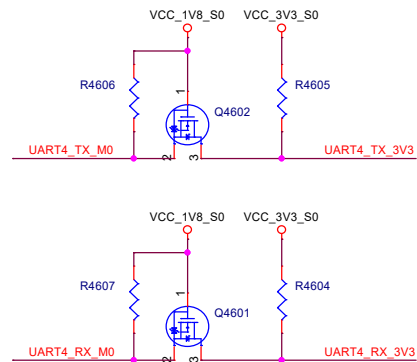
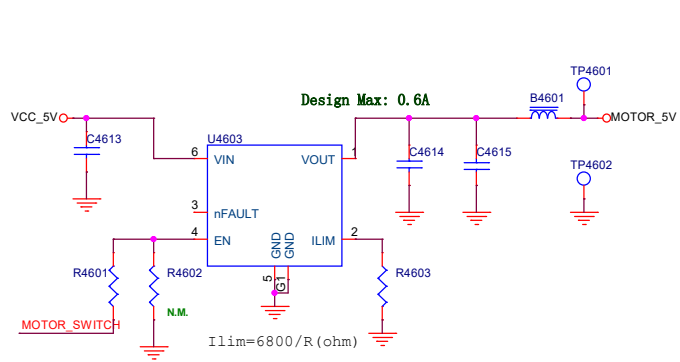
HDMI TX0 To PORTA



Splitter control



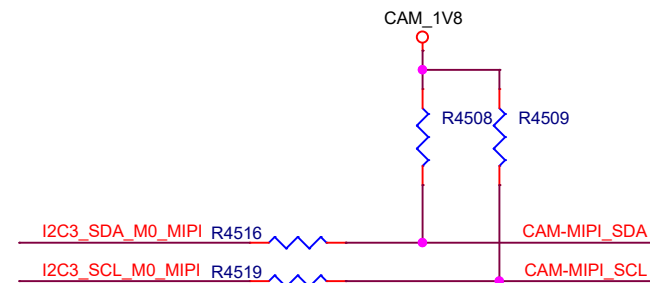
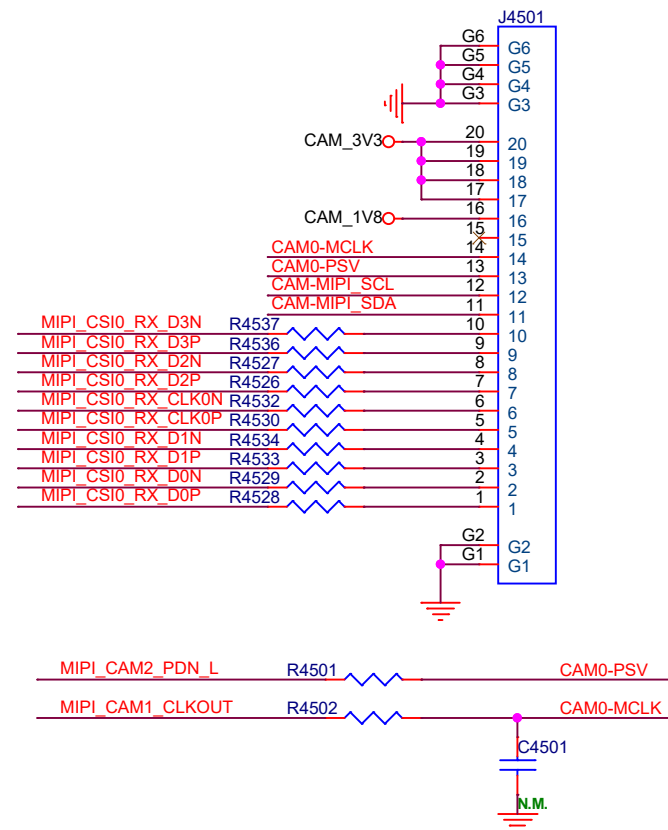
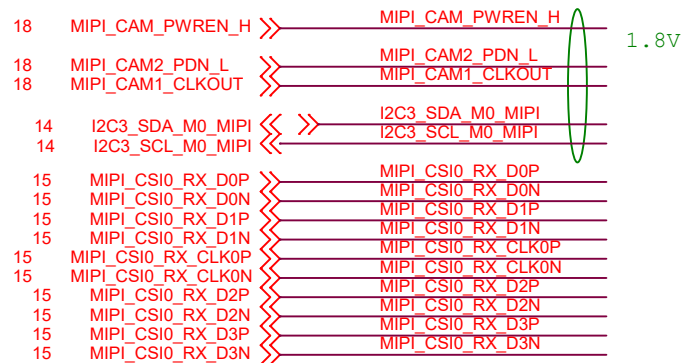
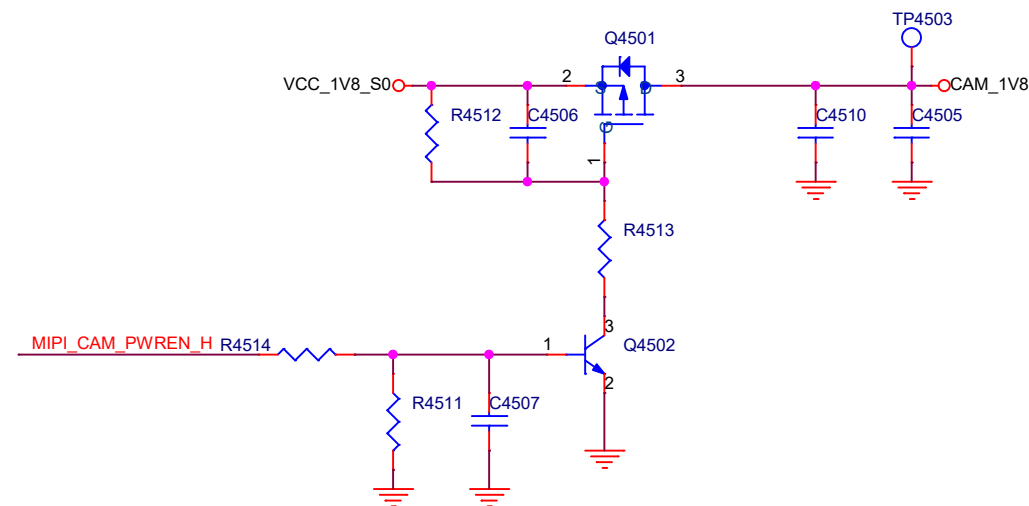
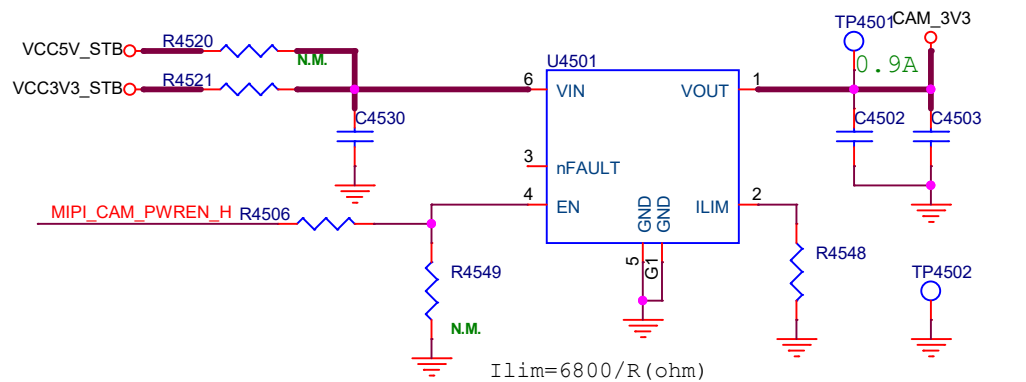
PCADR "Low" : address is 0x58



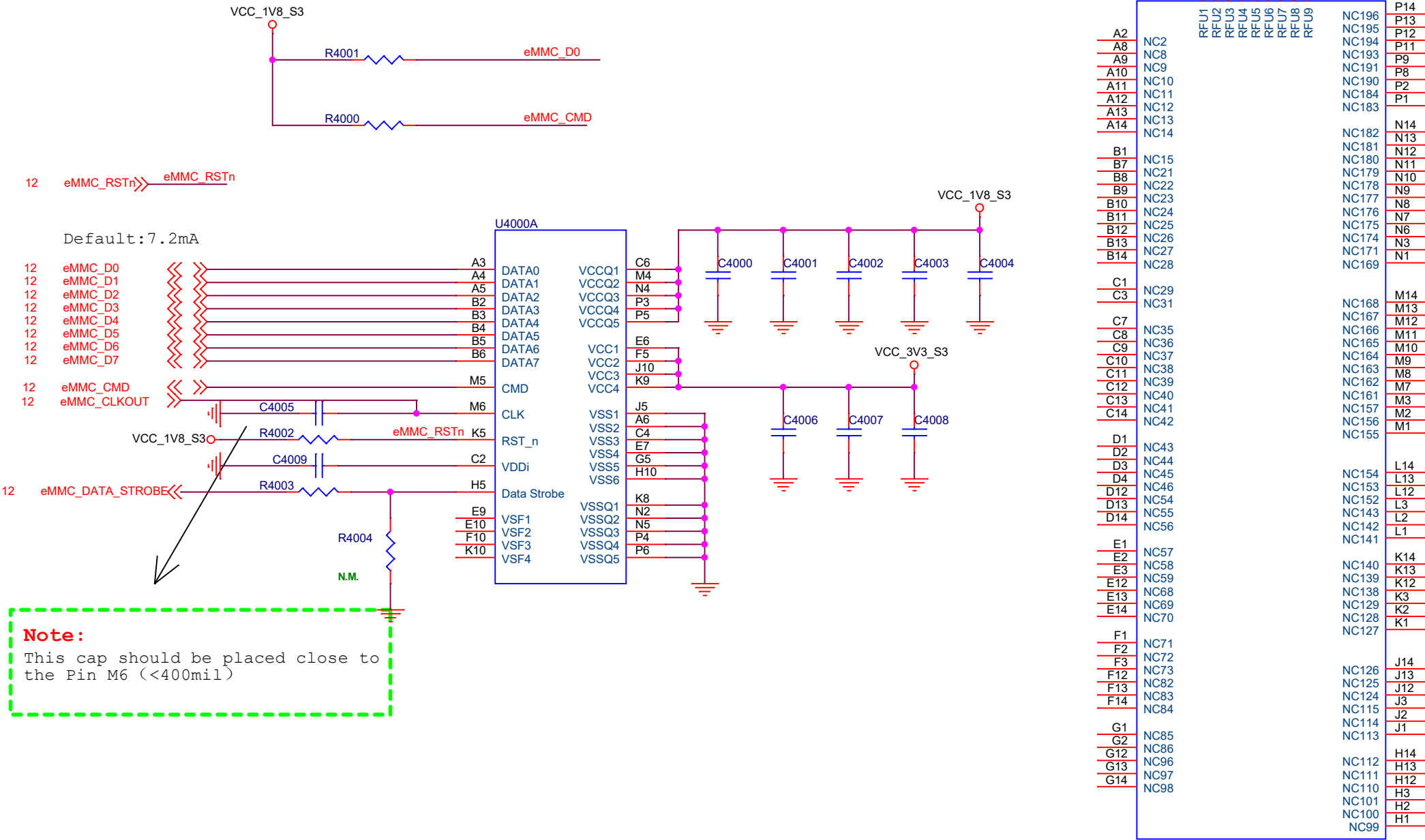
18 MOTOR_SWITCH >> MOTOR_SWITCH

14 UART4_TX_M0 >> UART4_TX_M0

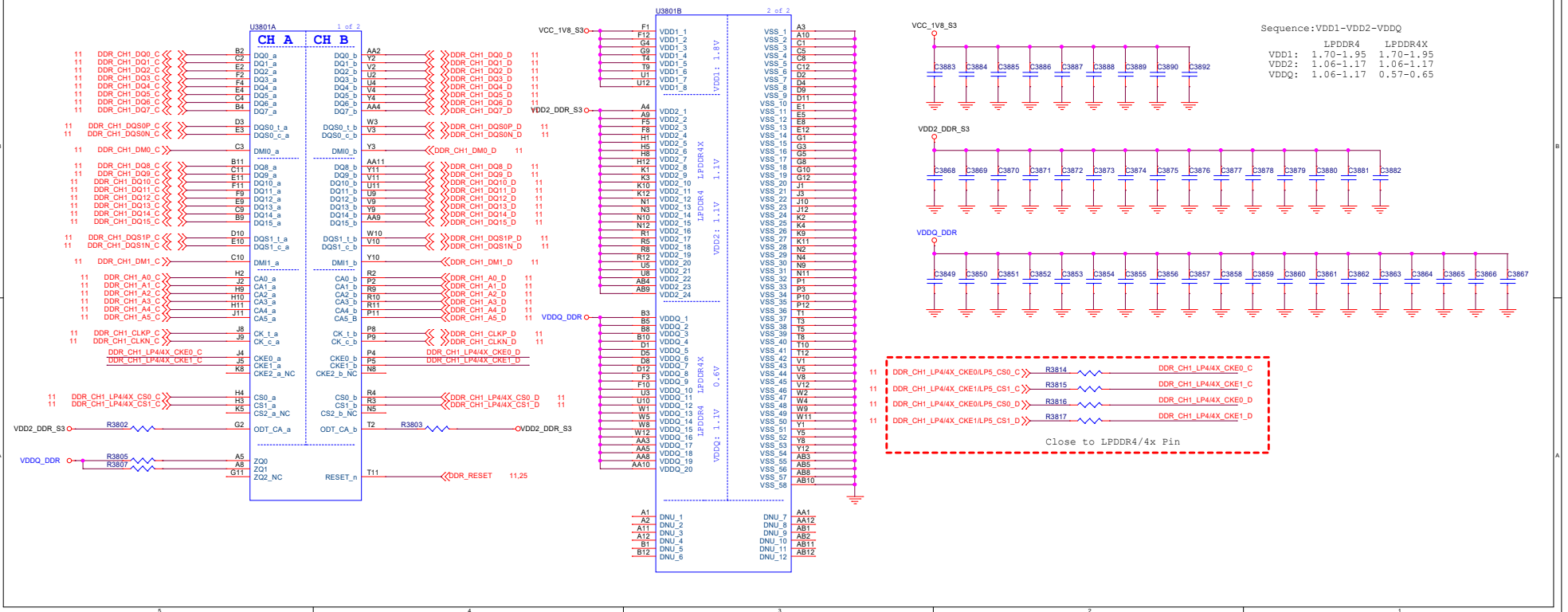
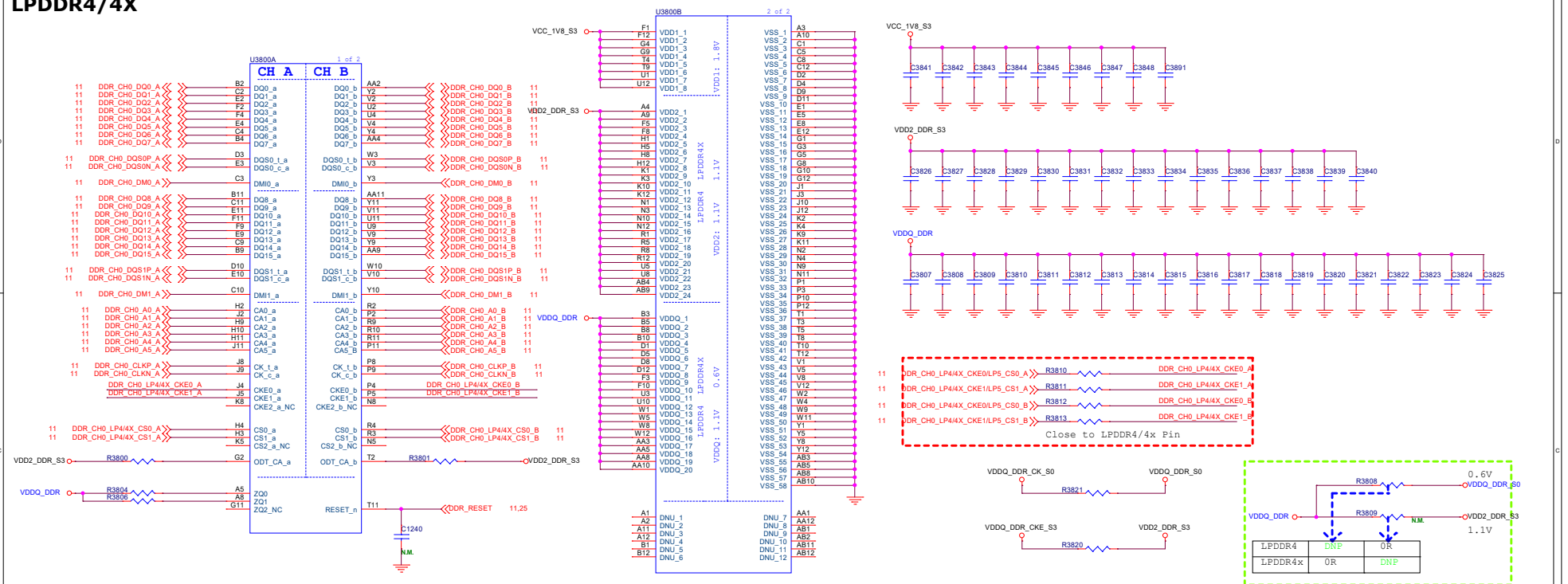
14 UART4_RX_M0 << UART4_RX_M0

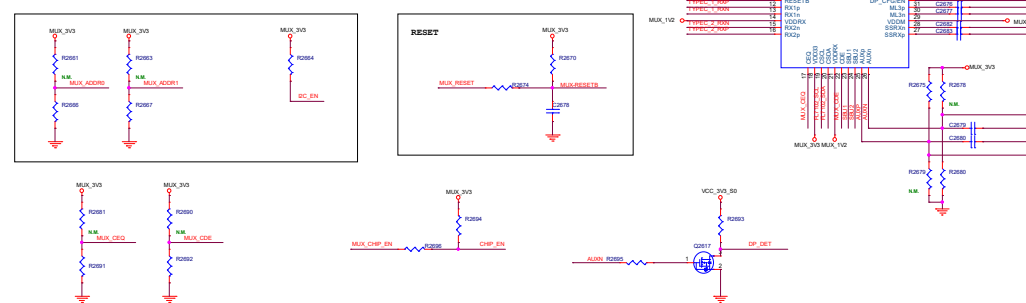
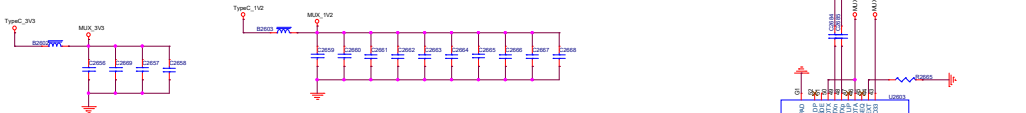
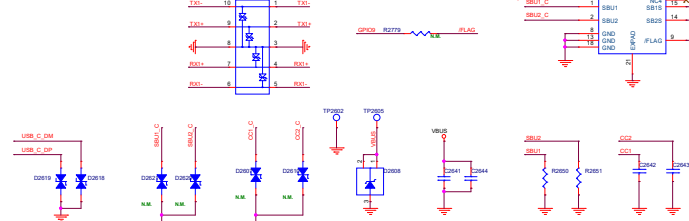
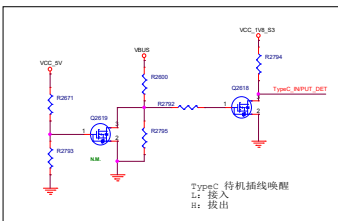
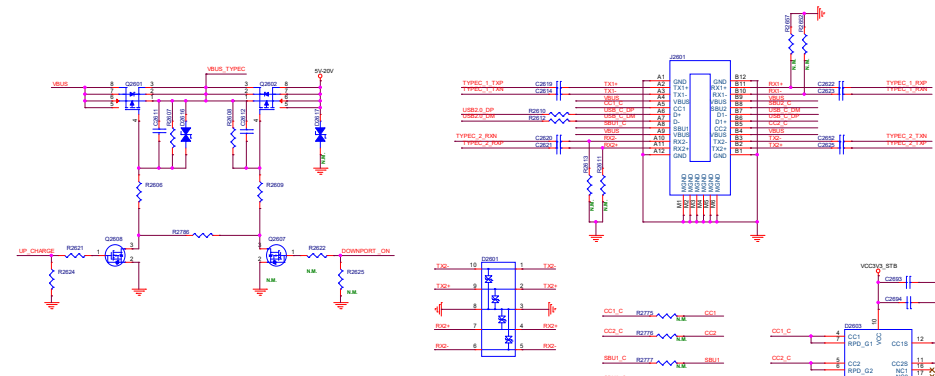


eMMC FLASH

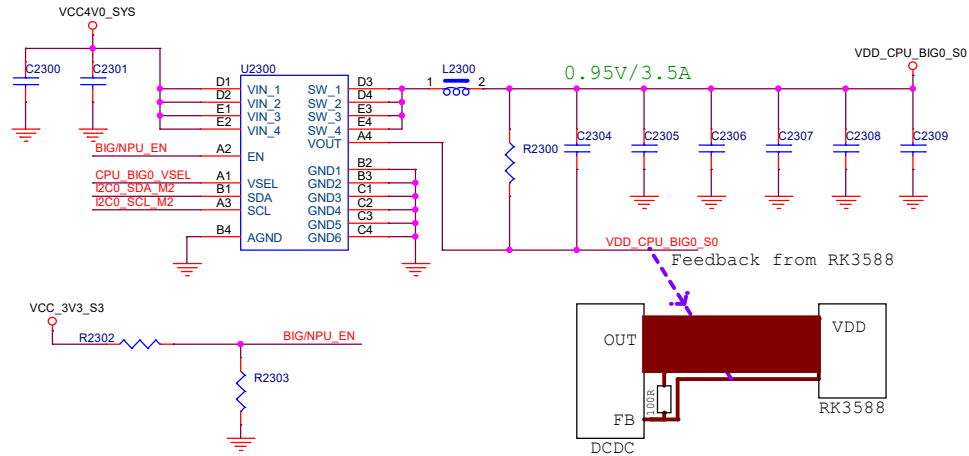


LPDDR4/4X

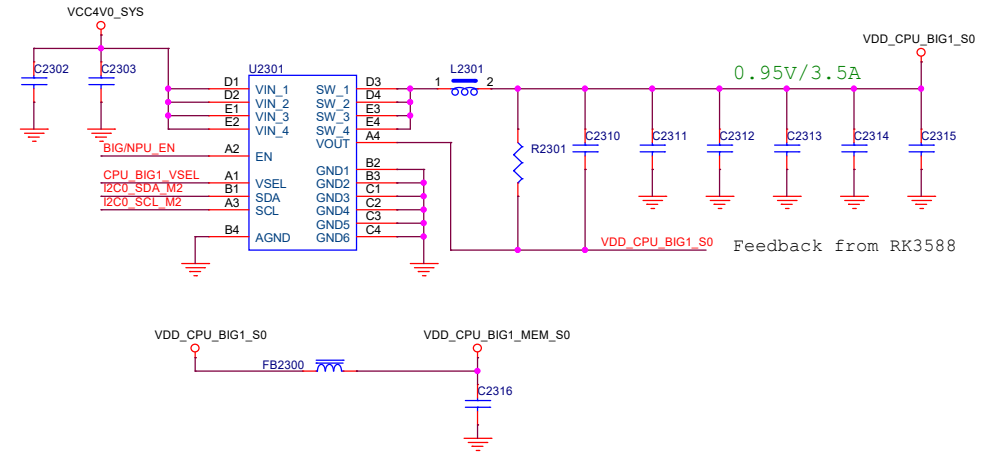




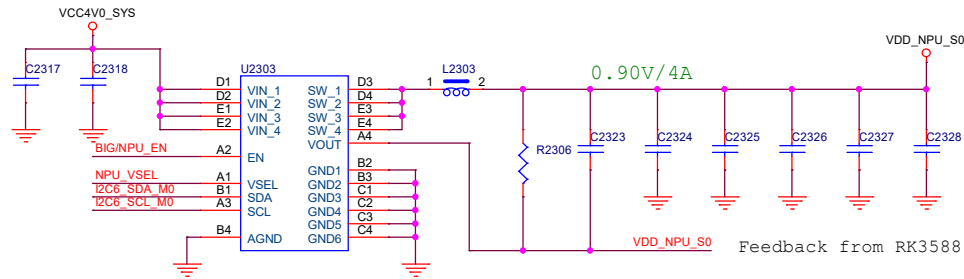
VDD_CPU_BIG0



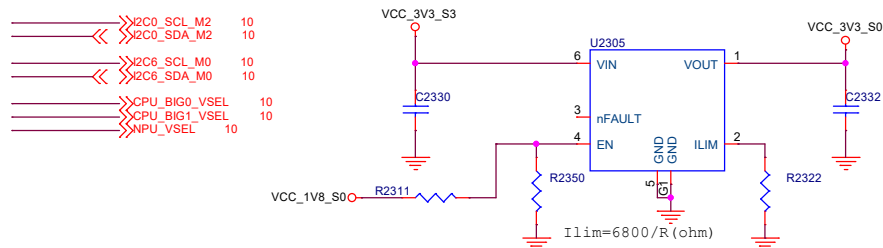
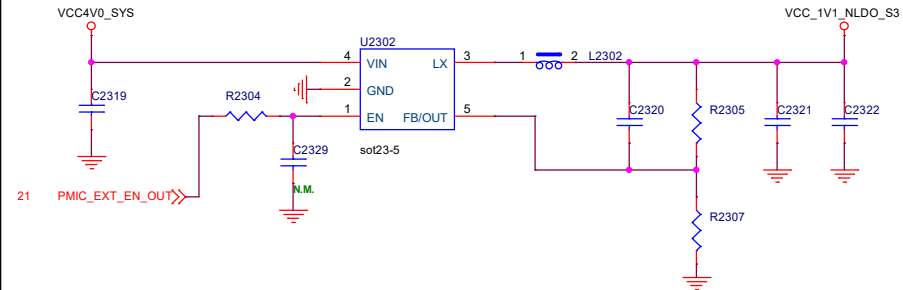
VDD_CPU_BIG1



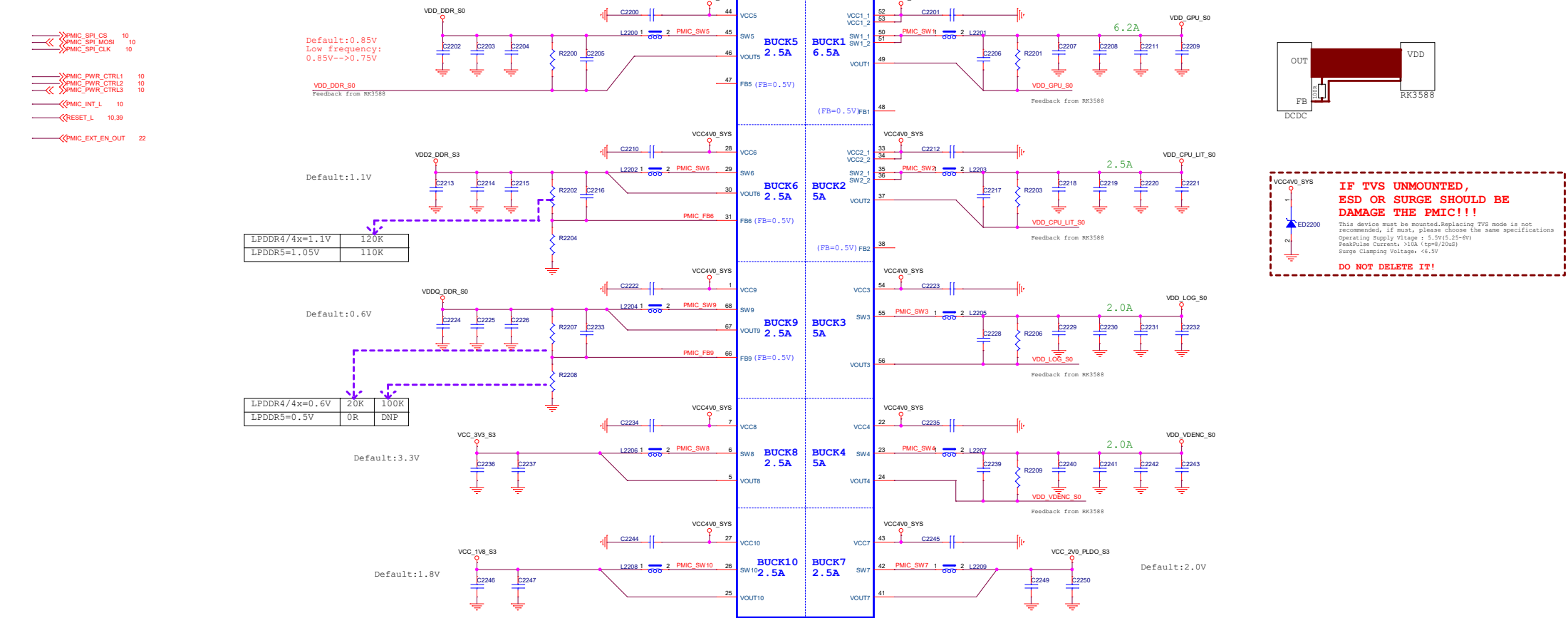
VDD_NPU



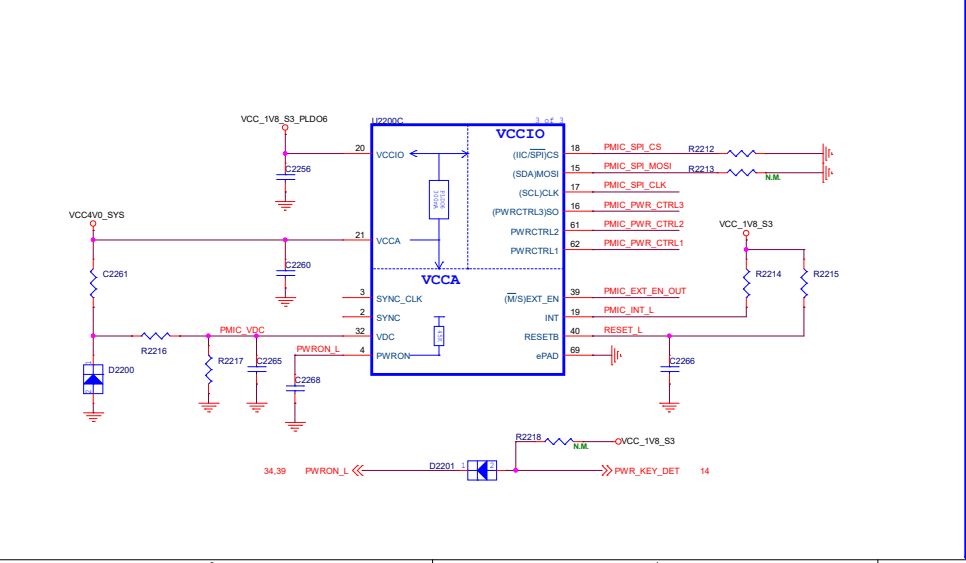
VCC_1V1_NLDO_S3



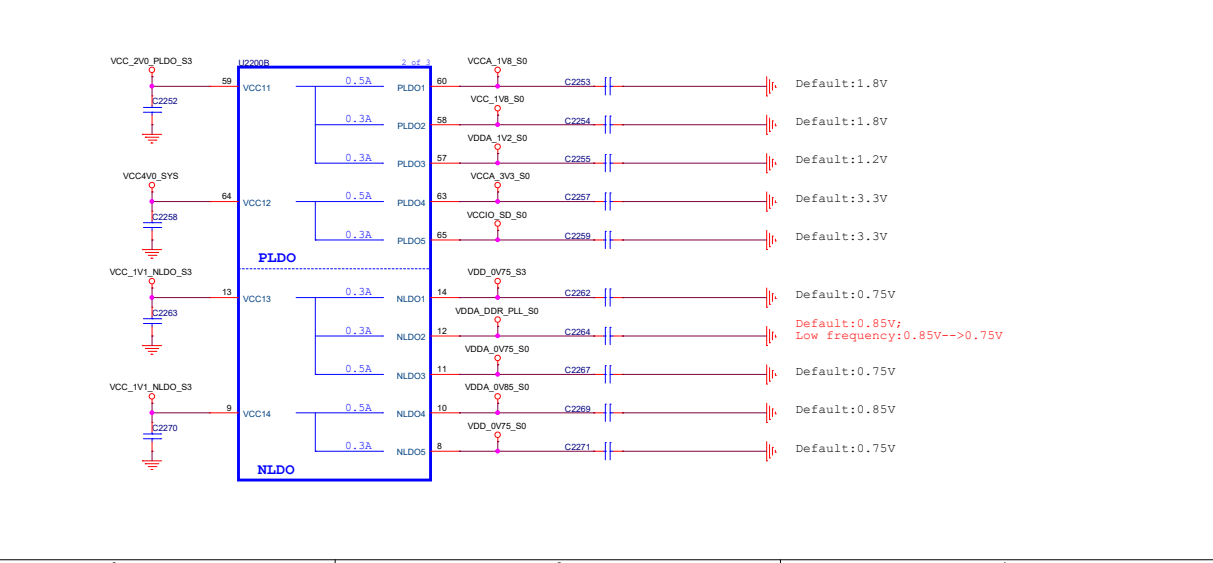
PMIC RK806-1 BUCK



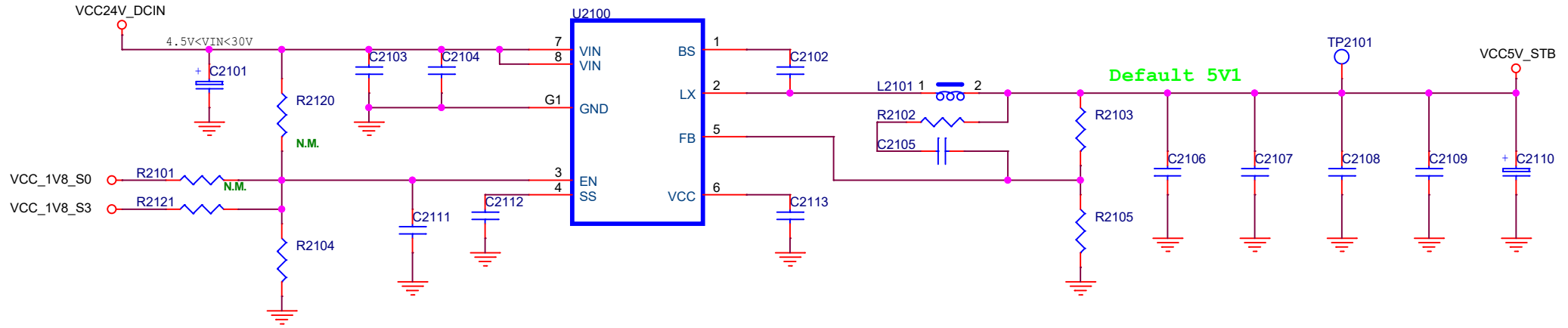
PMIC RK806-1 Managerment



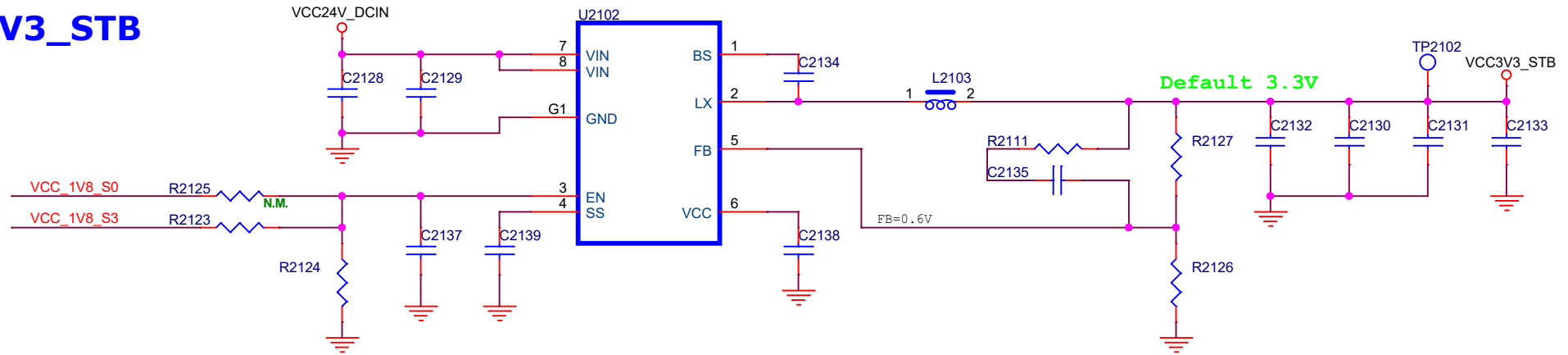
PMIC RK806-1 LDO



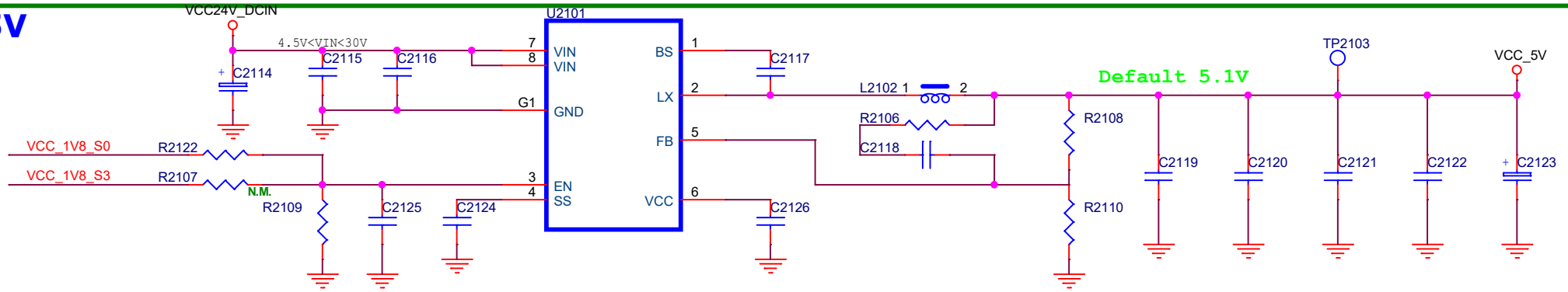
VCC5V_STB



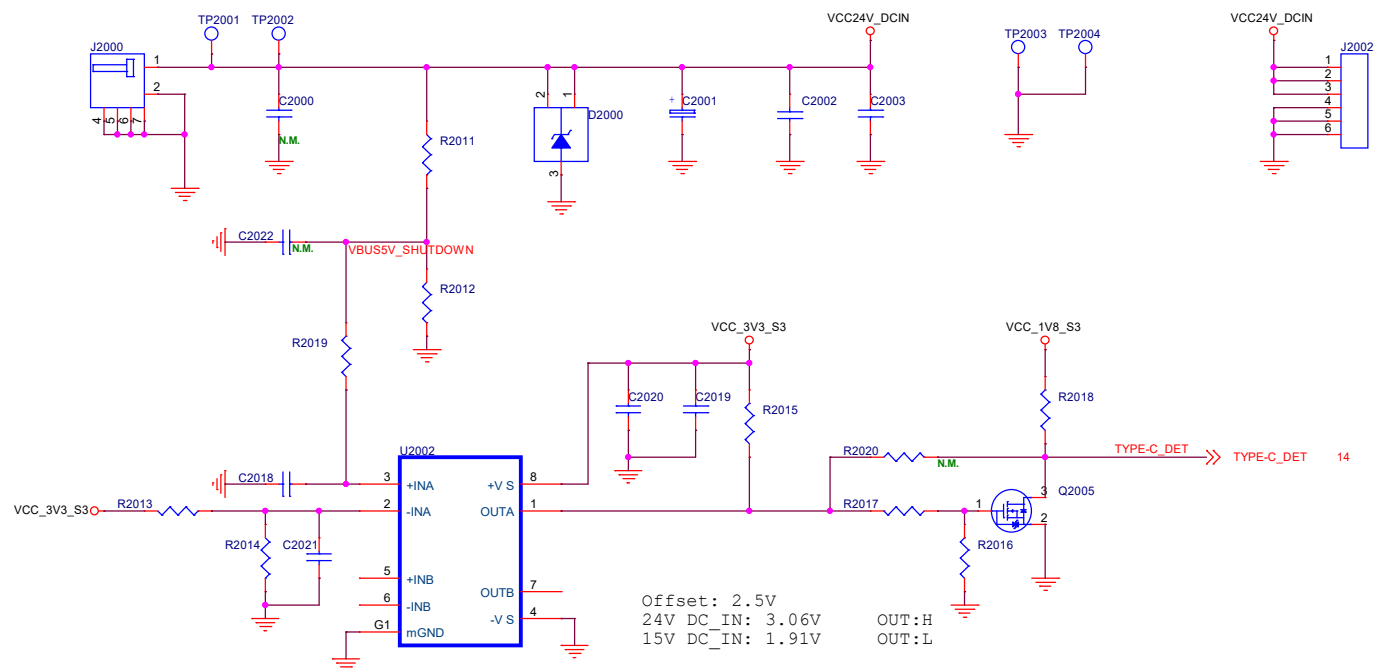
VCC3V3_STB



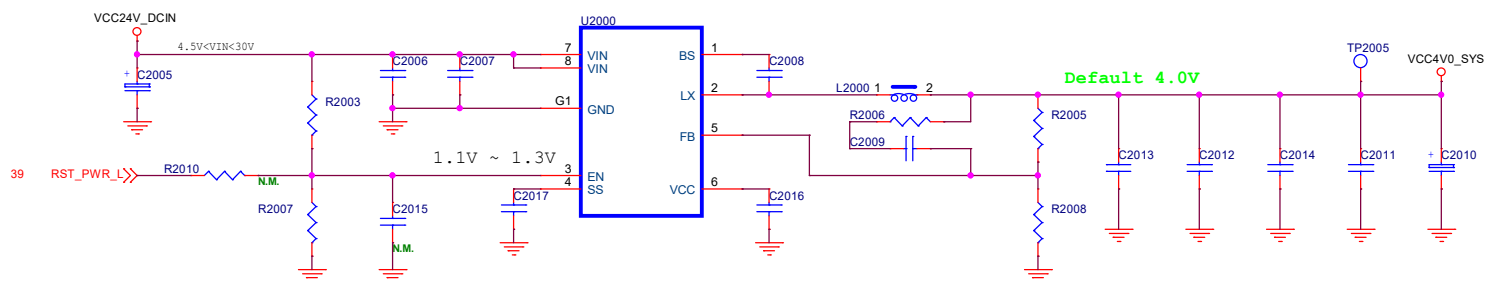
VCC_5V



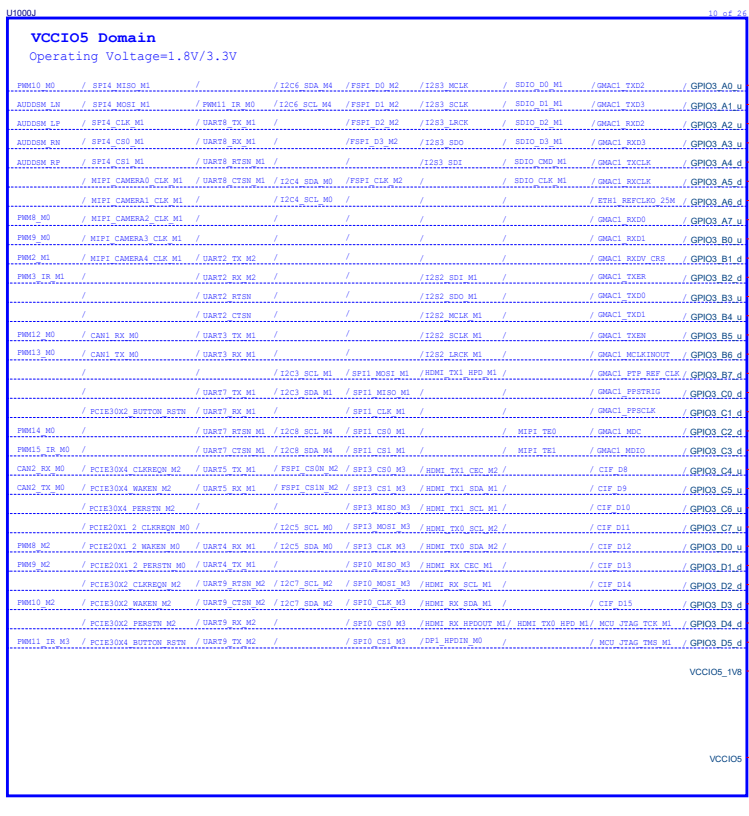
24V DCIN



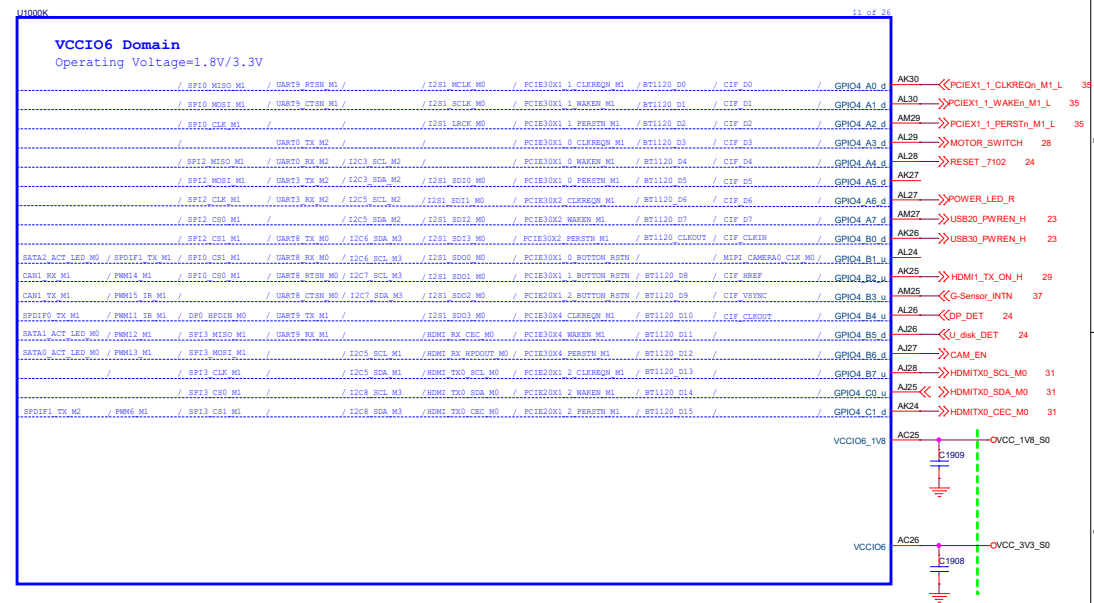
VCC4V0_SYS



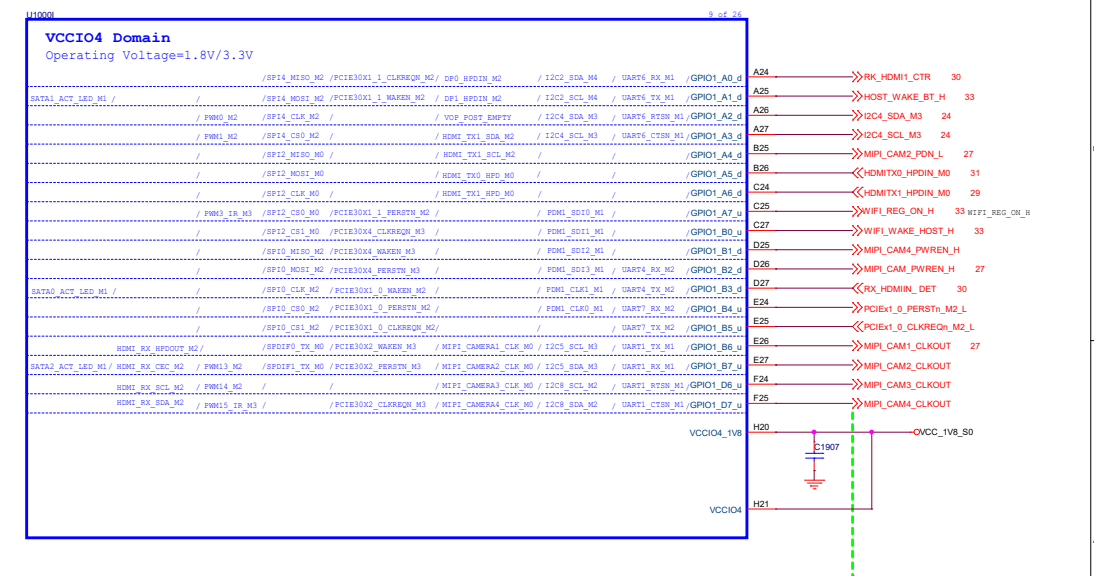
RK3588_J (VCCIO5 Domain)



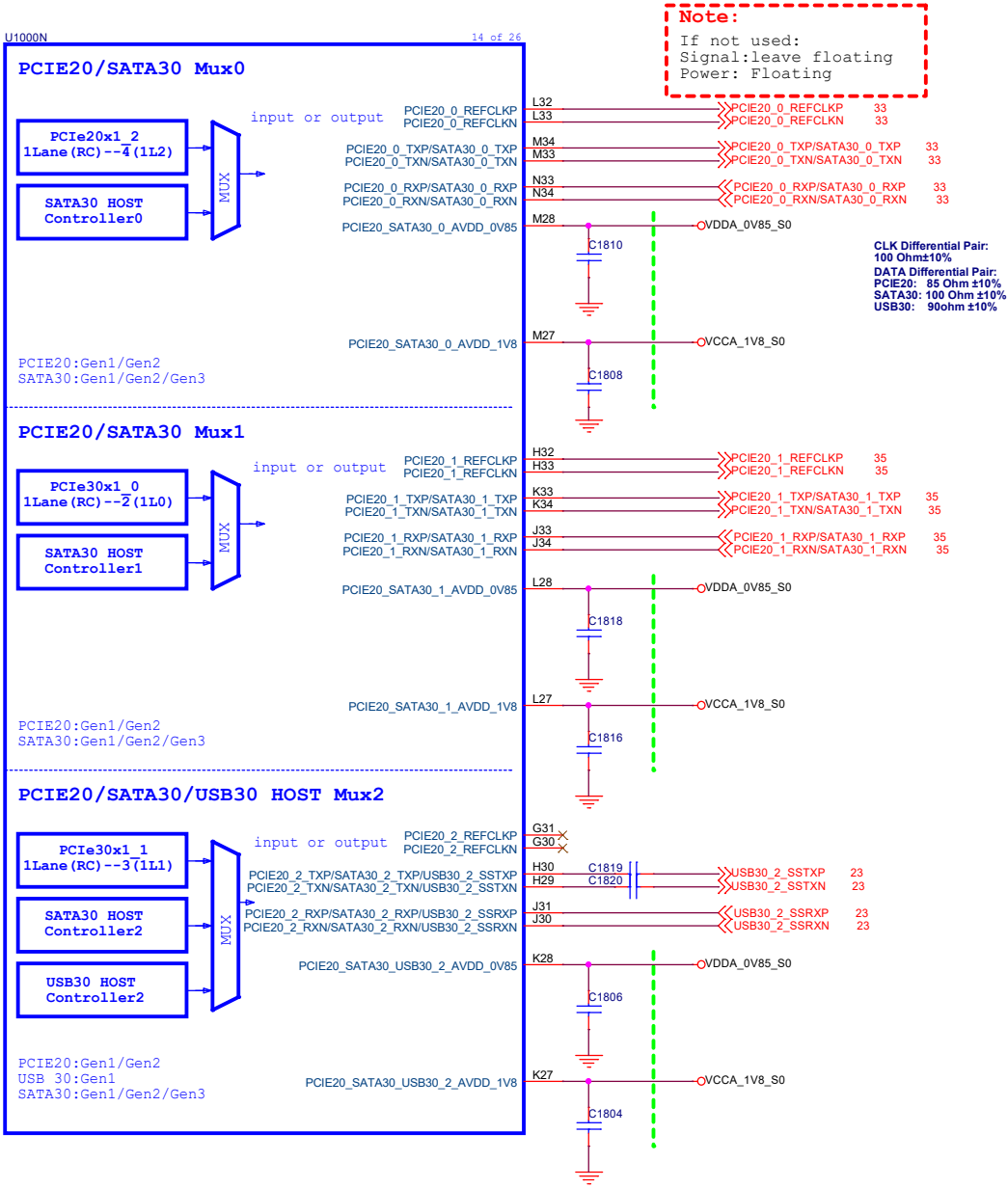
RK3588_K (VCCIO6 Domain)



RK3588_I (VCCIO4 Domain)



RK3588_N (PCIE20)

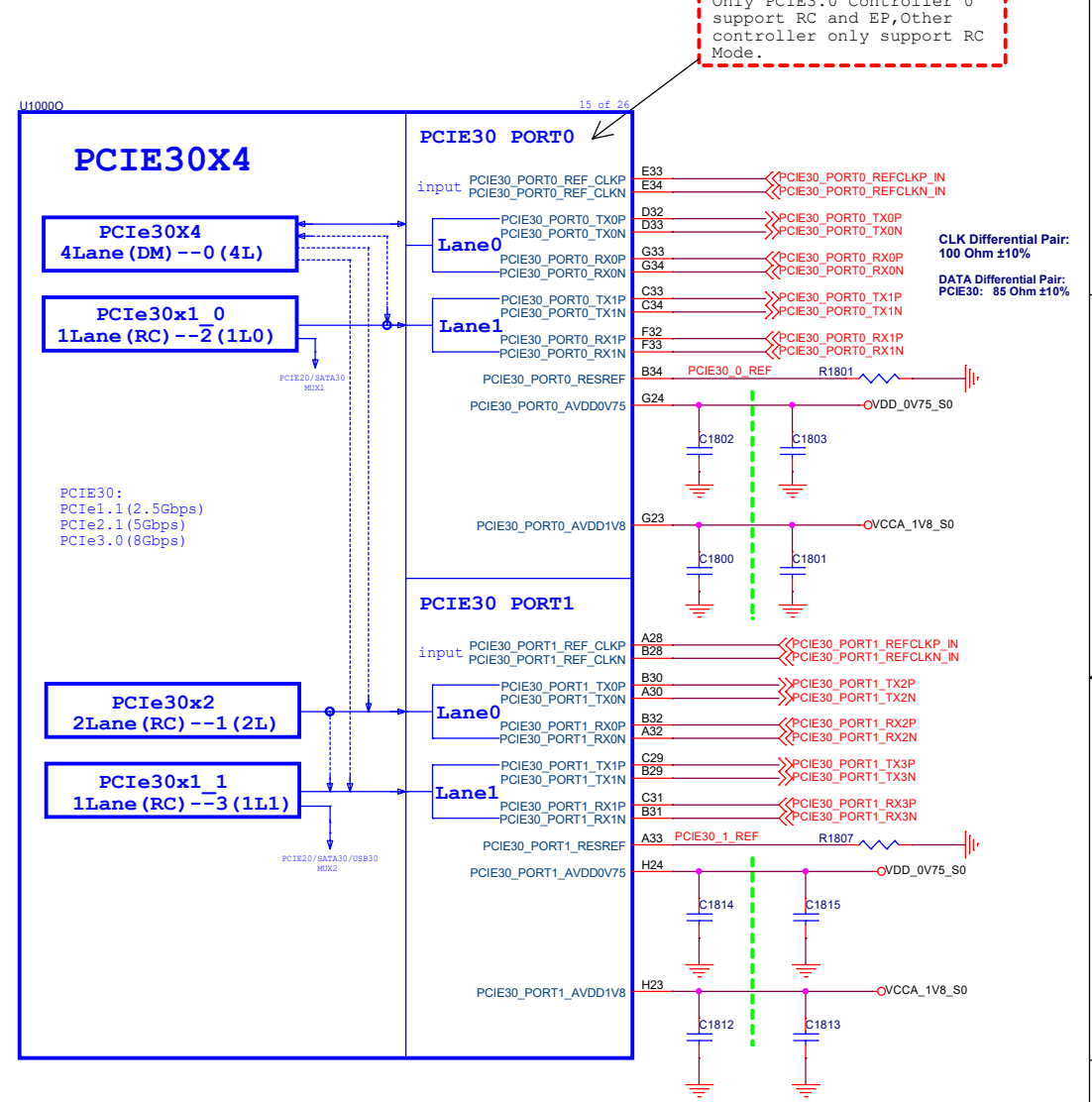


Note:
If not used:
Signal:leave floating
Power: Floating

CLK Differential Pair:
100 Ohm±10%
DATA Differential Pair:
PCIE20: 85 Ohm ±10%
SATA30: 100 Ohm ±10%
USB30: 90ohm ±10%

Note:
The SATA differential trace impedance is 100 OHM
The SATA trace length is less than 5 inch

RK3588_O (PCIE30)



Note:
Only PCIE3.0 Controller 0
support RC and EP,Other
controller only support RC
Mode.

CLK Differential Pair:
100 Ohm ±10%
DATA Differential Pair:
PCIE30: 85 Ohm ±10%

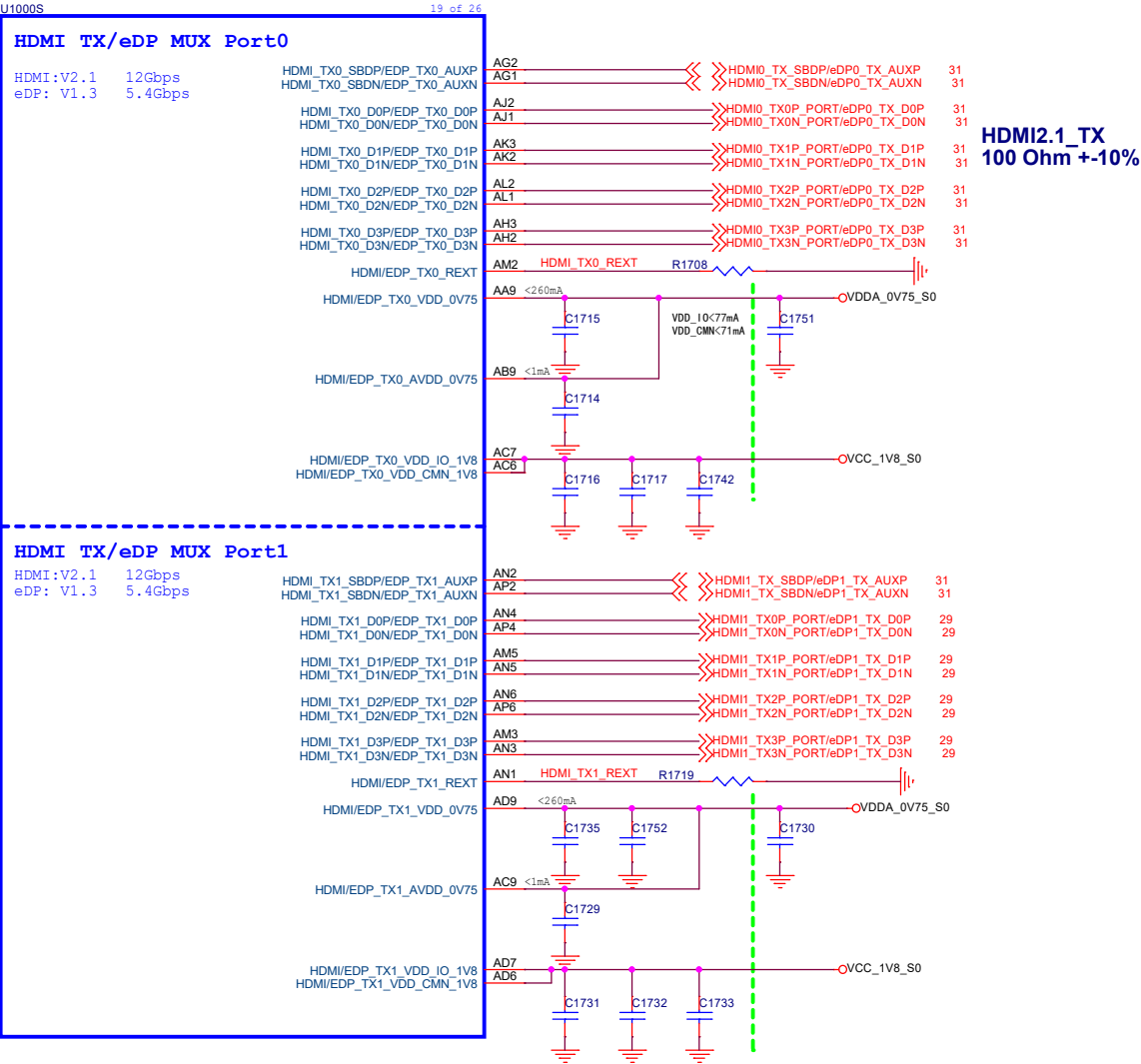
Note:
If Port0 and Port1 are not used,
Port0 and Port1 REF_CLKP/N: Leave floating or tie to VSS
Port0 and Port1 Other Signal: Leave floating
Port0 and Port1 Power: Leave floating or tie to VSS

If Port0 is used ,Port1 is not used,
Port1 REF_CLKP/N: Leave floating or tie to VSS
Port1 Other Signal: Leave floating
Port1 Power: Must supply power

If Port1 is used ,Port0 is not used,
Port0 REF_CLKP/N: Leave floating or tie to VSS
Port0 Other Signal: Leave floating
Port0 Power: Must supply power

RK3588_S (HDMI2.1 TX)

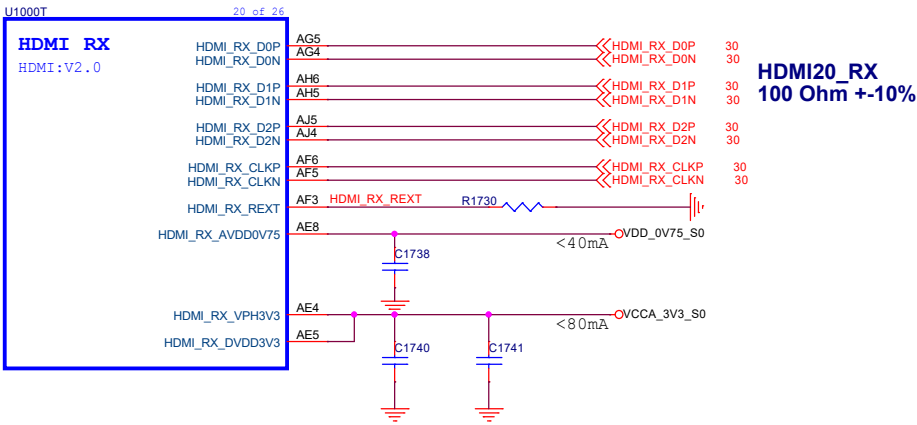
Note:
The HDMI2.1 trace length is less than 100mm.
The HDMI2.1 differential trace impedance is 100 OHM.



Note:
The Caps to the left of green line should be placed under the U1000 package. Other caps should be placed close to the U1000 package.

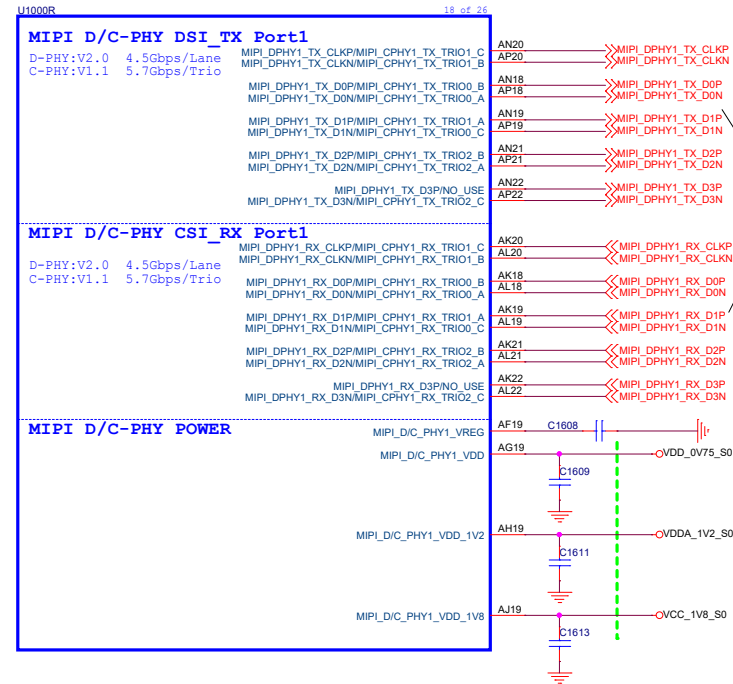
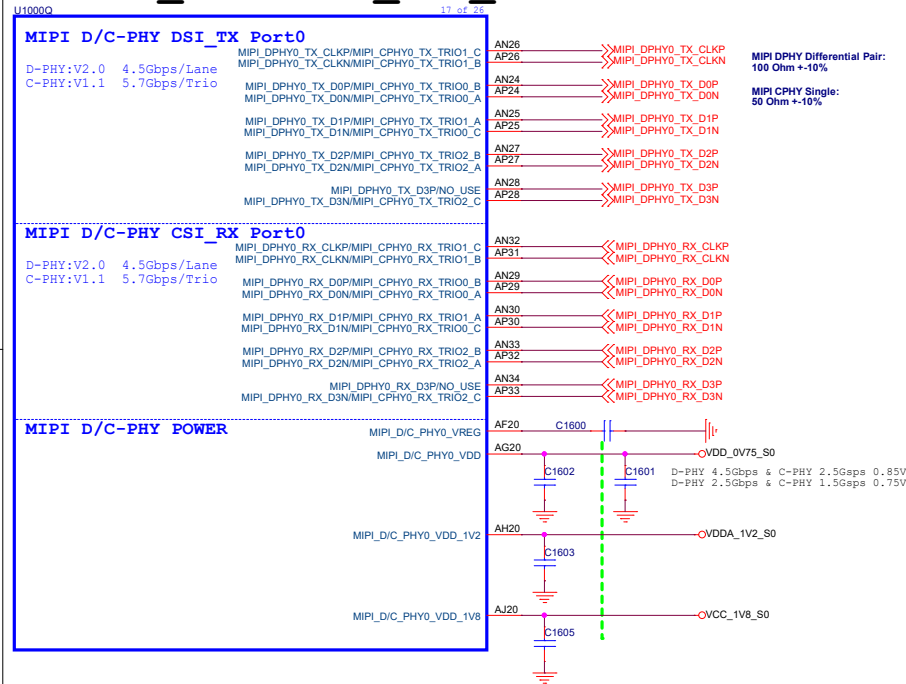
Note:
If not used:
Signal: leave floating
Power: Floating or tie to VSS

RK3588_T (HDMI20 RX)



Note:
If not used:
Signal: leave floating
Power: Floating

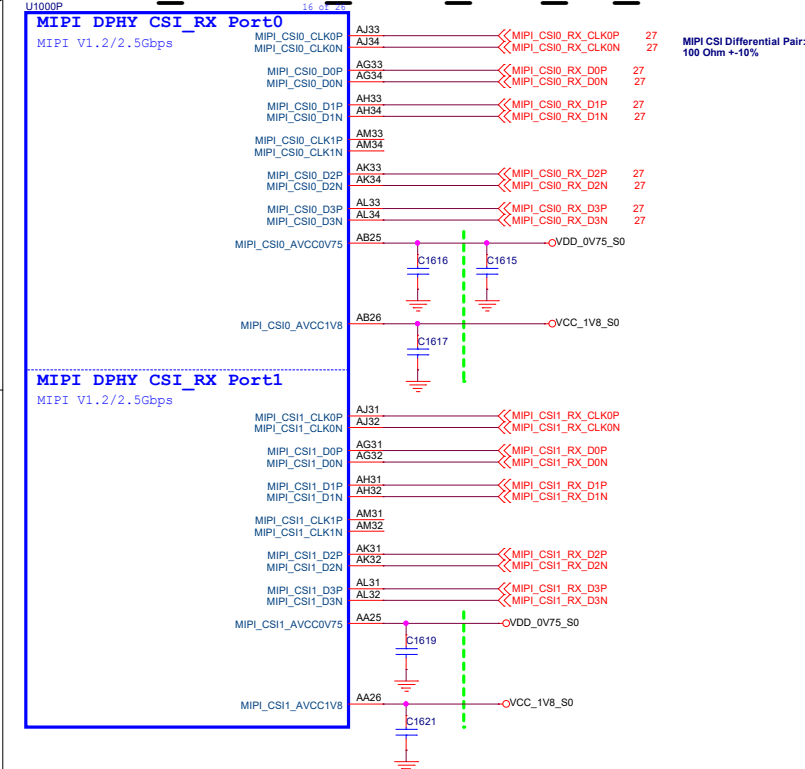
RK3588_Q/R (MIPI_D/C_PHY0/1)



TX and RX port must work in the same mode, DPHY or CPHY

Note:
If not used:
Signal:leave floating
Power: Floating

RK3588_P (MIPI_DPHY_CSI_RX_PHY)



MIPI_CSI_RX Configuration

Option1	Sensor1 x4Lane	MIPI_CSI_RX_D0-3 MIPI_CSI_RX_CLK0
Option2	Sensor1 x2Lane + Sensor2 x2Lane	MIPI_CSI_RX_D0-1 MIPI_CSI_RX_CLK0
		MIPI_CSI_RX_D2-3 MIPI_CSI_RX_CLK1

Note:
When in single clock lane mode, CLK0P/0N is the clock lane from Data lane0 to Data lane3, but clock lane1 is invalid; In dual clock lanes mode, CLK0P/0N is the clock lane of Data lane0 and Data lane1, while CLK1P/1N is the clock lane of Data lane2 and Data lane3.

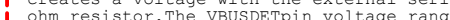
Note:
The Caps to the left of green line should be placed under the U1000 package. Other caps should be placed close to the U1000 package.

Note:
If not used:
Signal:leave floating
Power: Floating

U1000M

Option1	DP x4Lane	DP_TX_Lane0-3
Option2	USB30 x4Lane	DP_TX_Lane0-3
Option3	USB30X2Lane+DPX2Lane	USB30: Lane0 Lane1 DP: Lane2 Lane3
Option4	USB30X2Lane+DPX2Lane	USB30: Lane2 Lane3 DP: Lane0 Lane1

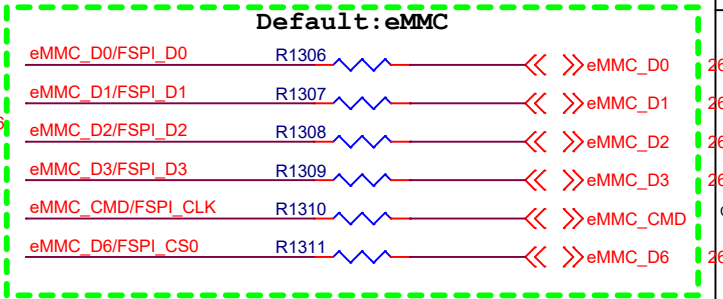
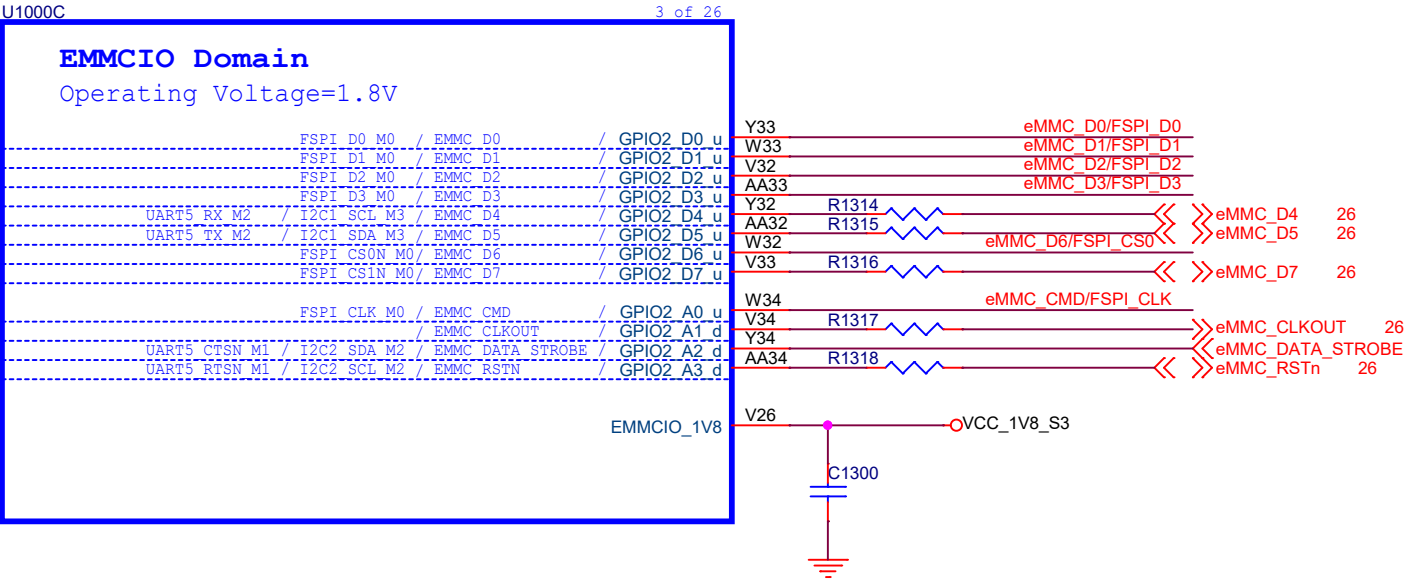
U1000L 12 of 26



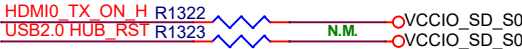
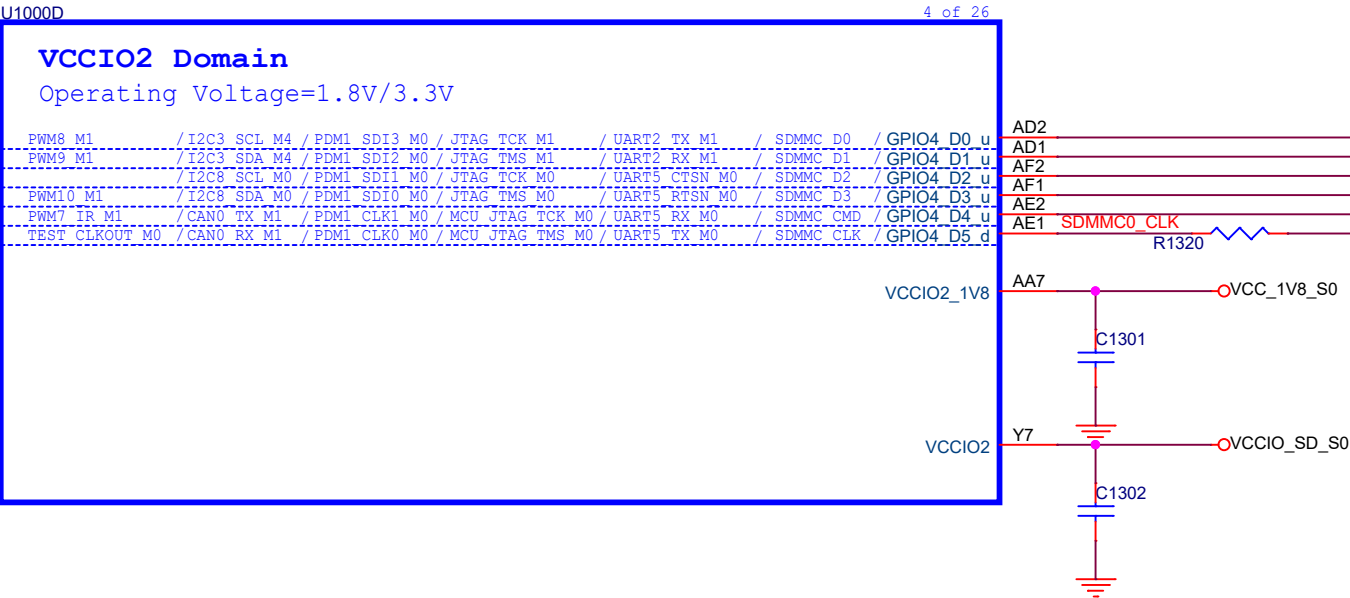
Note:
The USB20_VBUSDET pin internal has a pull-down resistance(40K ohm) to ground,The resistance creates a voltage with the external series 30K ohm resistor.The VBUSDETpin voltage range <=3.3V.

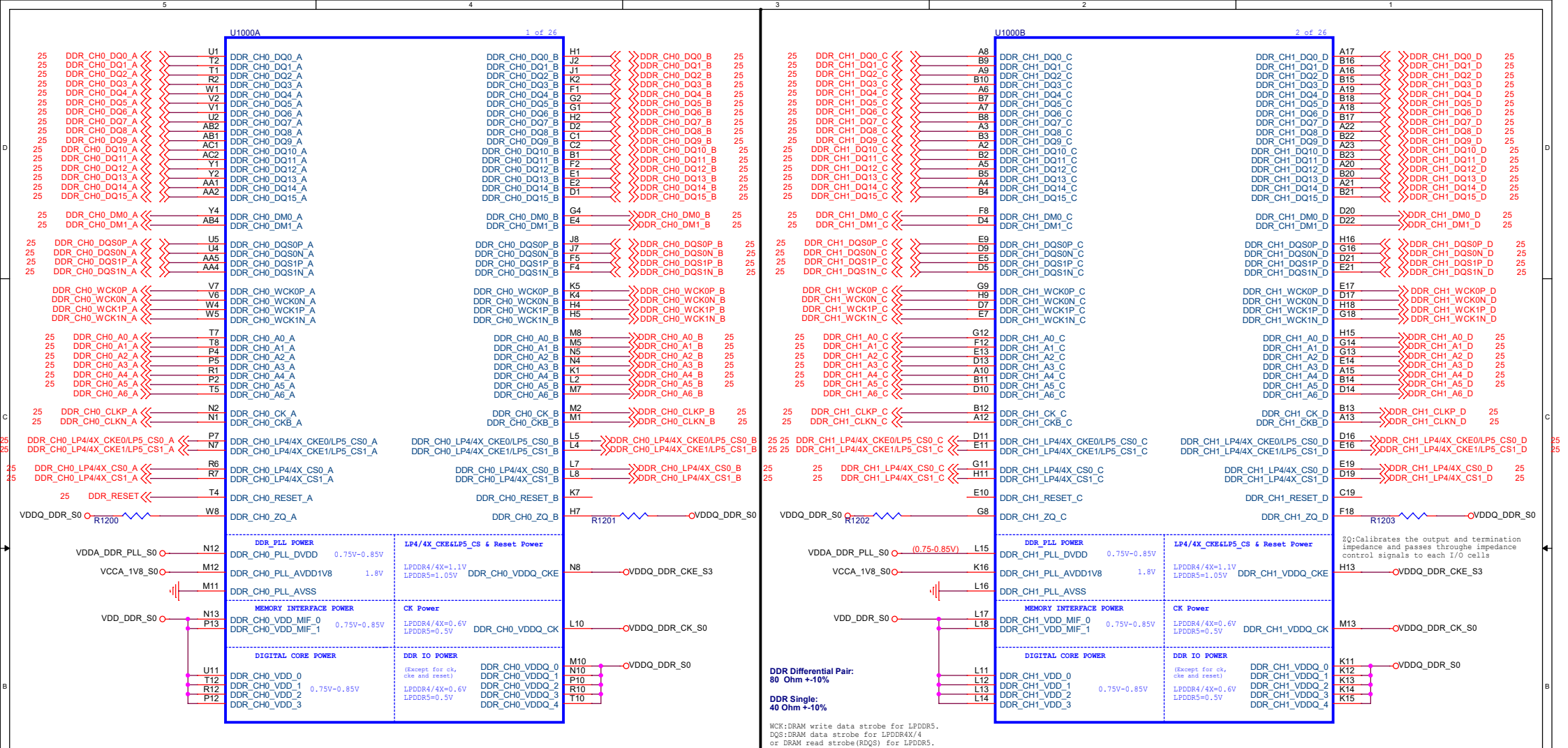
Note:
The USB20_VBUSDET pin internal has a pull-down resistance (40K ohm) to ground, The resistance creates a voltage with the external series 30K ohm resistor. The VBUSDETpin voltage range $\leq 3.3V$.

RK3588_C (EMMCIO Domain)



RK3588_D (VCCIO2 Domain)





RK3588 E (OSC/PLL/PMUIO1/2)

Note:

Adjusted the load capacitance according to the crystal specification

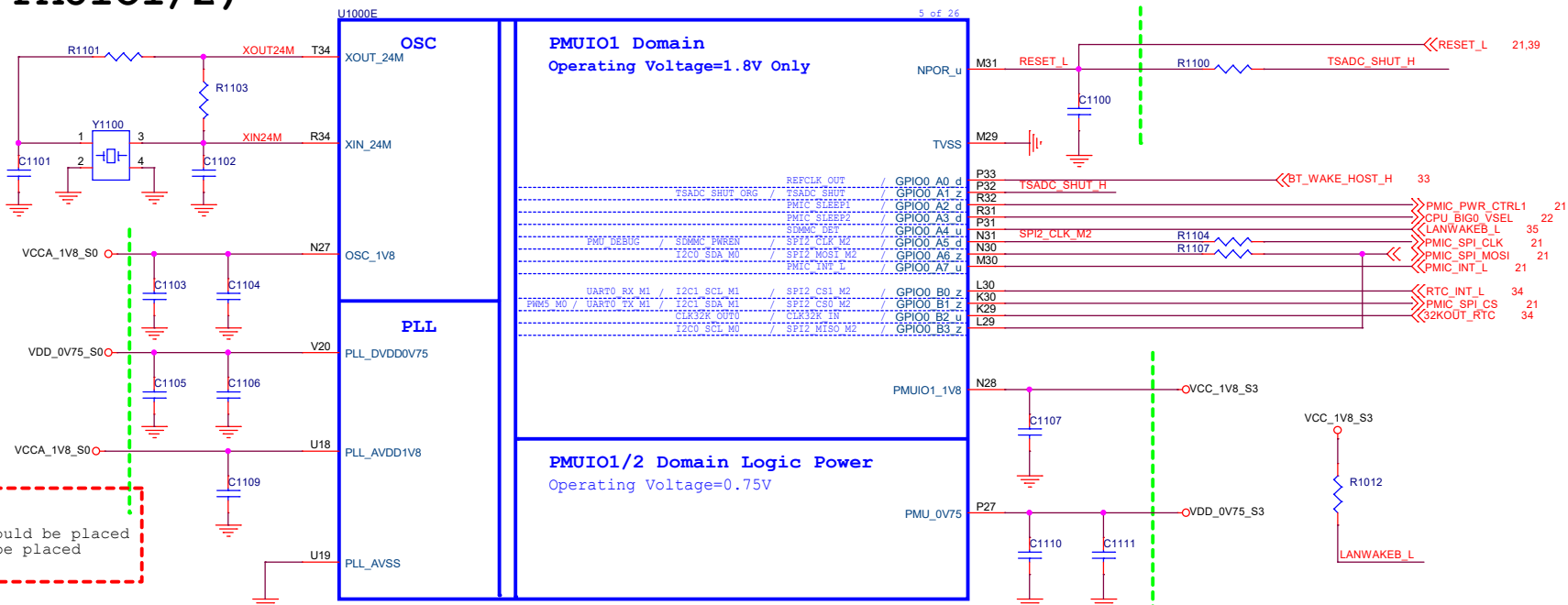
The CL is the load capacitance of the crystal that is recommended by the crystal vendors to obtain target clock frequency.

$$CL = \{CL1 * CL2 / (CL1 + CL2)\} + PCB \text{ strays}$$

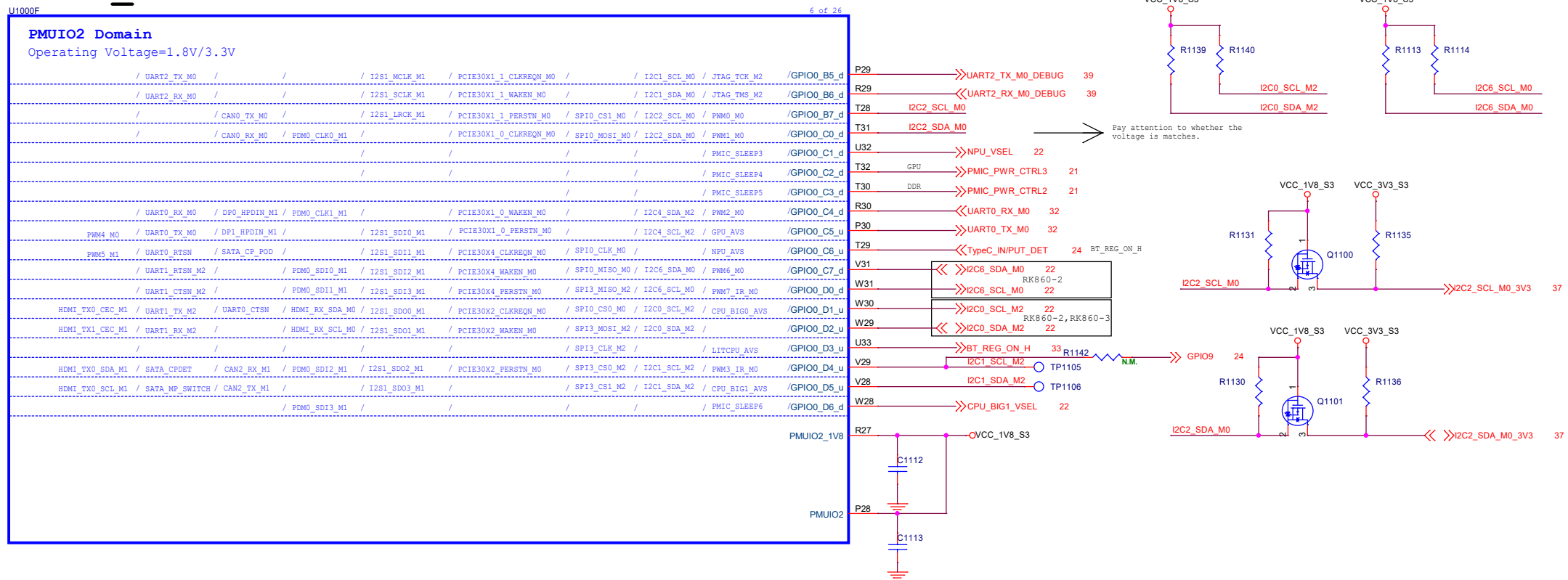
$$\text{Total } CL \leq 12\text{pF}$$

Note:

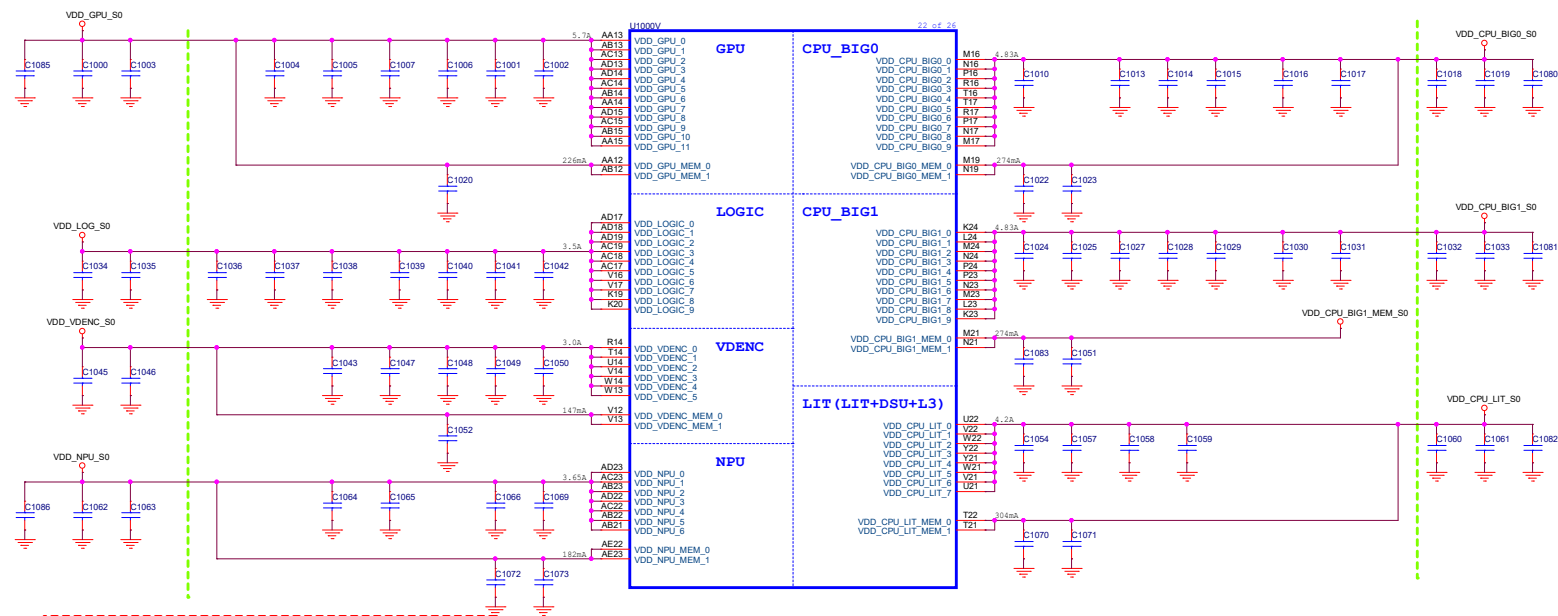
The Caps between green line and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package



RK3588 F (PMUIO2)



RK3588_V(POWER)



Note:
The Caps between green line and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package

