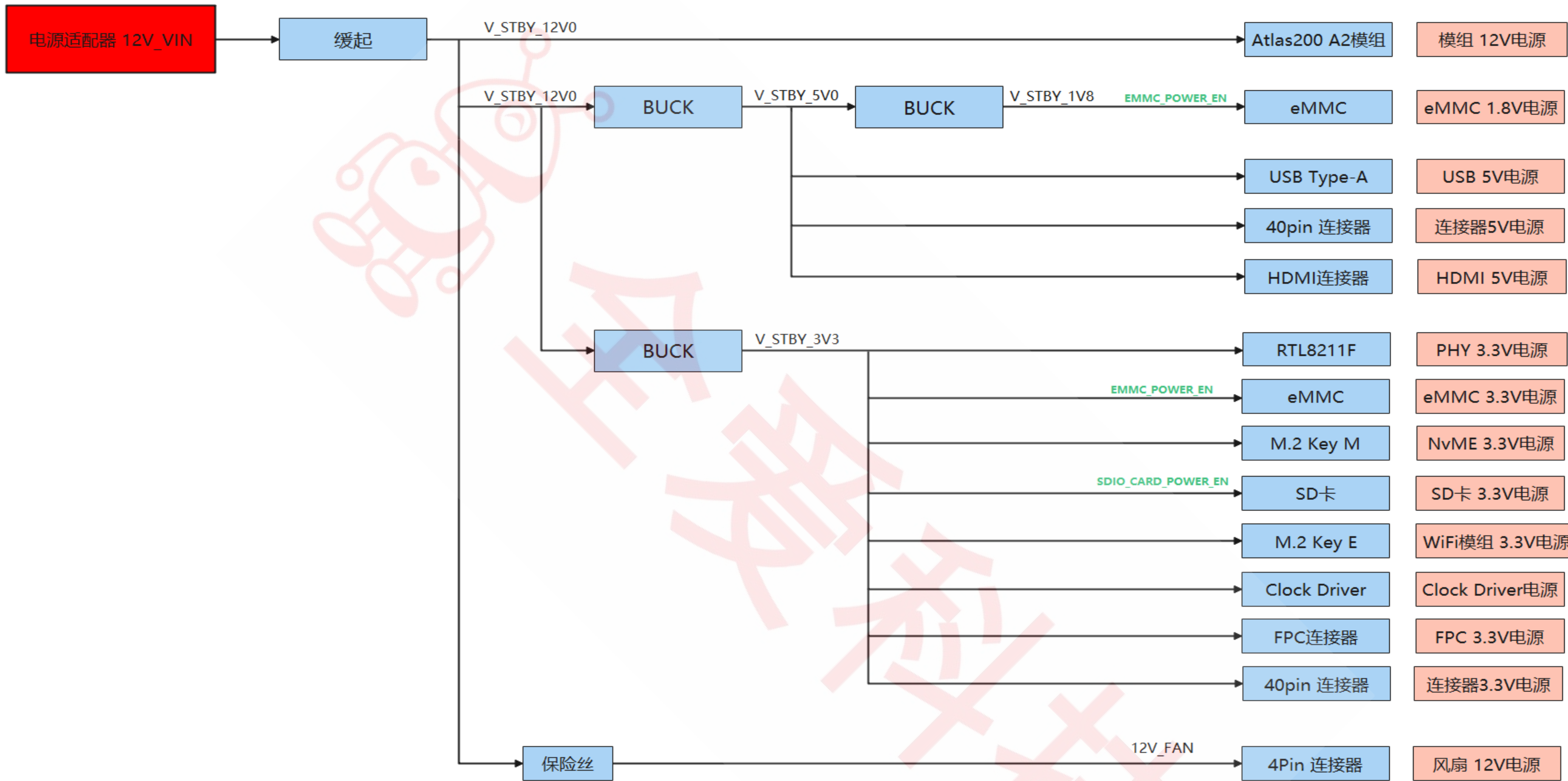


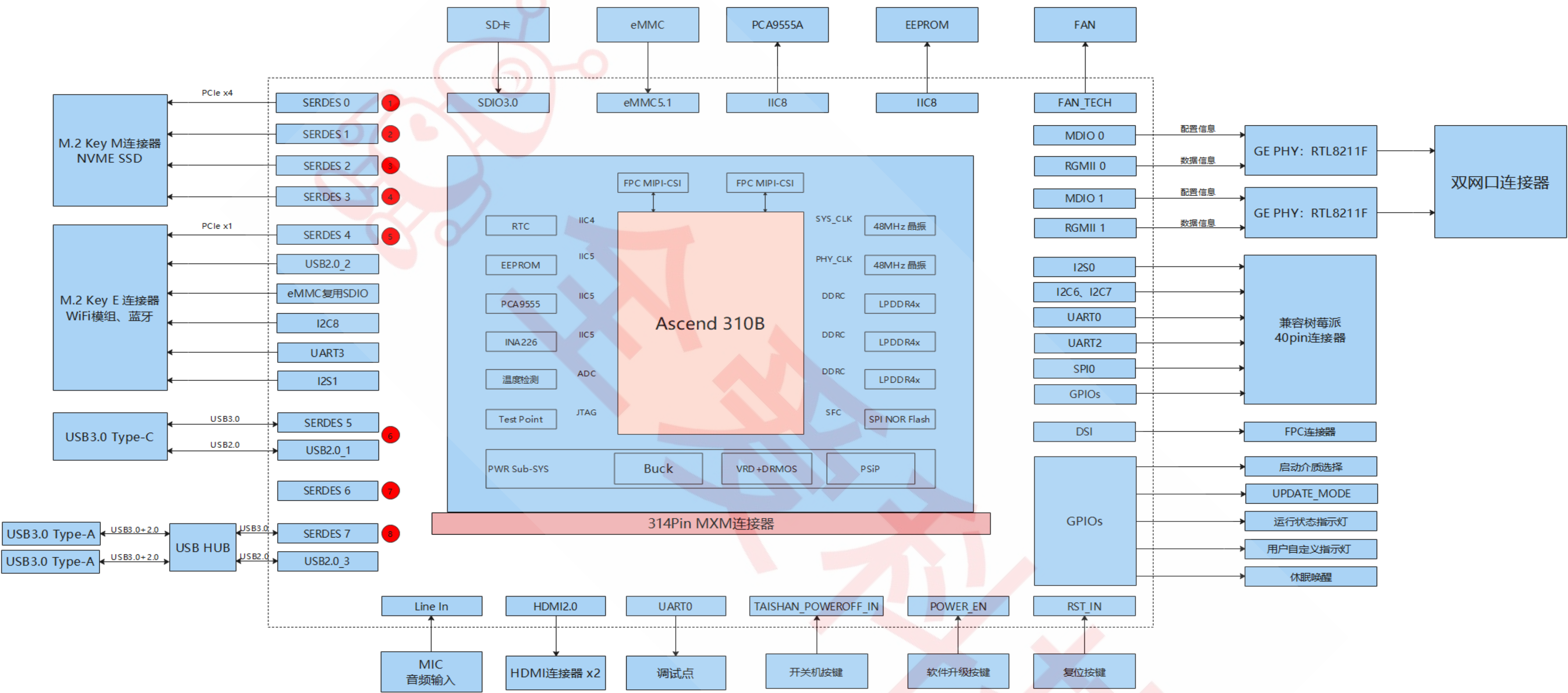
Atlas 200I A2模组底板原理图参考设计

Department : Ascend Computing Hardware Program

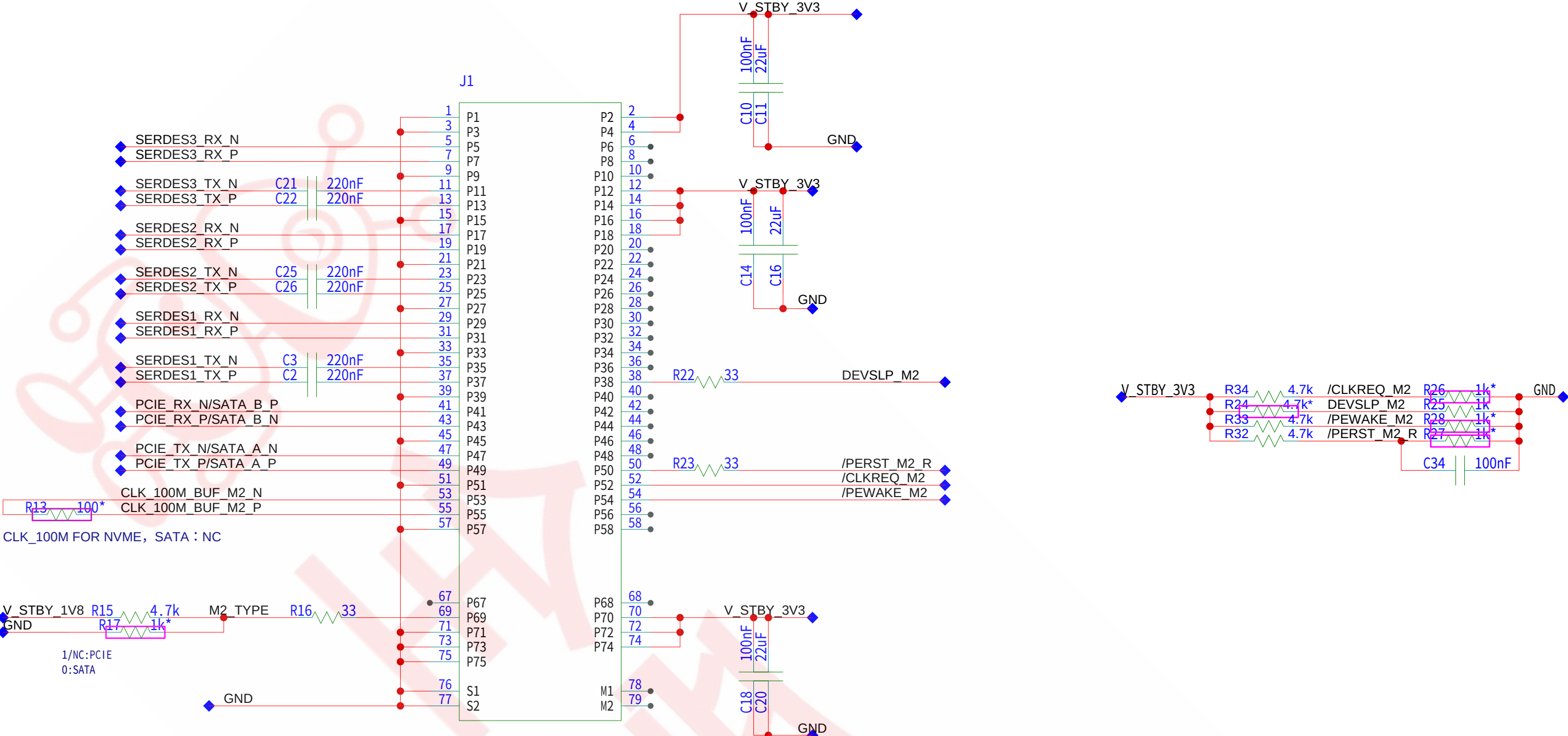
Power Tree



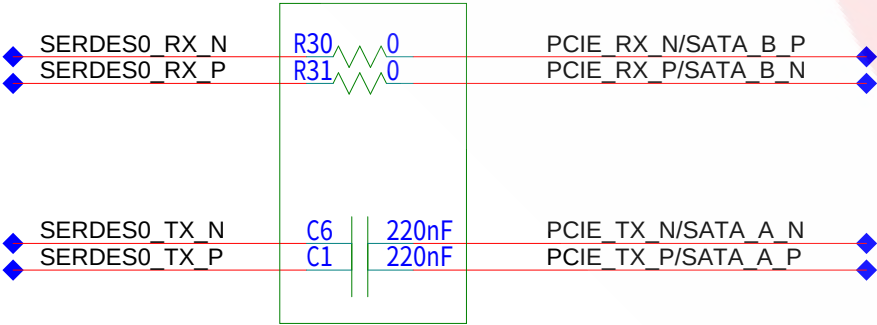
Block Diagram



M.2 NVME/SATA SSD

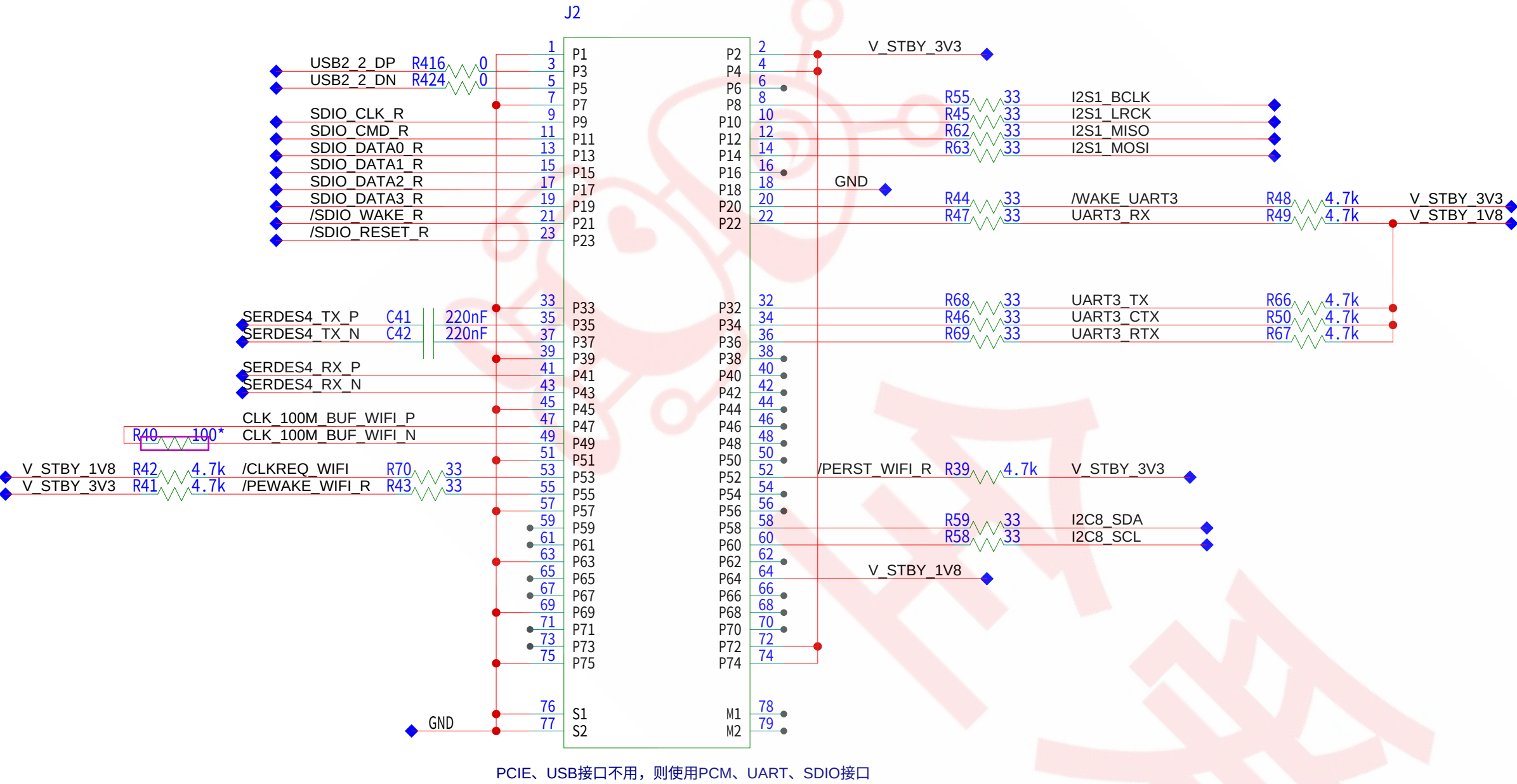


兼容不同厂家SATA盘设计方案，
硬盘端串有10nF电容时上件0ohm电阻（07091470-001），
硬盘端无10nF电容时在底板上件10nF电容（08072292-001）。

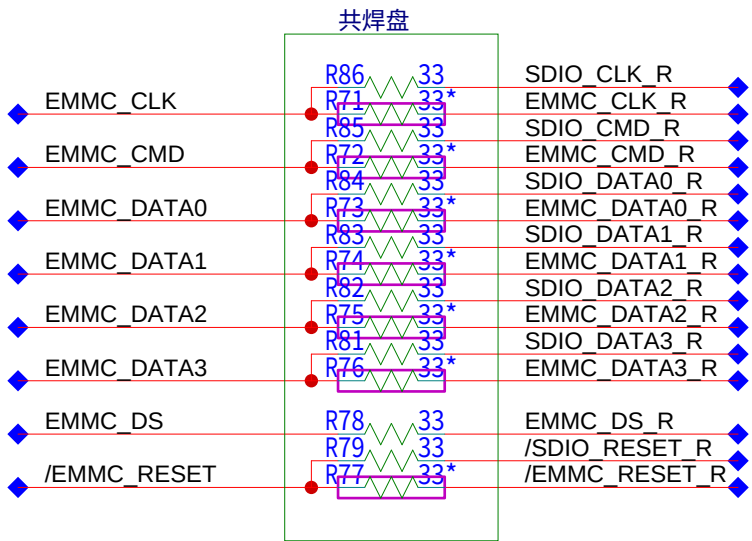


NVMe耦合电容，RX端耦合电容在硬盘内

M.2 WiFi&Bluetooth



PCIe、USB接口不用，则使用PCM、UART、SDIO接口



CAD NOTE :

左边两个电容靠近pin 2,4
中间两个电容靠近pin 72,74

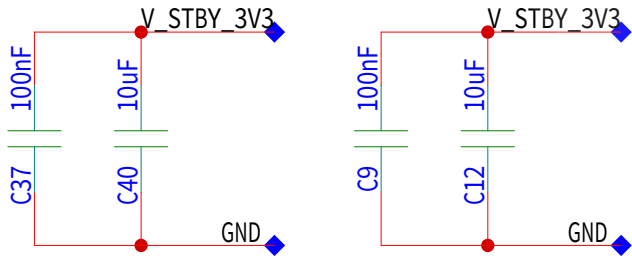
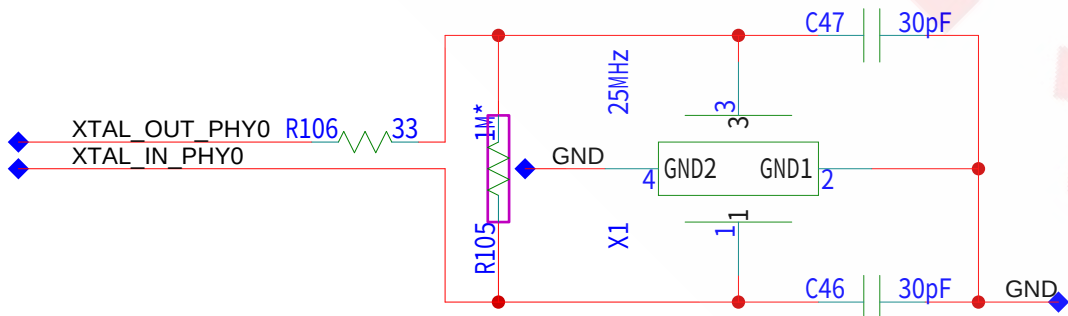
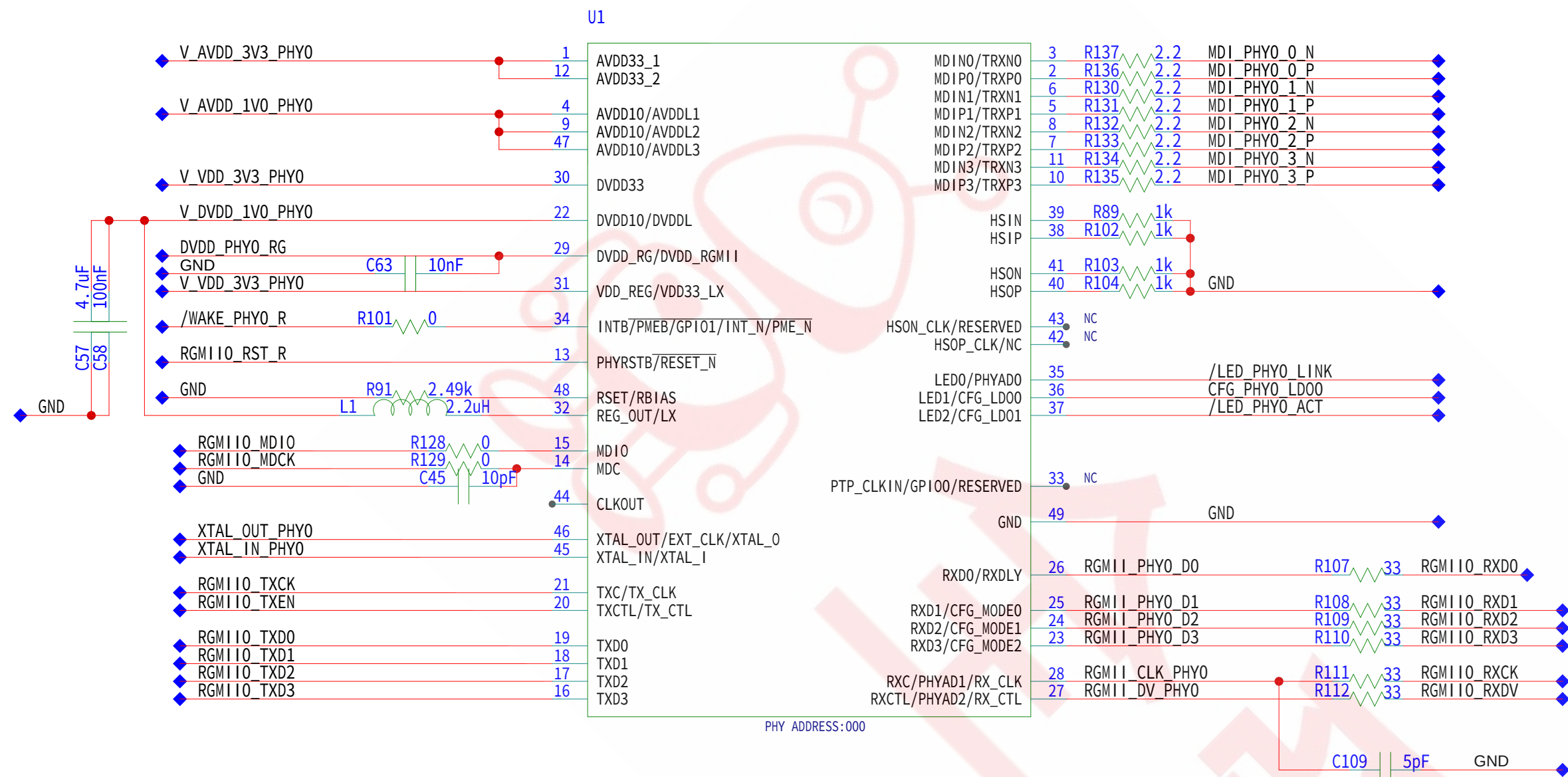


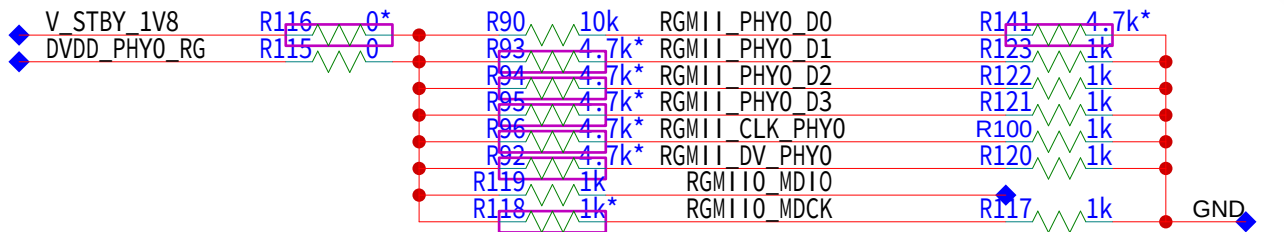
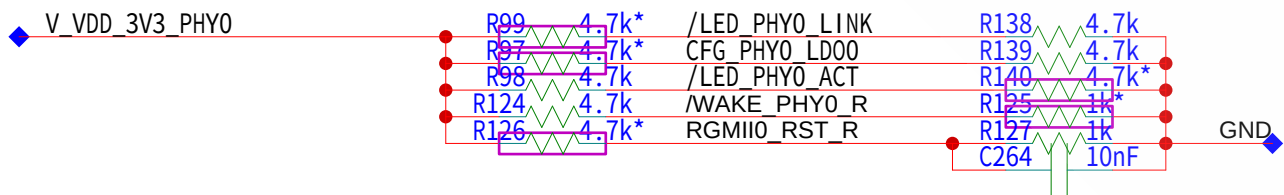
Table 3-11. SDIO Based Add-in Card Pinouts (Key E)

Pin	Signal	Signal	Pin
74	3.3 V	GND	75
72	3.3 V	RESERVED/REFCLKn1	73
70	UIM_POWER_SRC/GPIO_1/PEWAKE1#	RESERVED/REFCLKp1	71
68	UIM_POWER_SNK/CLKREQ1#	GND	69
66	UIM_SWP/PERST1#	RESERVED/PETn1	67
64	VIO 1.8 V	RESERVED/PETp1	65
62	ALERT# (O)(0/1.8 V)	GND	63
60	I2C_CLK (I)(0/1.8 V)	RESERVED/PERn1	61
58	I2C_DATA (I/O)(0/1.8 V)	RESERVED/PERp1	59
56	W_DISABLE1# (I)(0/1.8V/3.3V)	GND	57
54	W_DISABLE2# (I)(0/1.8V/3.3V)	PEWAKE0# (I/O)(0/1.8V/3.3V)	55
52	PERST0# (I)(0/1.8V/3.3V)	CLKREQ0# (I/O)(0/1.8V/3.3V)	53
50	SUSCLK (I)(0/1.8V/3.3V)	GND	51
48	COEX_RXD (I)(0/1.8V)	REFCLKn0	49
46	COEX_TXD (O)(0/1.8V)	REFCLKp0	47
44	COEX3 (I/O)(0/1.8V)	GND	45
42	VENDOR DEFINED	PETn0	43
40	VENDOR DEFINED	PETp0	41
38	VENDOR DEFINED	GND	39
36	UART_CTS (I)(0/1.8V)	PERn0	37
34	UART_RTS (O)(0/1.8V)	PERp0	35
32	UART_RXD (I)(0/1.8V)	GND	33
	ADD-IN CARD KEY E	ADD-IN CARD KEY E	
	ADD-IN CARD KEY E	ADD-IN CARD KEY E	
	ADD-IN CARD KEY E	ADD-IN CARD KEY E	
	ADD-IN CARD KEY E	ADD-IN CARD KEY E	
22	UART_TXD (O)(0/1.8V)	SDIO_RESET#/TX_BLANKING (I)(0/1.8V)	23
20	UART_WAKE# (O)(0/3.3V)	SDIO_WAKE# (O)(0/1.8V)	21
18	VIO_CFG (O)	SDIO_DATA3 (I/O)(0/1.8V)	19
16	LED_2# (O)(OD)	SDIO_DATA2 (I/O)(0/1.8V)	17
14	PCM_IN/I2S_SD_IN (I)(0/1.8V)	SDIO_DATA1 (I/O)(0/1.8V)	15
12	PCM_OUT/I2S_SD_OUT (O)(0/1.8V)	SDIO_DATA0 (I/O)(0/1.8V)	13
10	PCM_SYNC/I2S_WS (I/O)(0/1.8V)	SDIO_CMD (I/O)(0/1.8V)	11
8	PCM_CLK/I2S_SCK (I/O)(0/1.8V)	SDIO_CLK/SYSCLK (I)(0/1.8V)	9
6	LED_1# (O)(OD)	GND	7
4	3.3 V	USB_D-	5
2	3.3 V	USB_D+	3
		GND	1

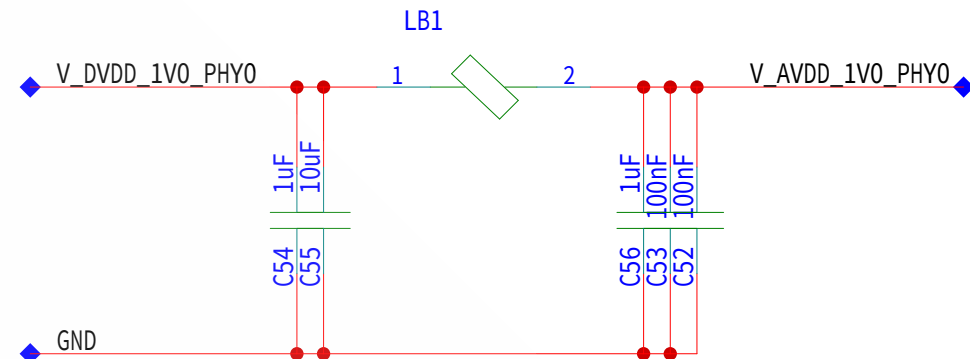
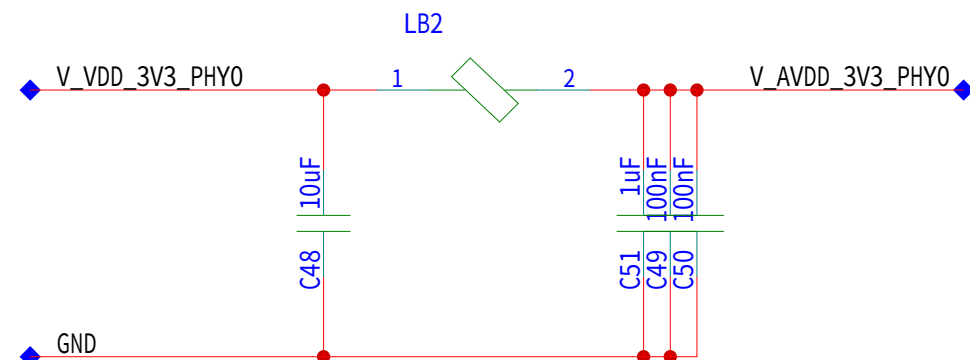
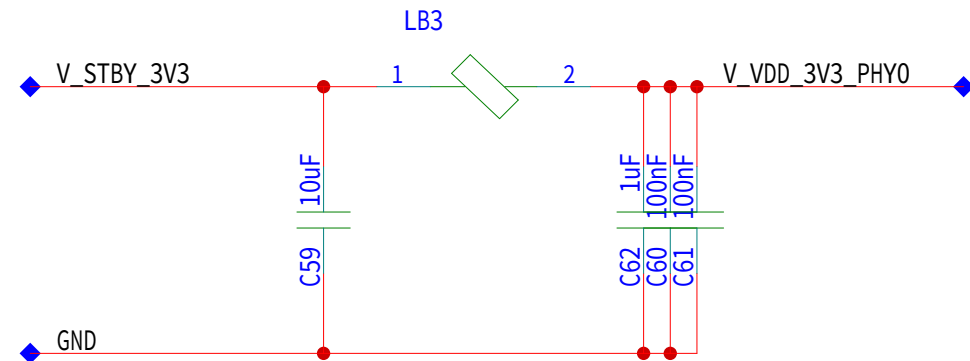
GE PHY0



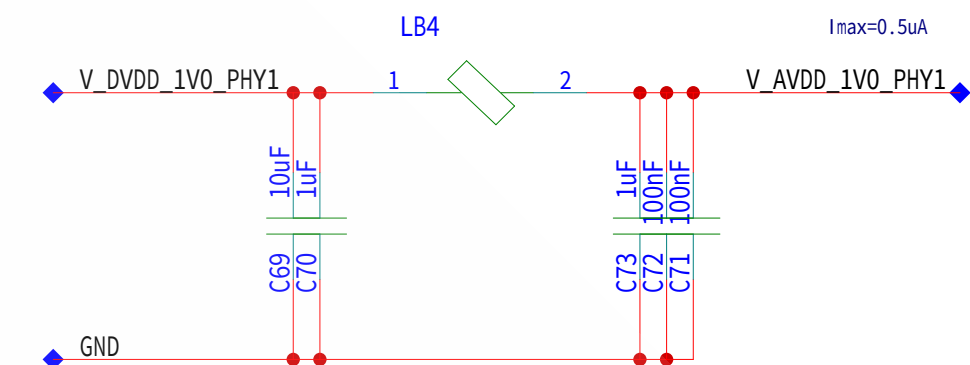
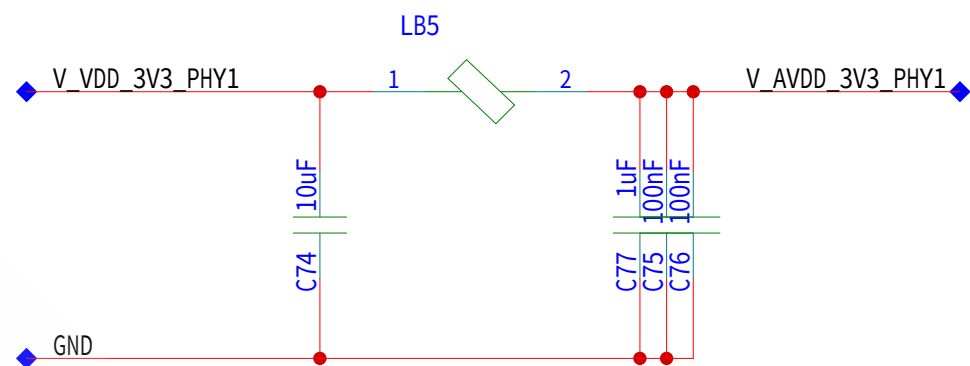
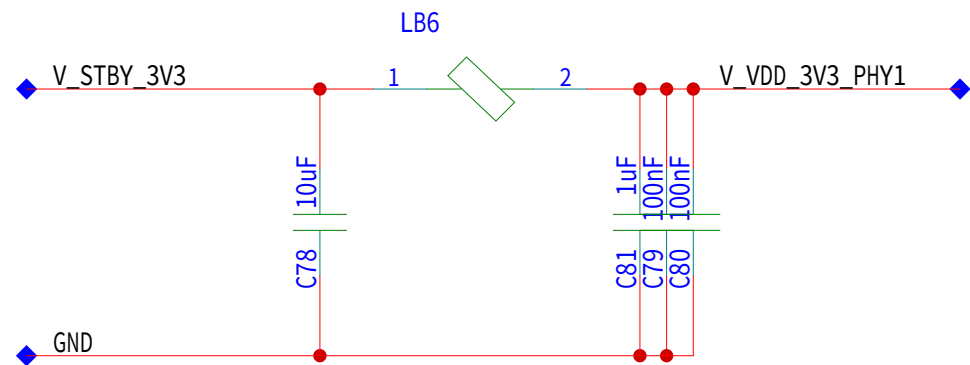
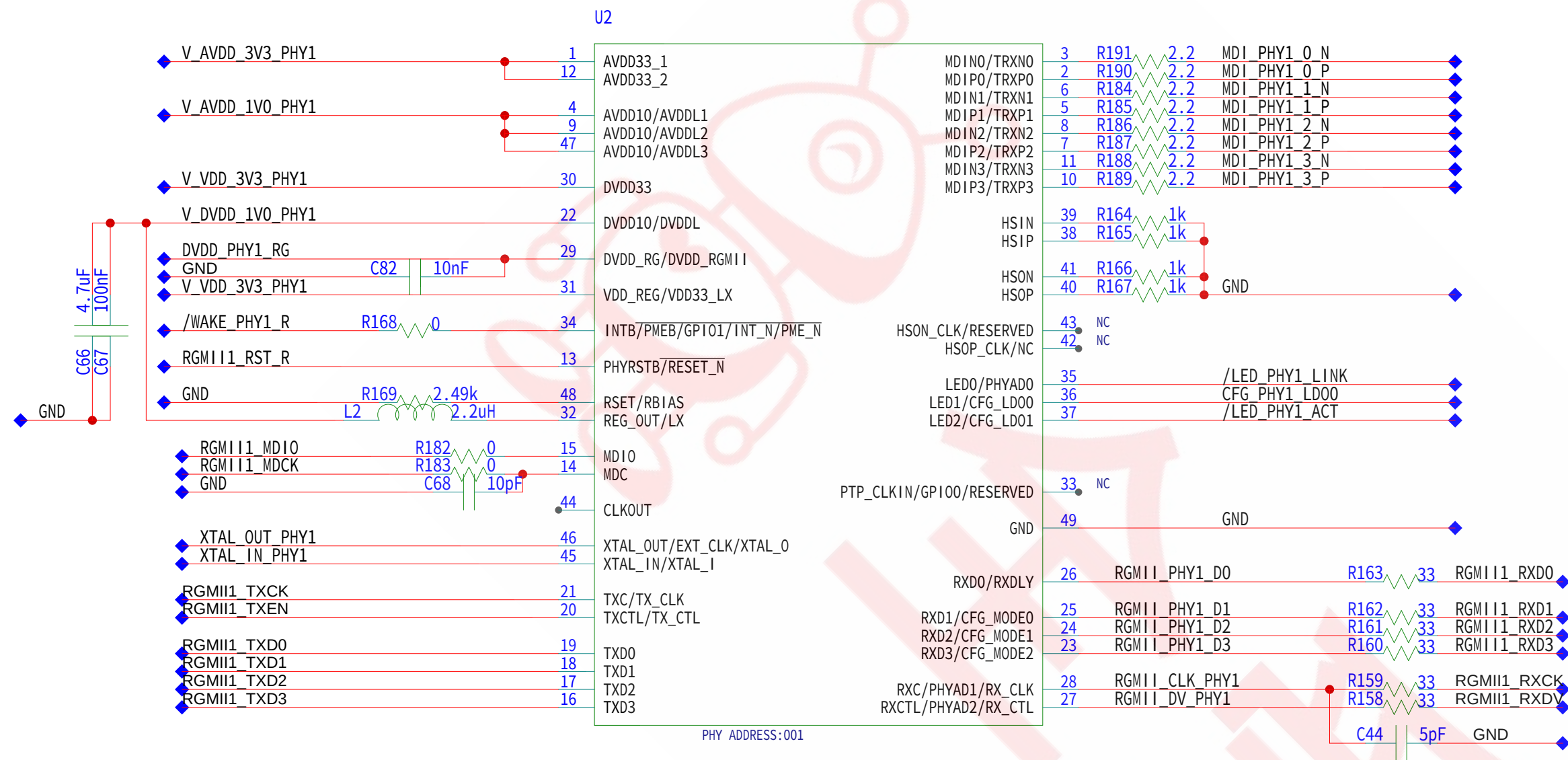
PIN	CFG		PIN	CFG
LED0	PHY_ADD0		RXD1	CFG_MODE0
RXC	PHY_ADD1		RXD2	CFG_MODE1
RXCTL	PHY_ADD2		RXD3	CFG_MODE2
RXD0	RXDLY			
LED1	CFG_LD0(0)			
LED2	CFG_LD0(1)			



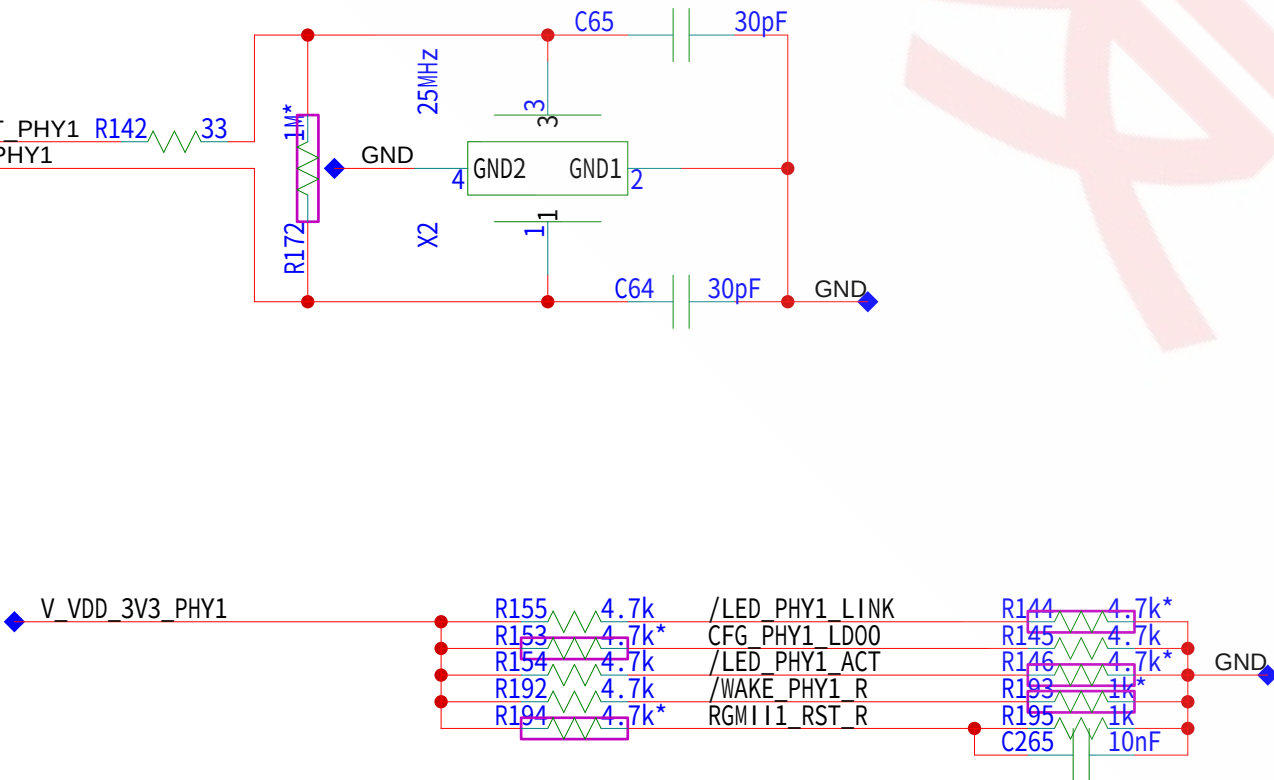
10	CFG_LD0(1:0)	LED2 LED1 STBY_12V0 01:2.5V 10:1.8V 11:1.5V
000	CFG_MODE[2:0]	RXD3 RXD2 RXD1 000:UTP<->RGMII 001:FIBER<->RGMII 010:UTP/FIBER<->RGMII 011:UTP<->SGMII 100:SGMII (PHY)<->RGMII (MAC) 101:SGMII (MAC)<->RGMII (PHY) 110:UTP<->FIBER(AUTO MODE) 111:UTP<->FIBER(FORCE MODE)
011	PHY_ADD[2:0]	RXCTL RXC LED0
0*	RXDLY	RXD0 1: add 2ns dly to RXC for RXD 0: no delay



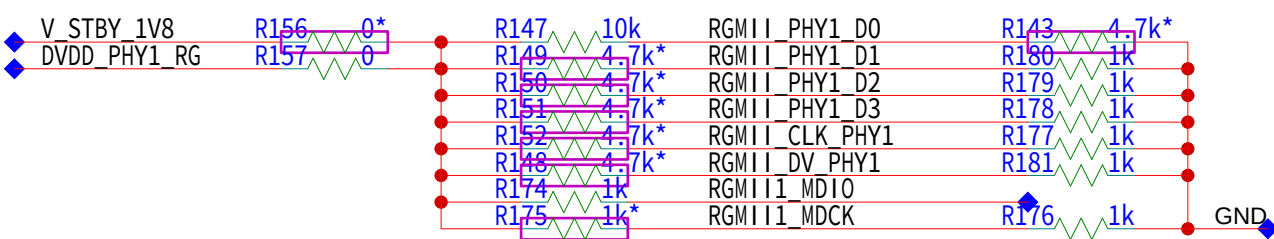
GE PHY1



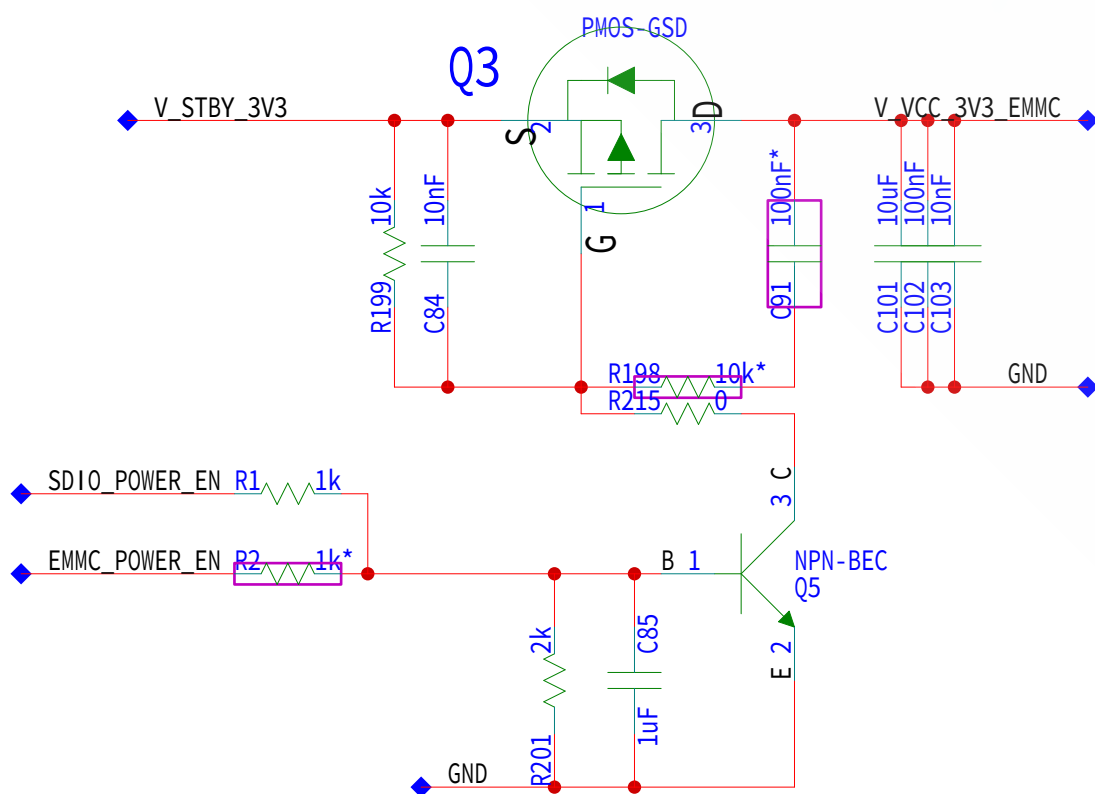
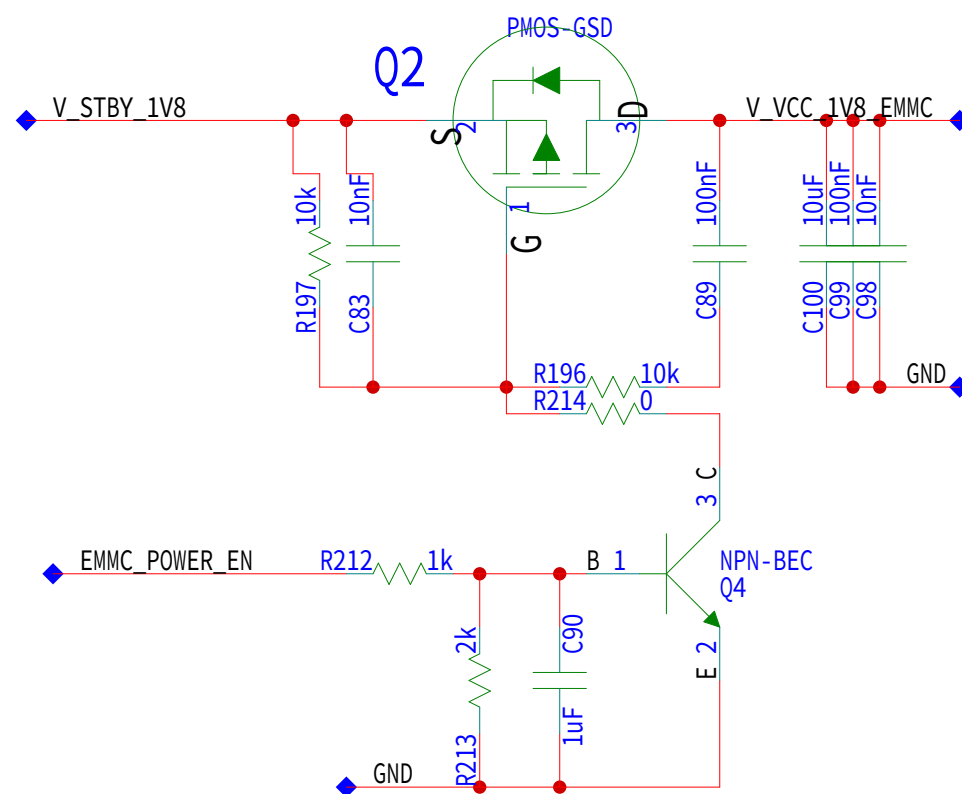
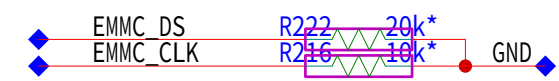
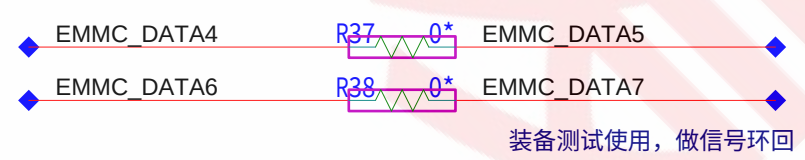
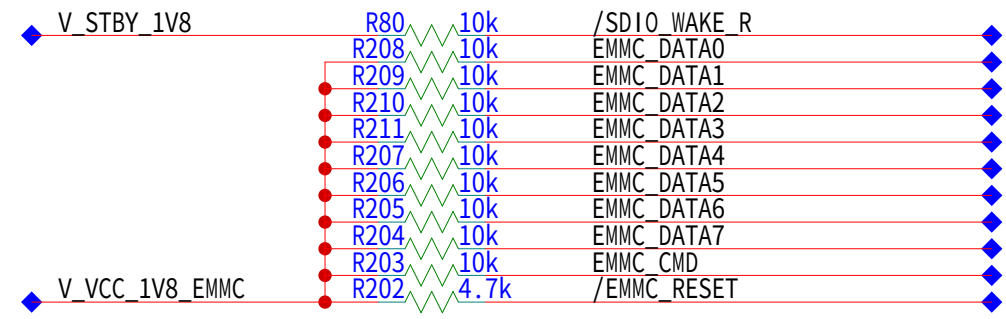
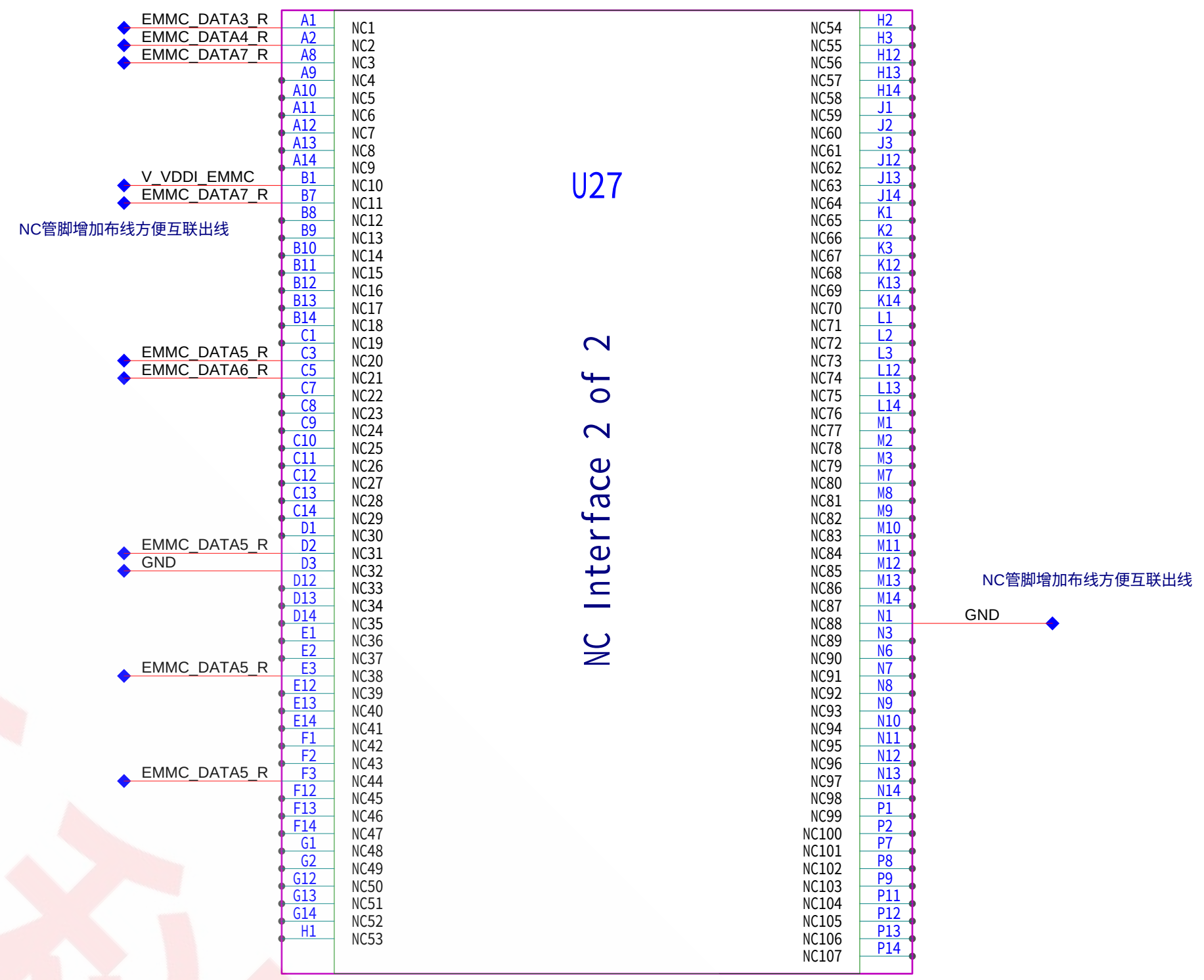
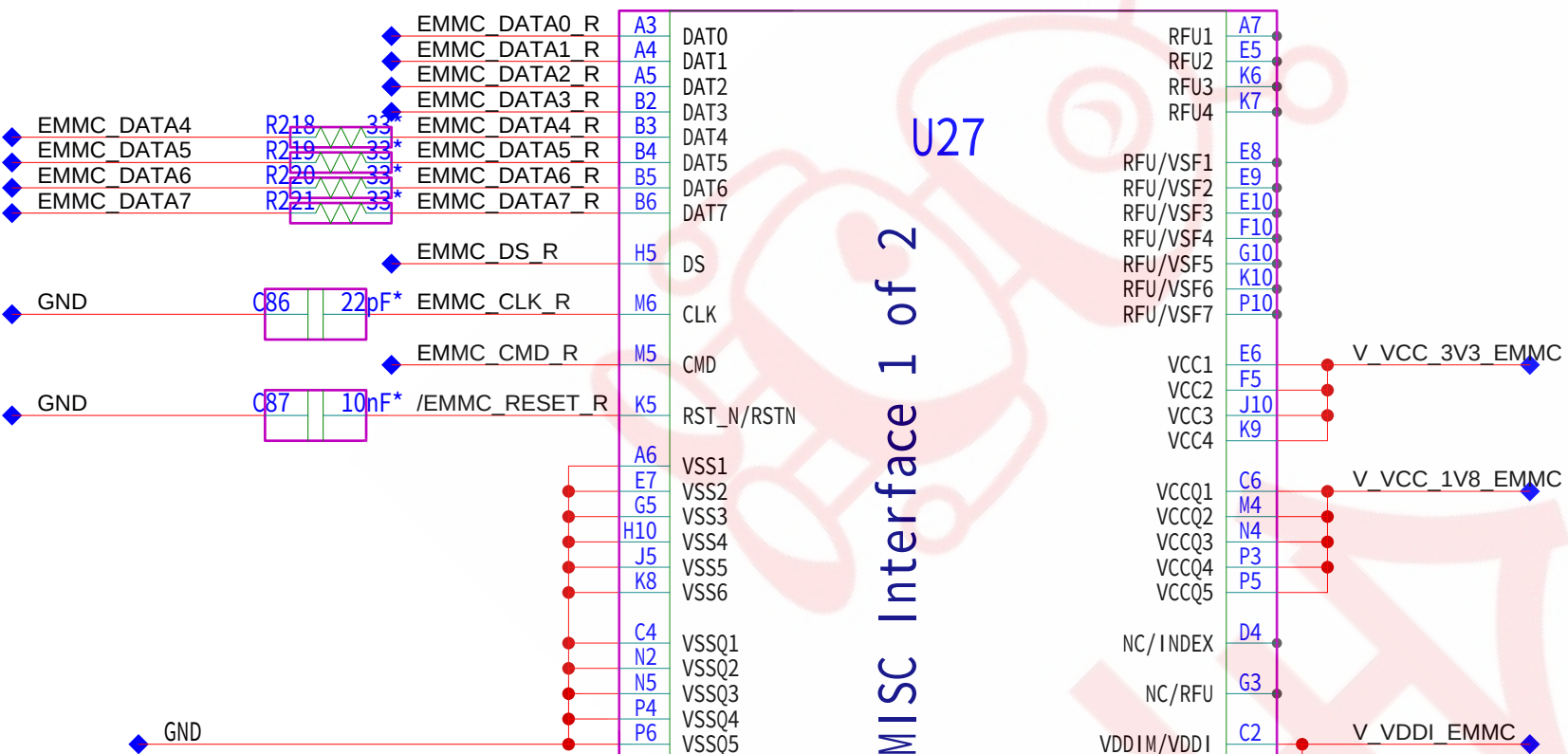
PIN	CFG		PIN	
LED0	PHY_ADD0		RXD1	
RXC	PHY_ADD1		RXD2	CFG_CFG_MODE1
RXCTL	PHY_ADD2		RXD3	CFG_CFG_MODE2 CFG_CFG_MODE0
RXD0	RXDLY			
LED1	CFG_LD0(0)			
LED2	CFG_LD0(1)			



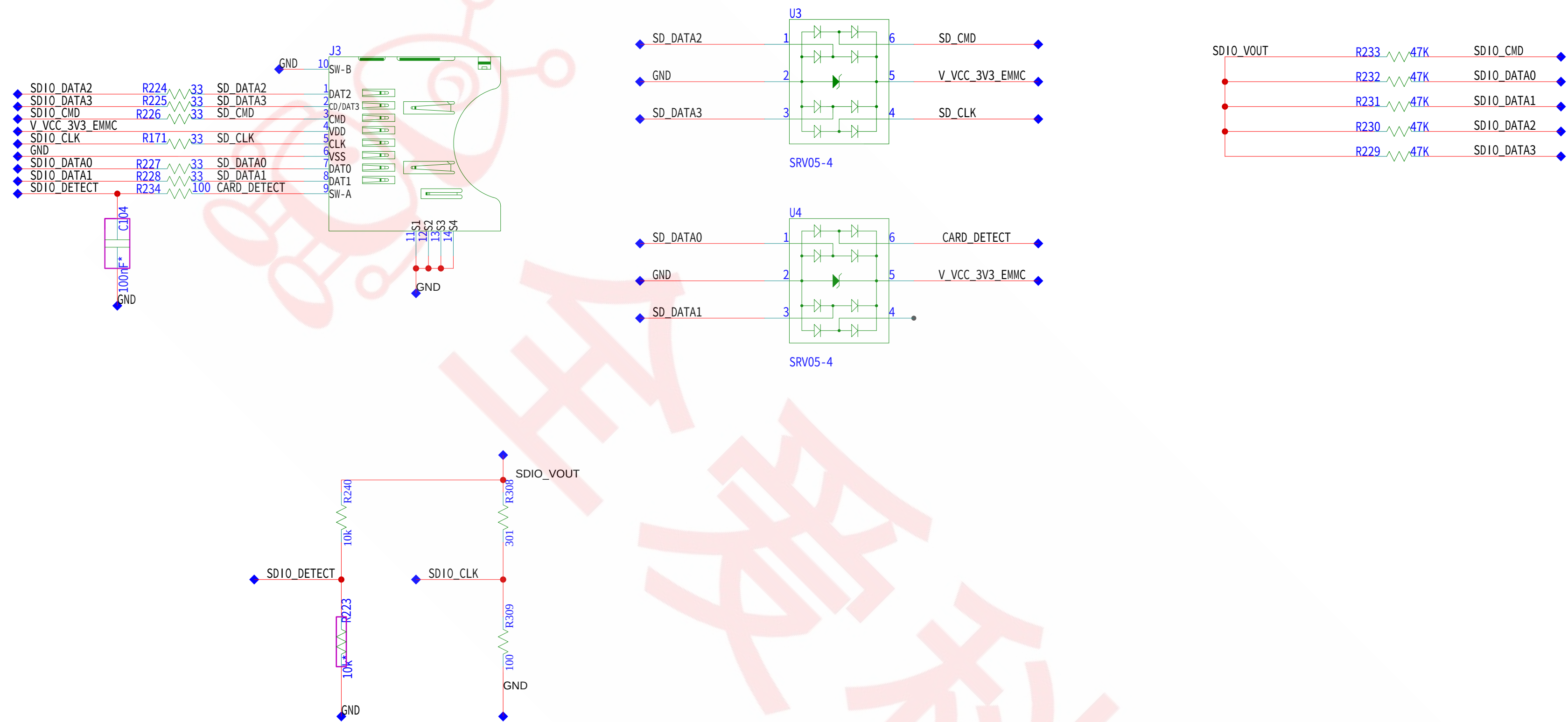
10	CFG_LD0(1:0)	LED2 LED1 STBY_12V0 01:2.5V 10:1.8V 11:1.5V
000	CFG_MODE[2:0]	RXD3 RXD2 RXD1 000:UTP<->RGMII 001:FIBER<->RGMII 010:UTP/FIBER<->RGMII 011:UTP<->SGMII 100:SGMII(PHY)<->RGMII(MAC) 101:SGMII(MAC)<->RGMII(PHY) 110:UTP<->FIBER(AUTO MODE) 111:UTP<->FIBER(FORCE MODE)
011	PHY_ADD[2:0]	RXCTL RXC LED0
0*	RXDLY	RXD0 1: add 2ns dly to RXC for RXD 0: no delay



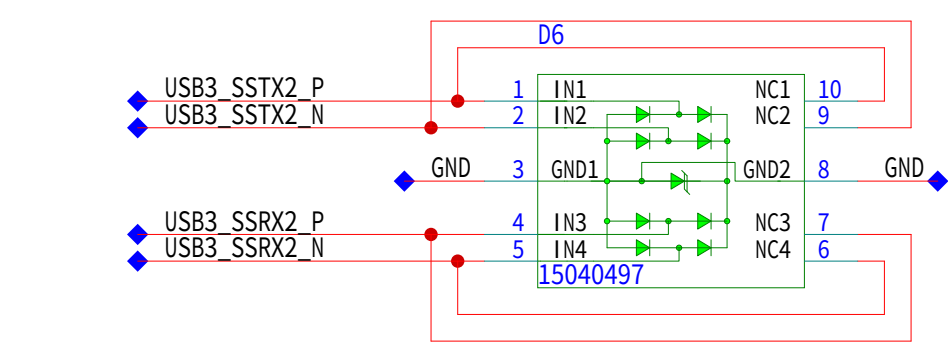
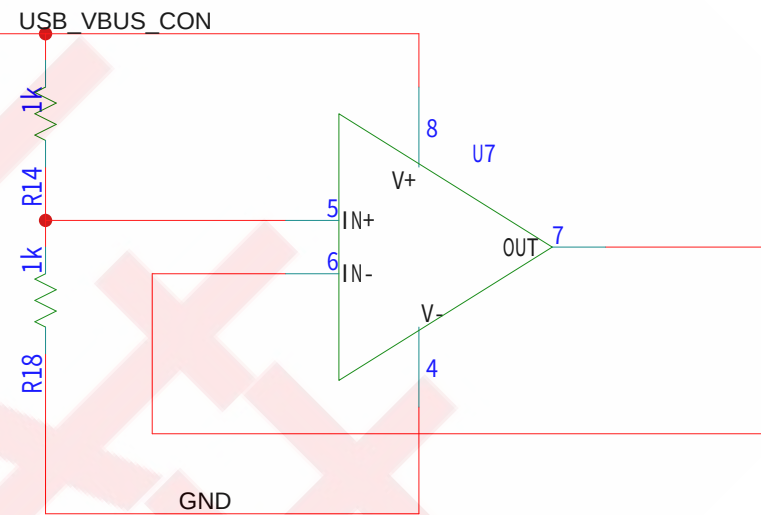
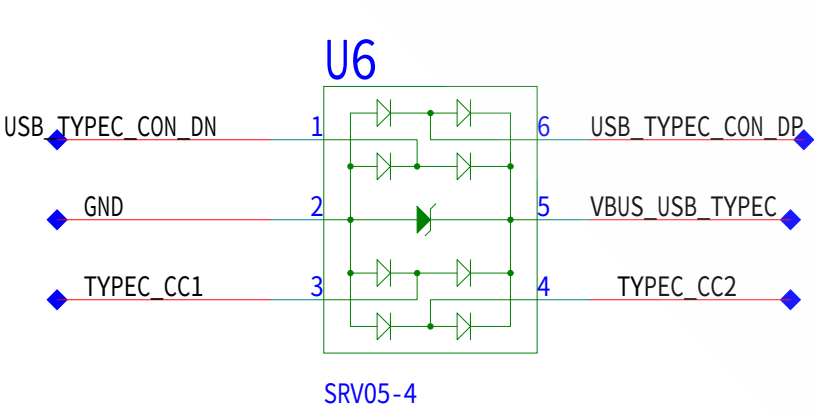
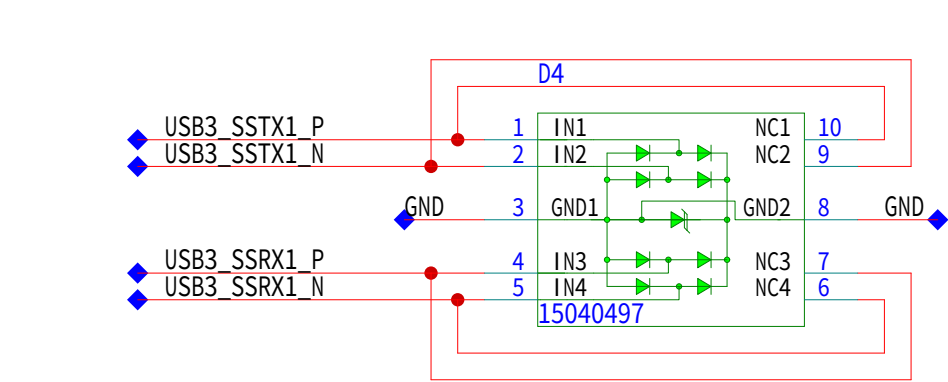
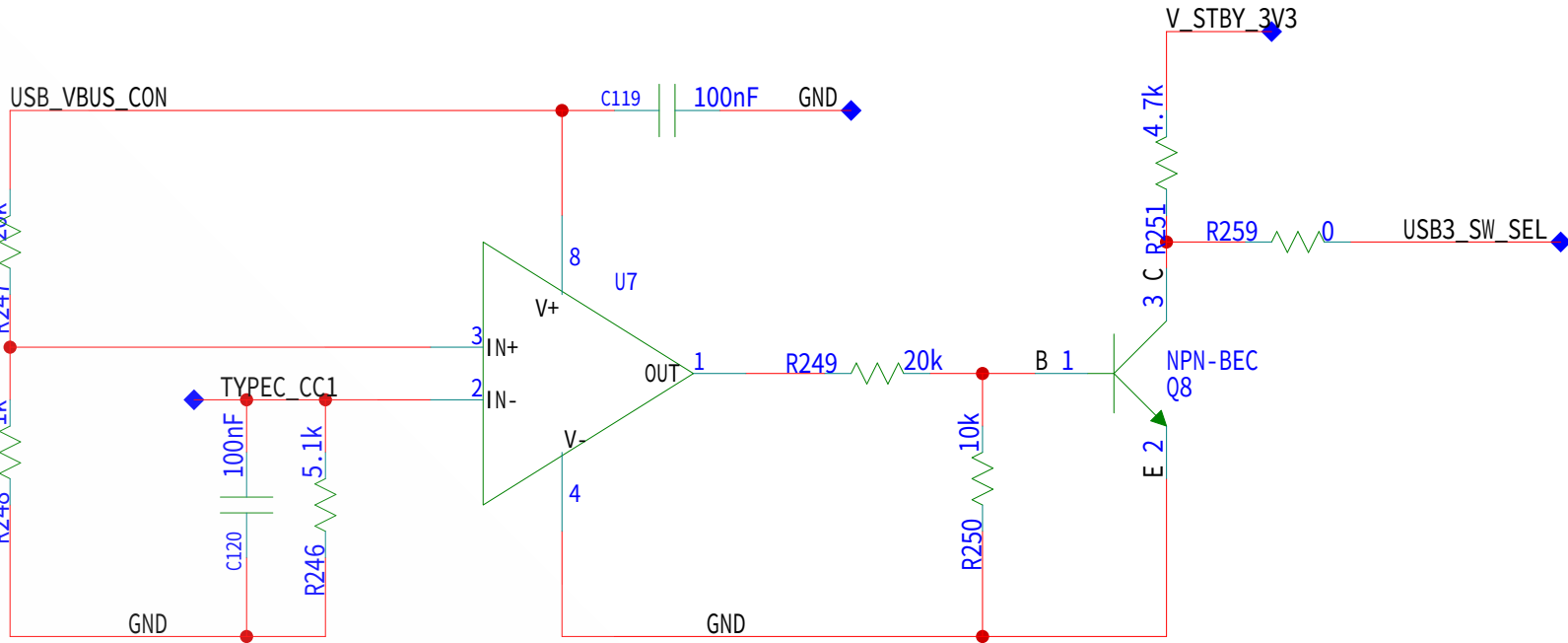
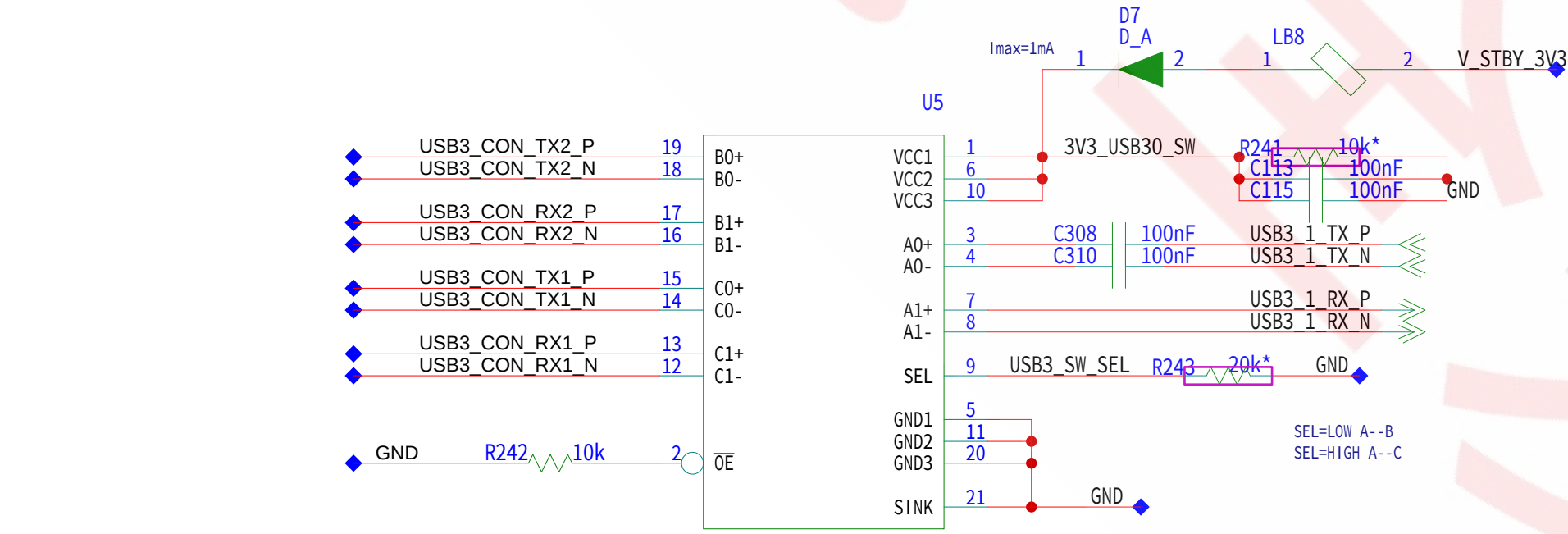
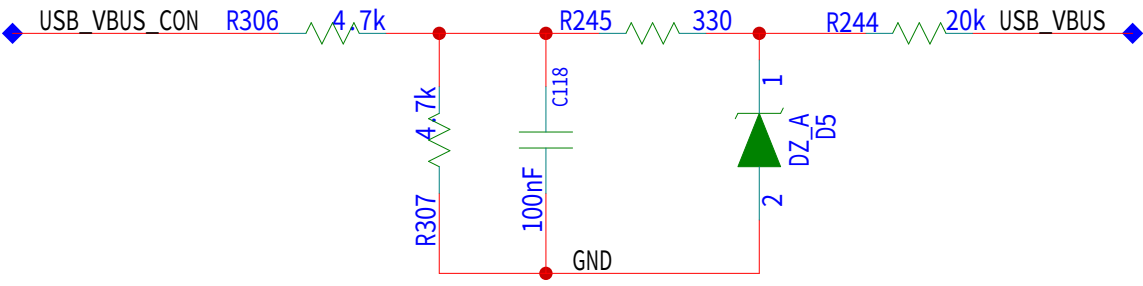
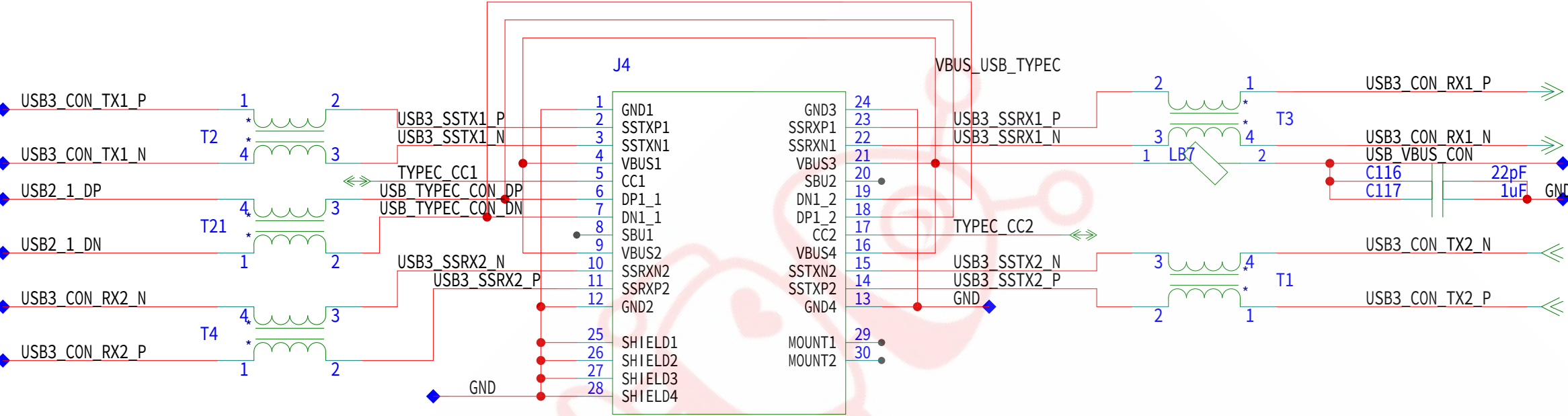
EMMC



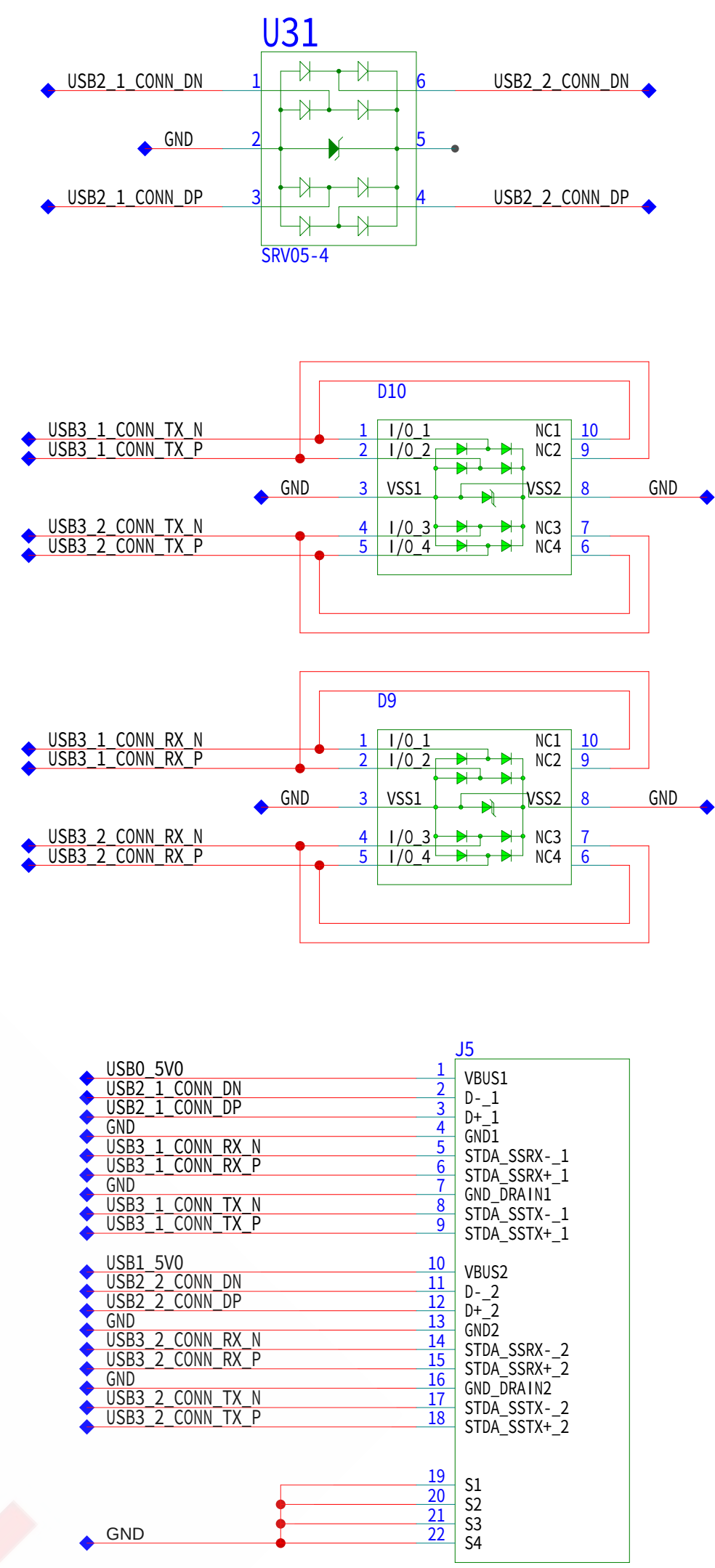
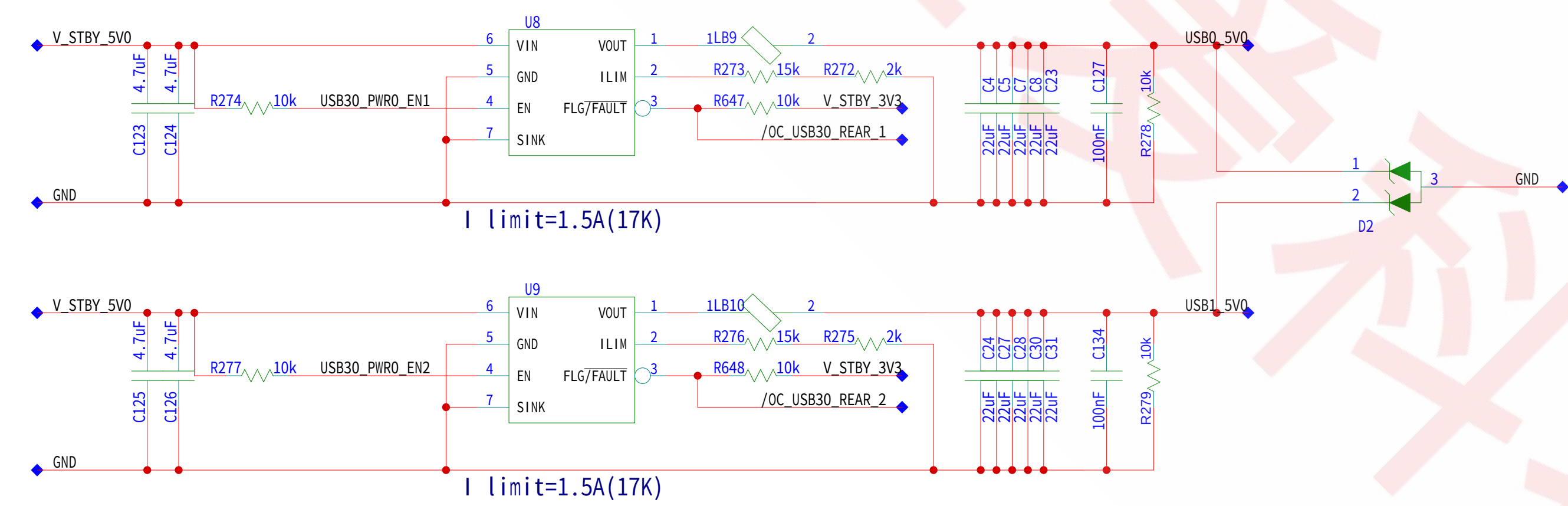
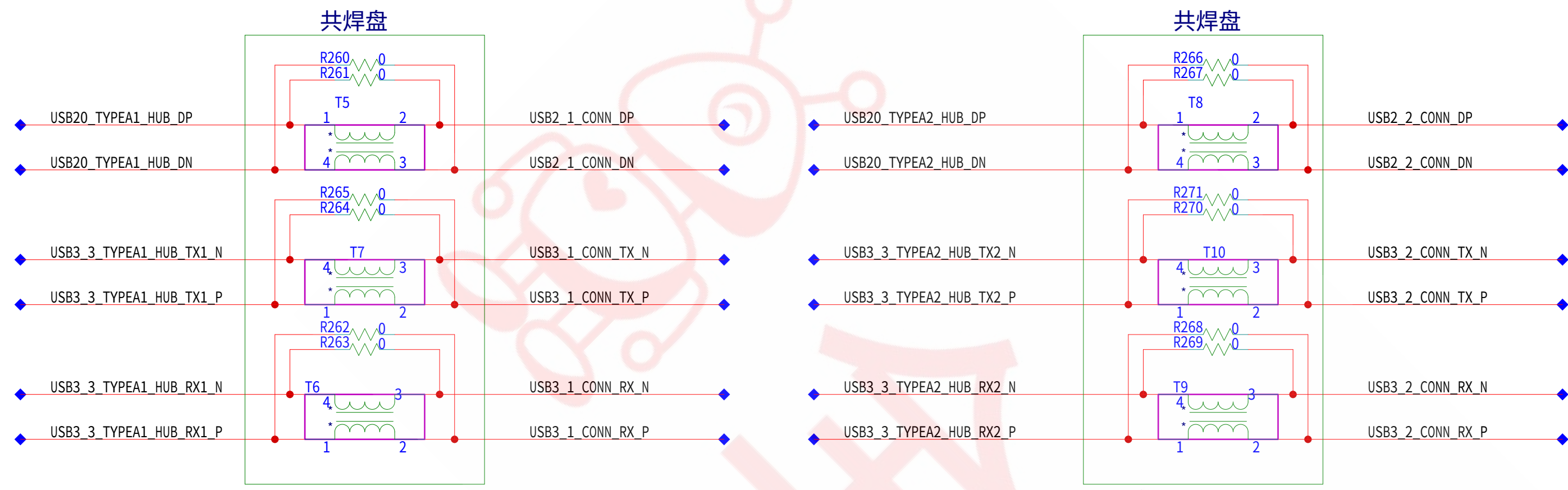
SD卡



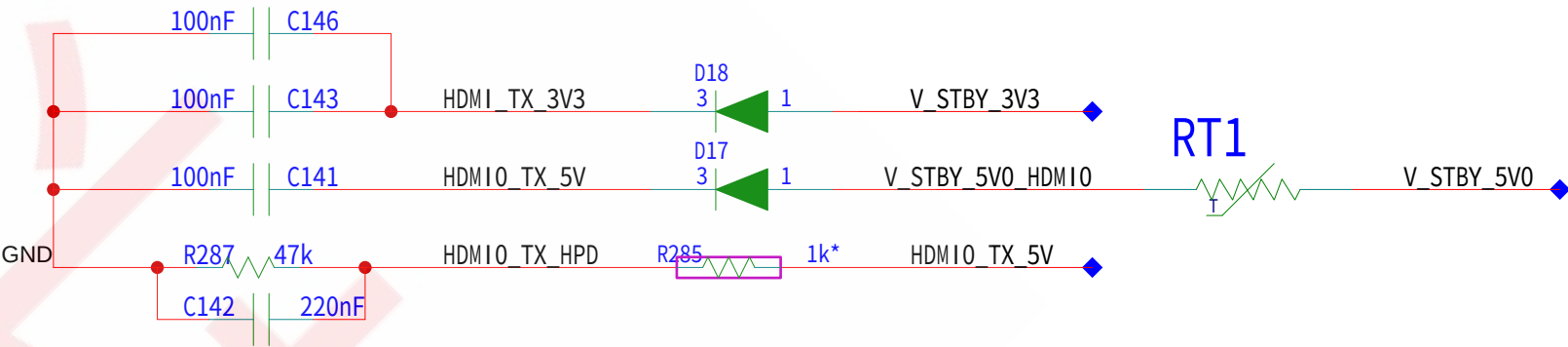
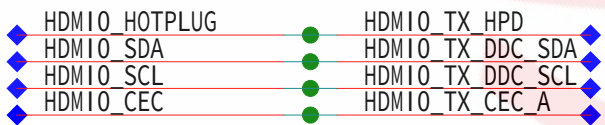
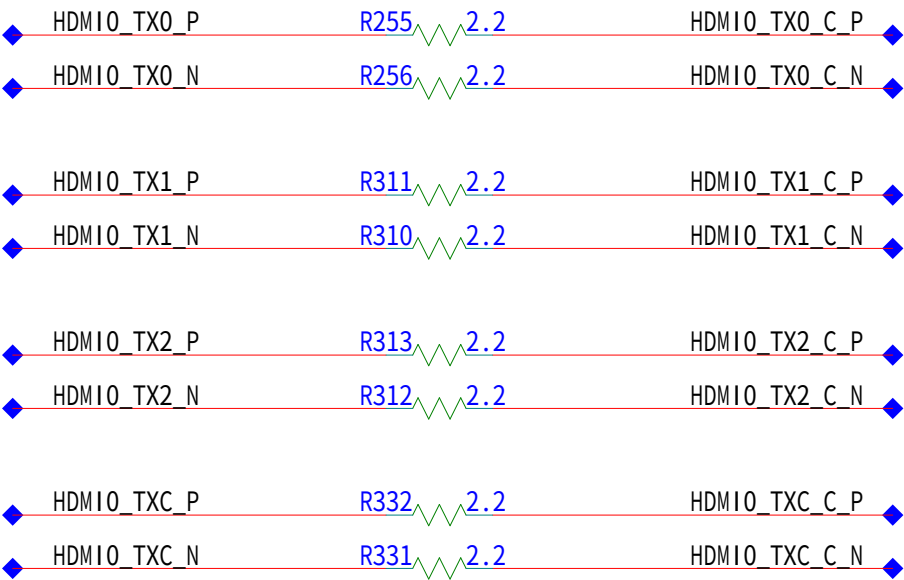
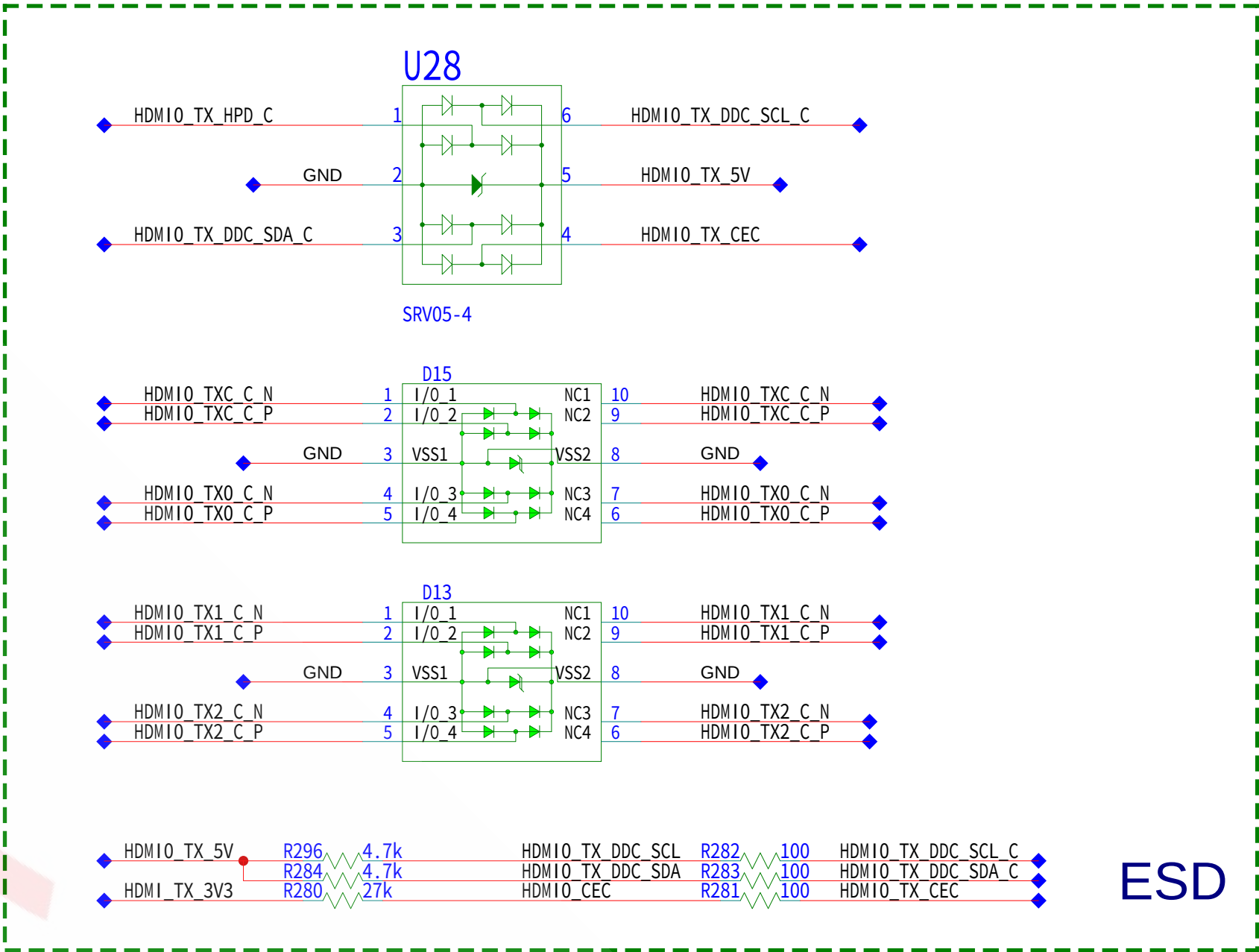
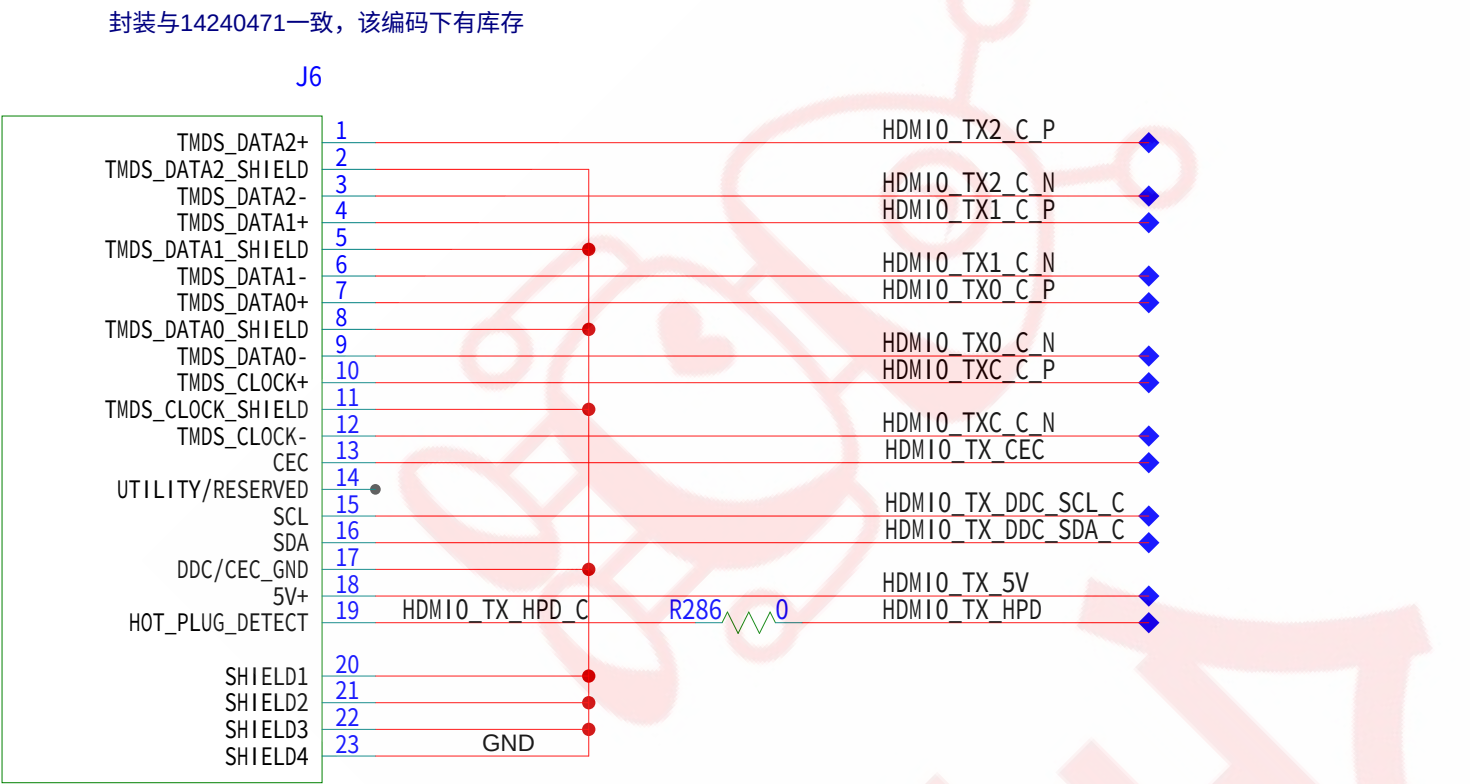
USB3.0 Connector(Type-C) Device模式



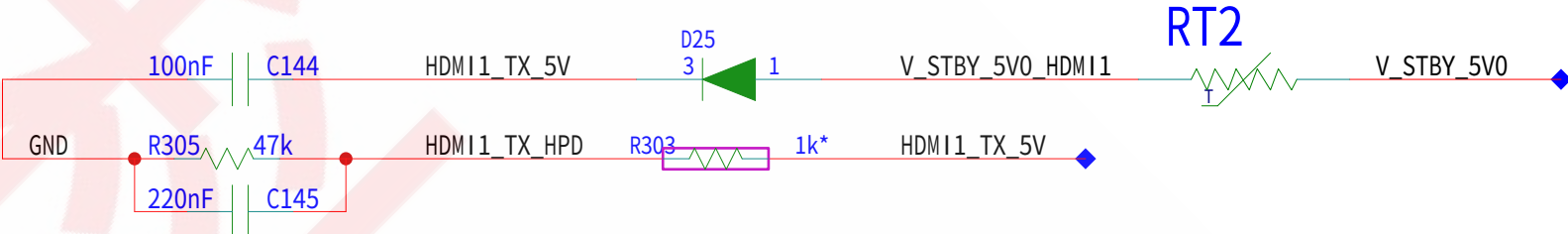
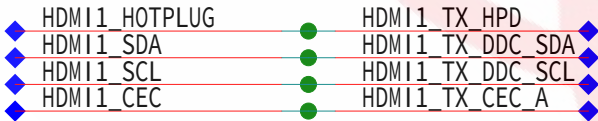
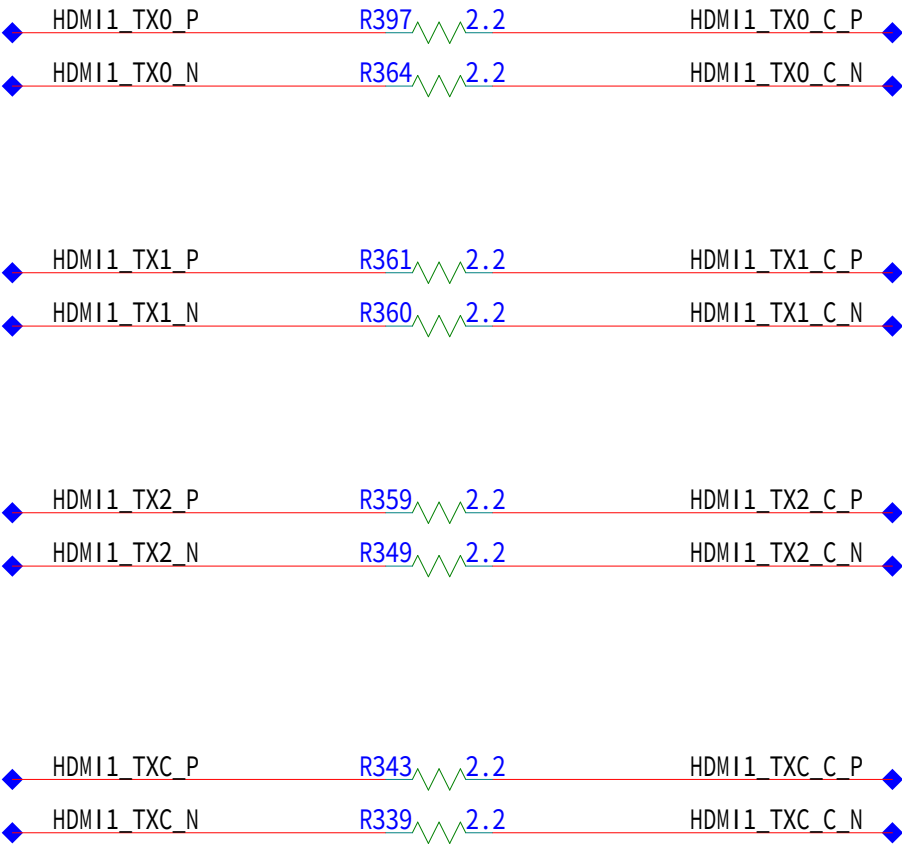
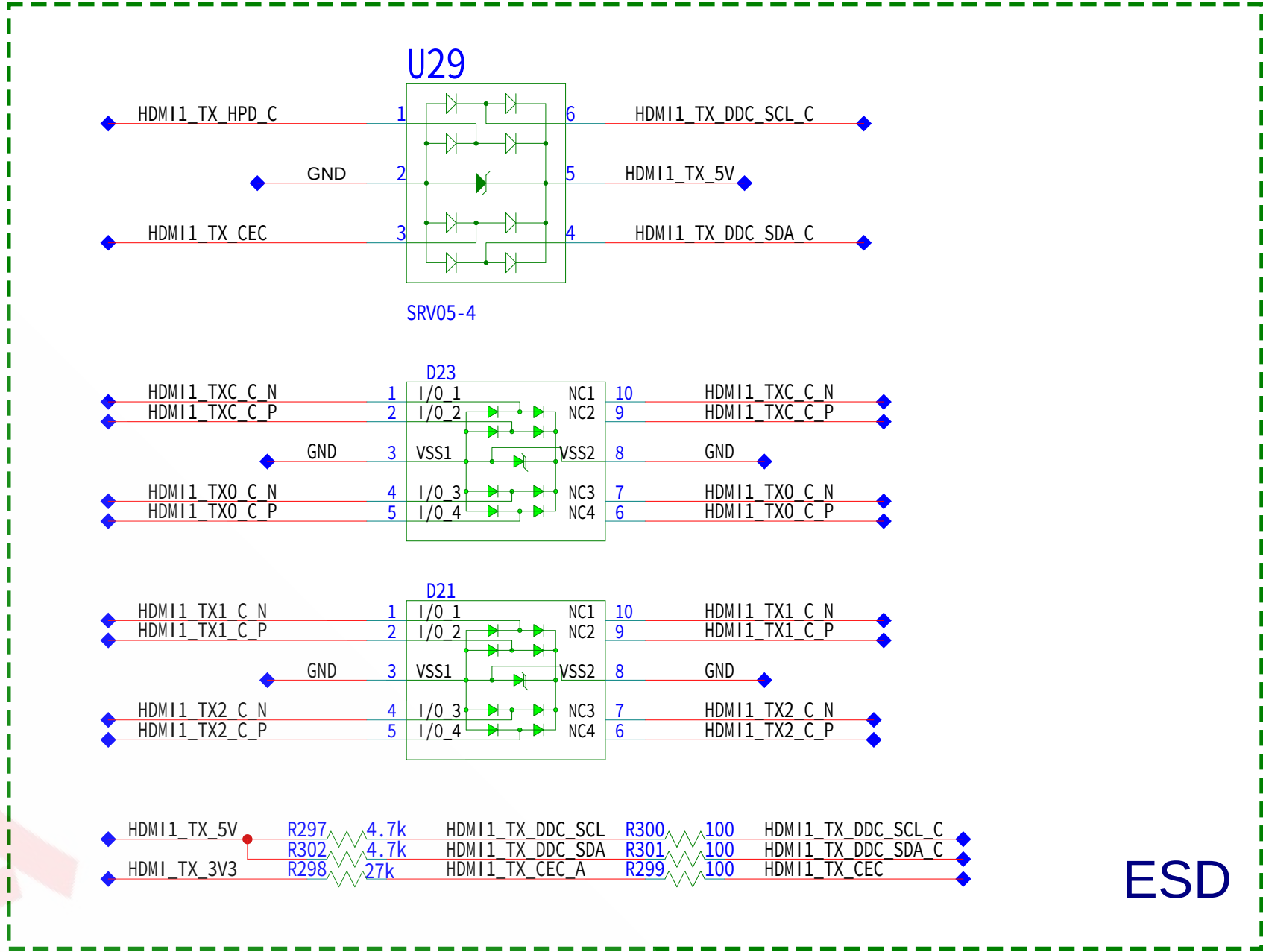
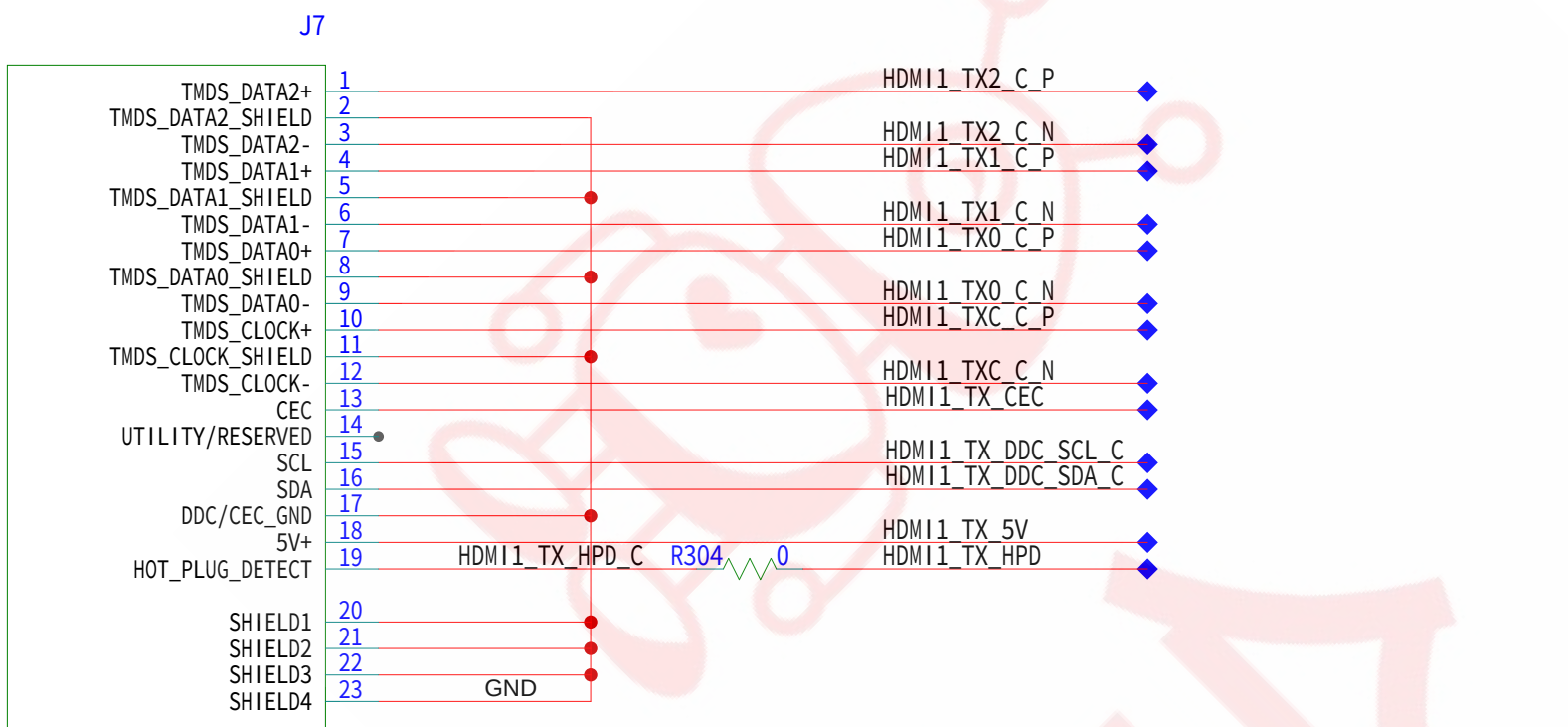
USB3.0 + USB2.0 Connector(Type-A)



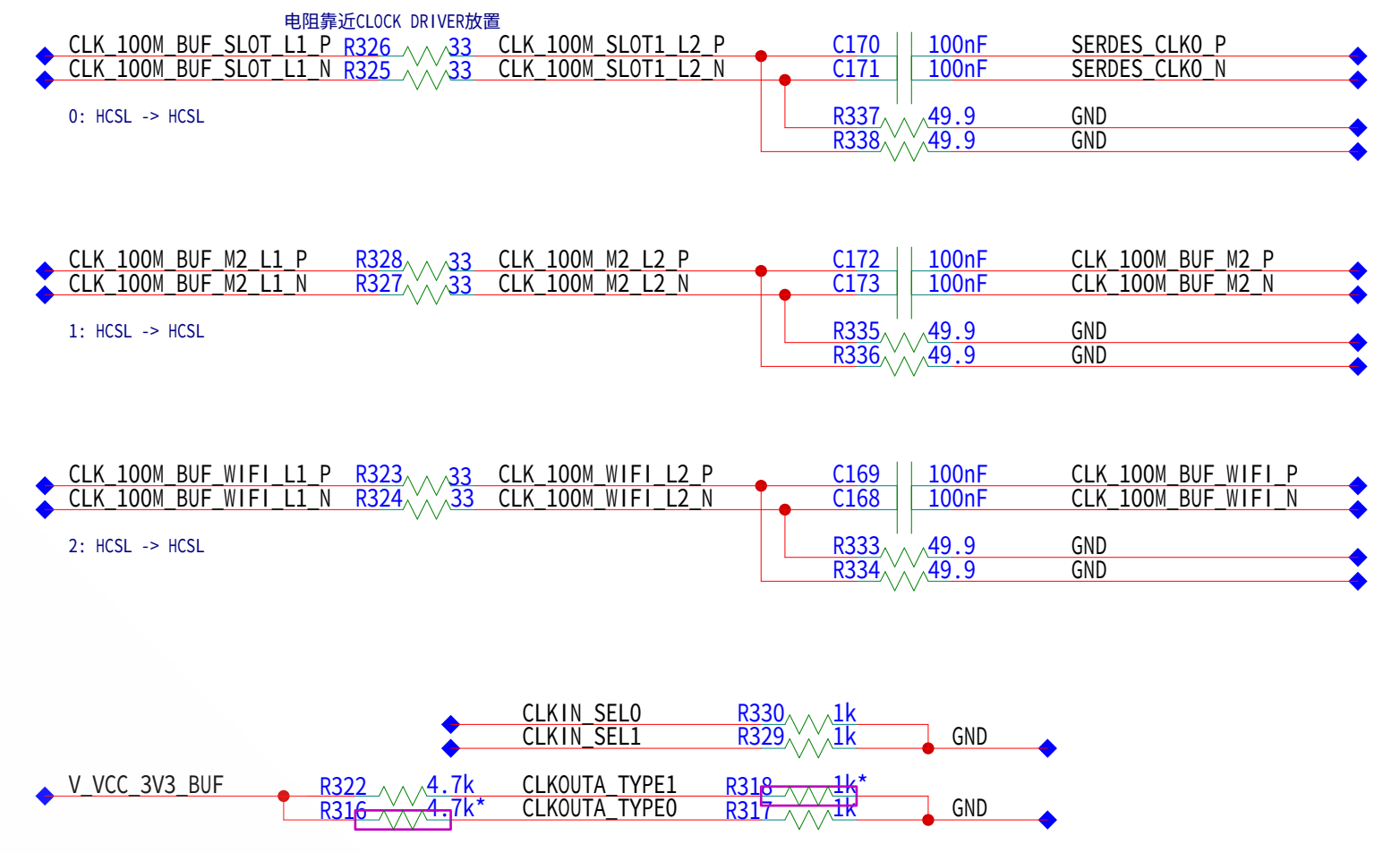
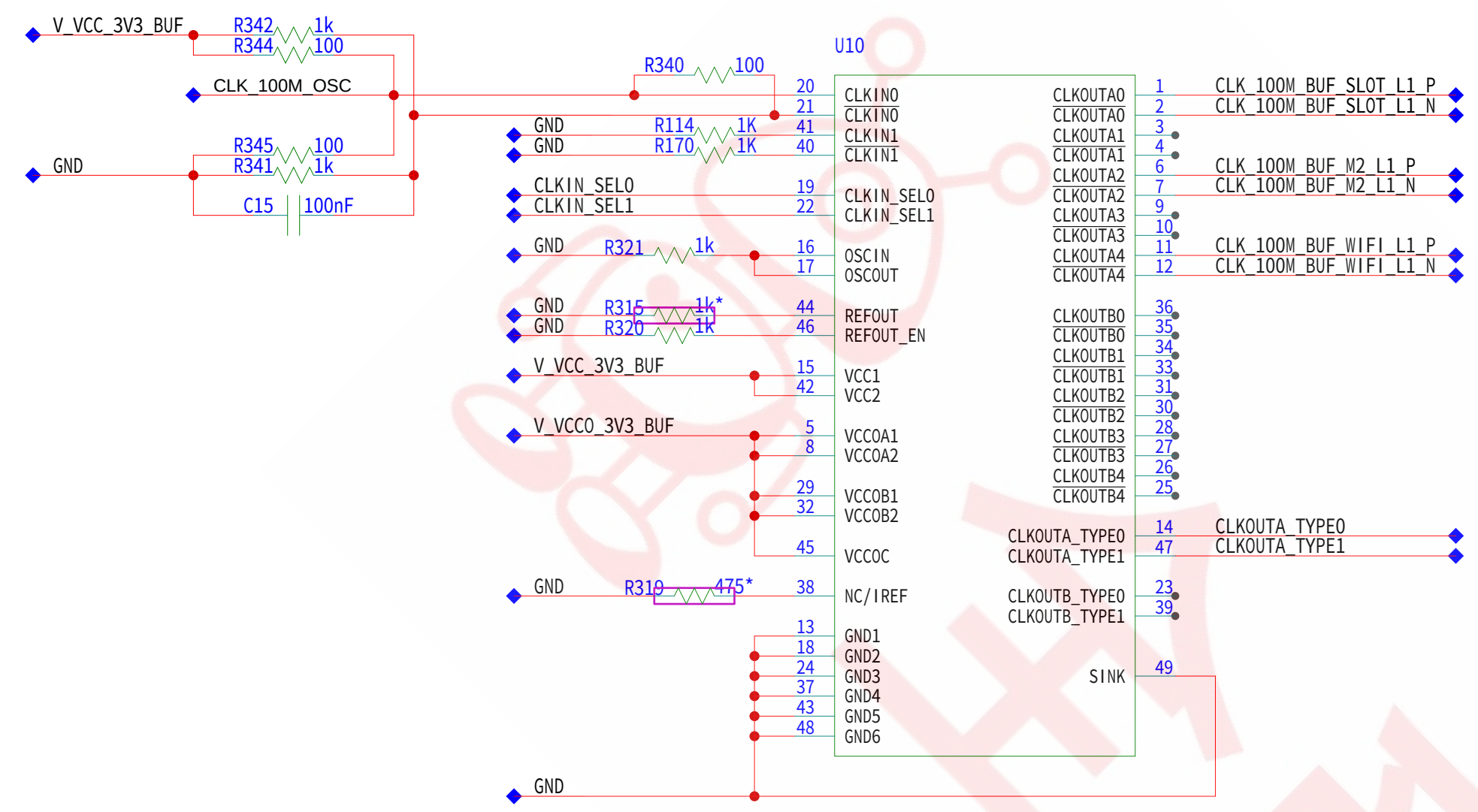
HDMI 2.0 OUT



HDMI1 2.0 OUT

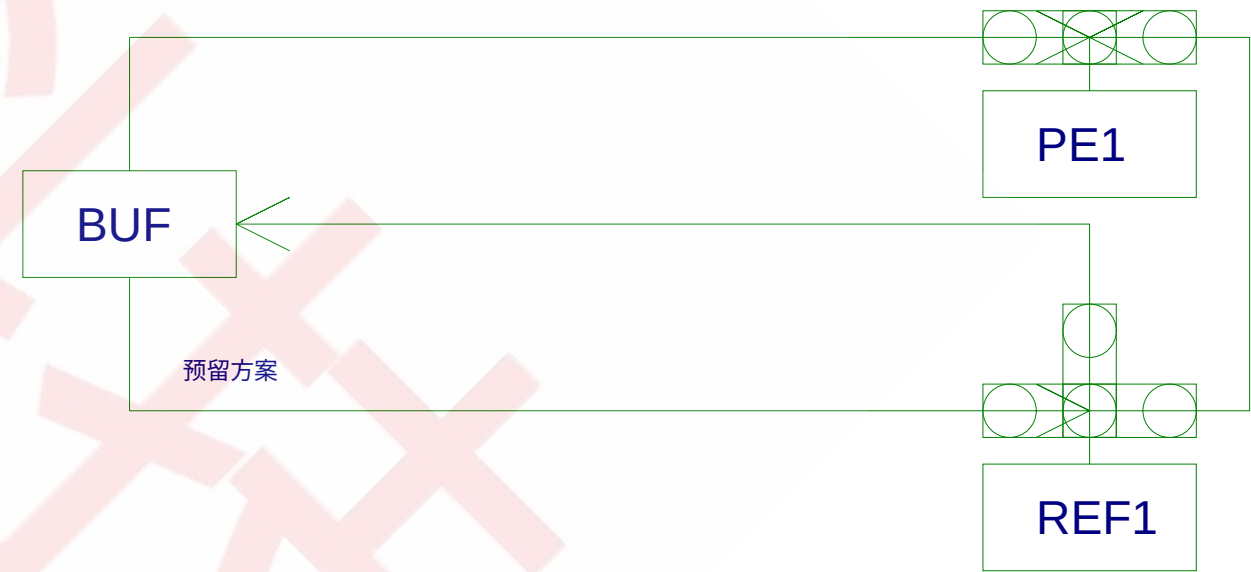
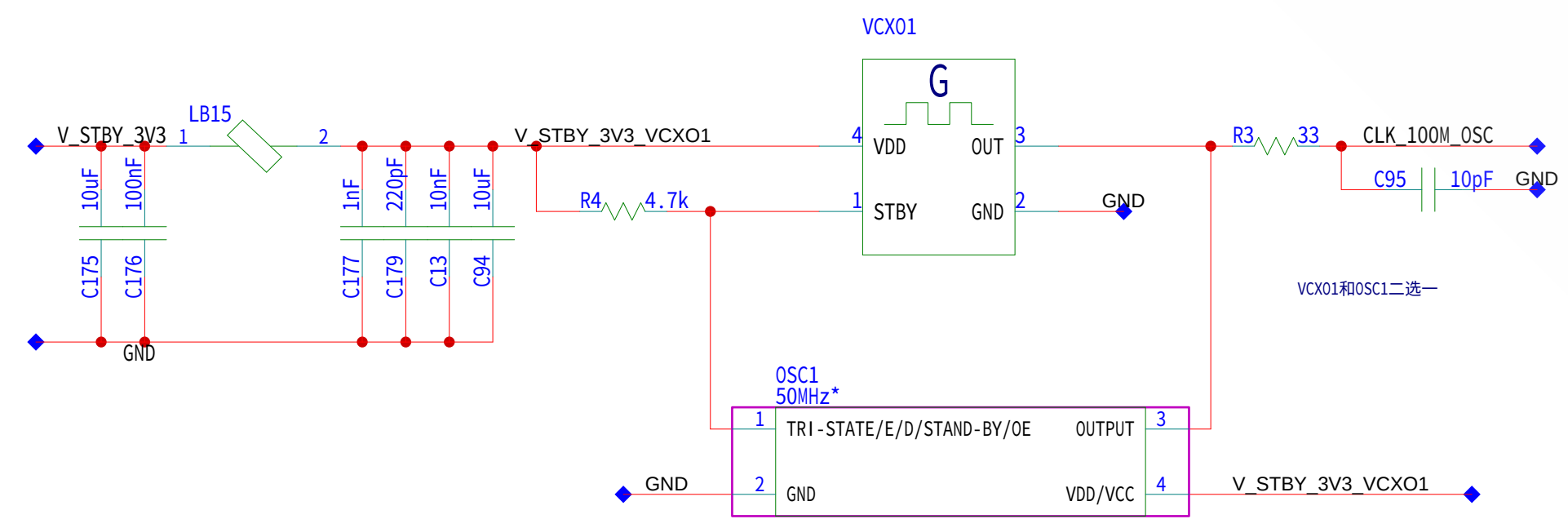
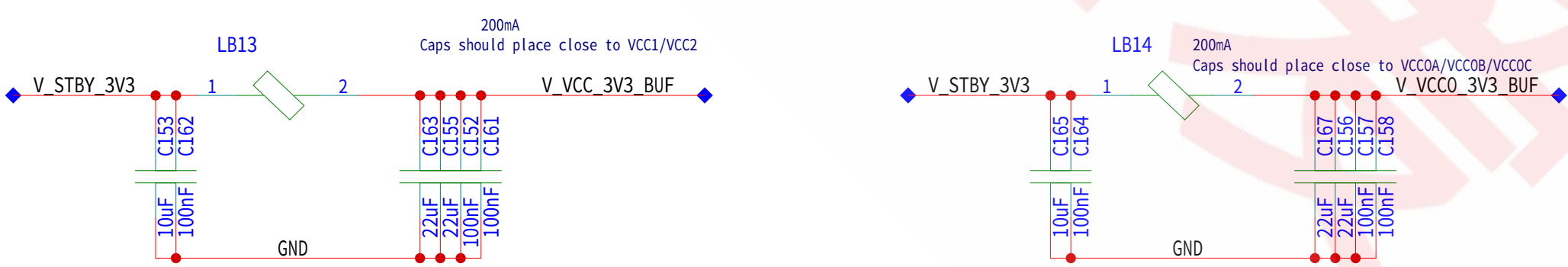


CLOCK

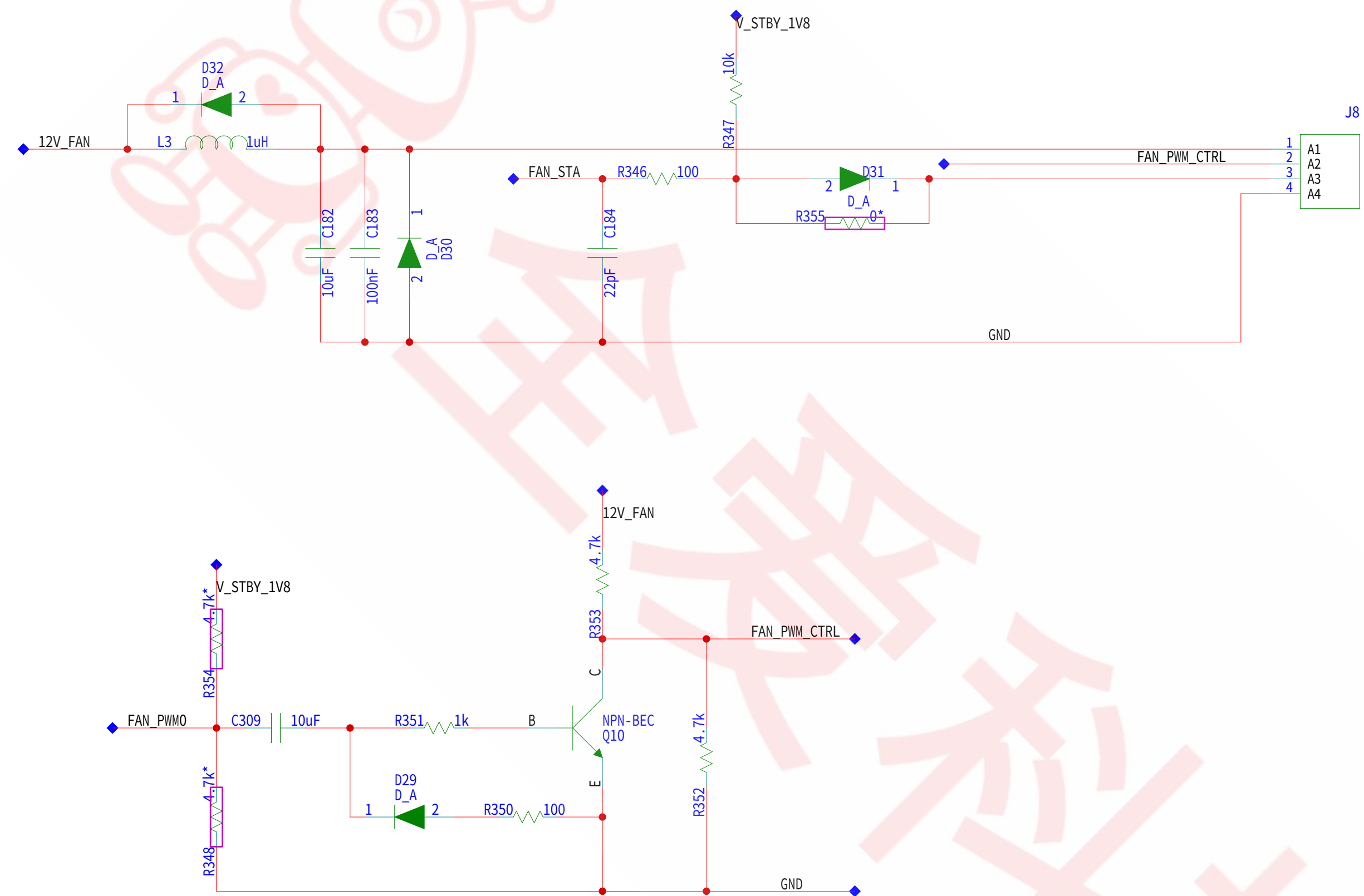


CLKIN_SEL[1:0]	CLK_SOURCE
* 00	PORTA
01	PORTB
10	OSC
11	OSC

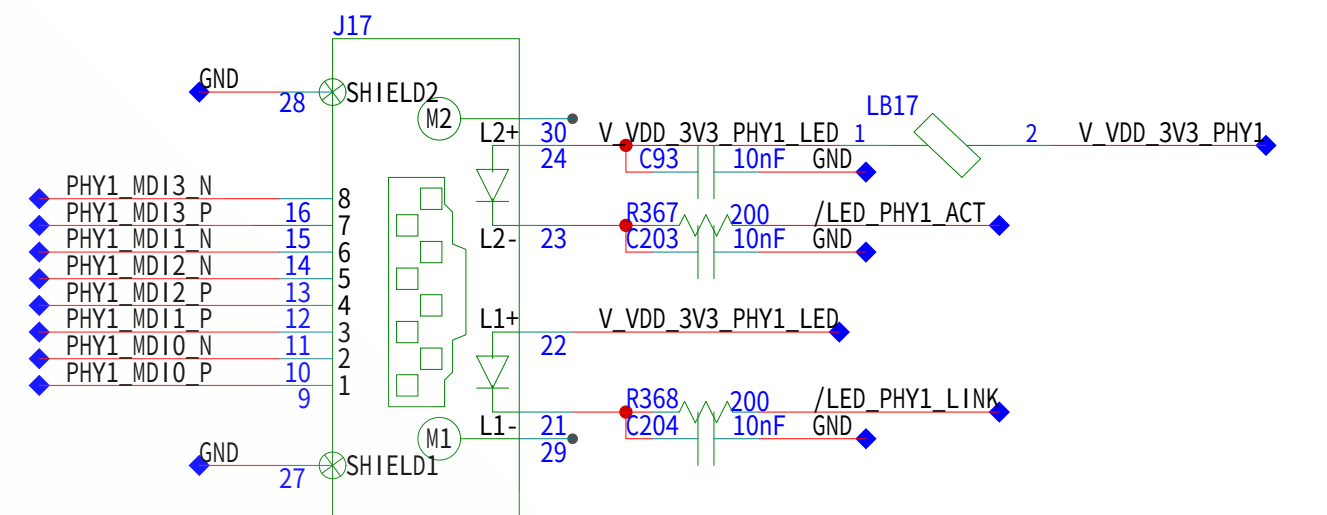
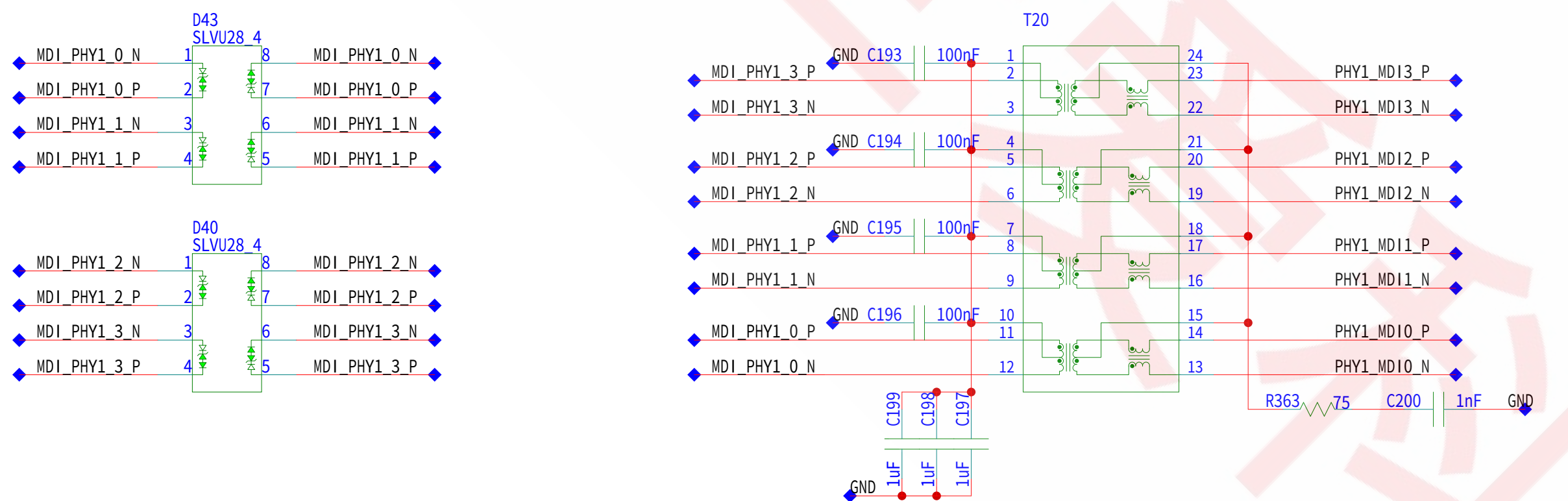
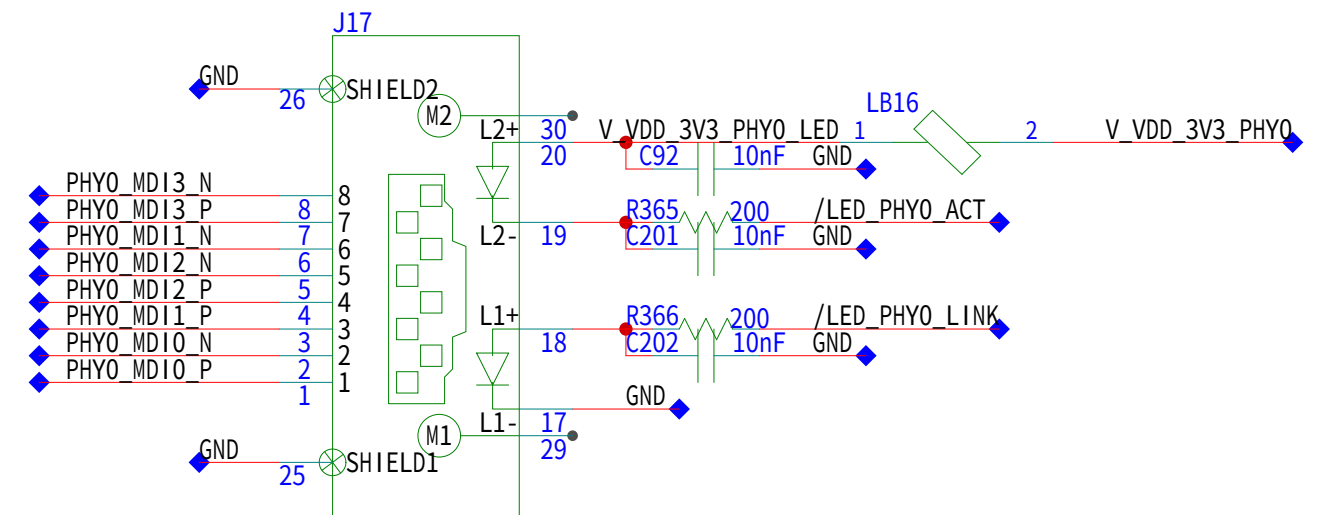
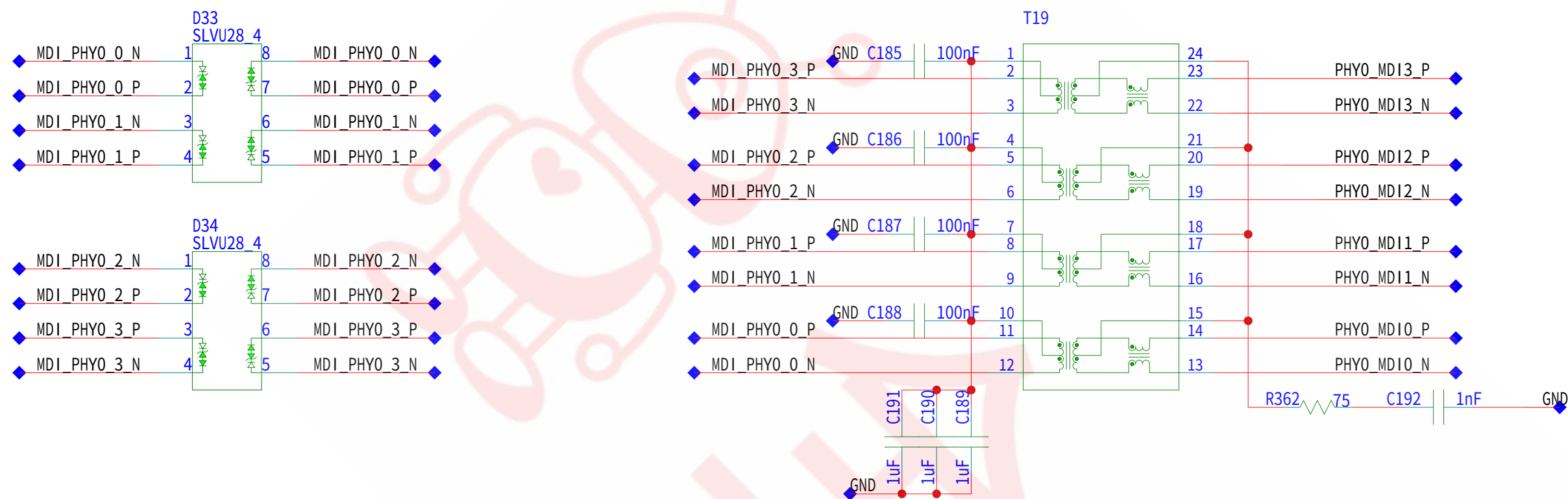
CLKOUT_TYPE[1:0]	OUTPUT_MODE
00	LVPECL
01	LVDS
* 10	HCSL
11	HI-Z



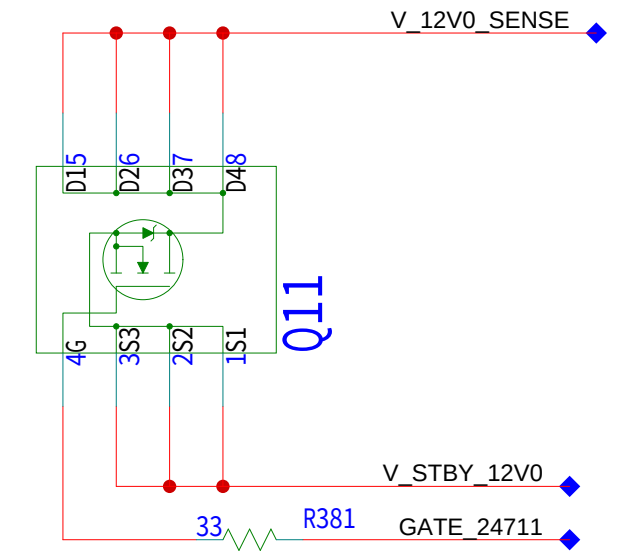
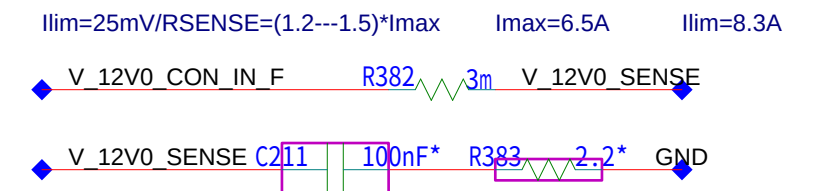
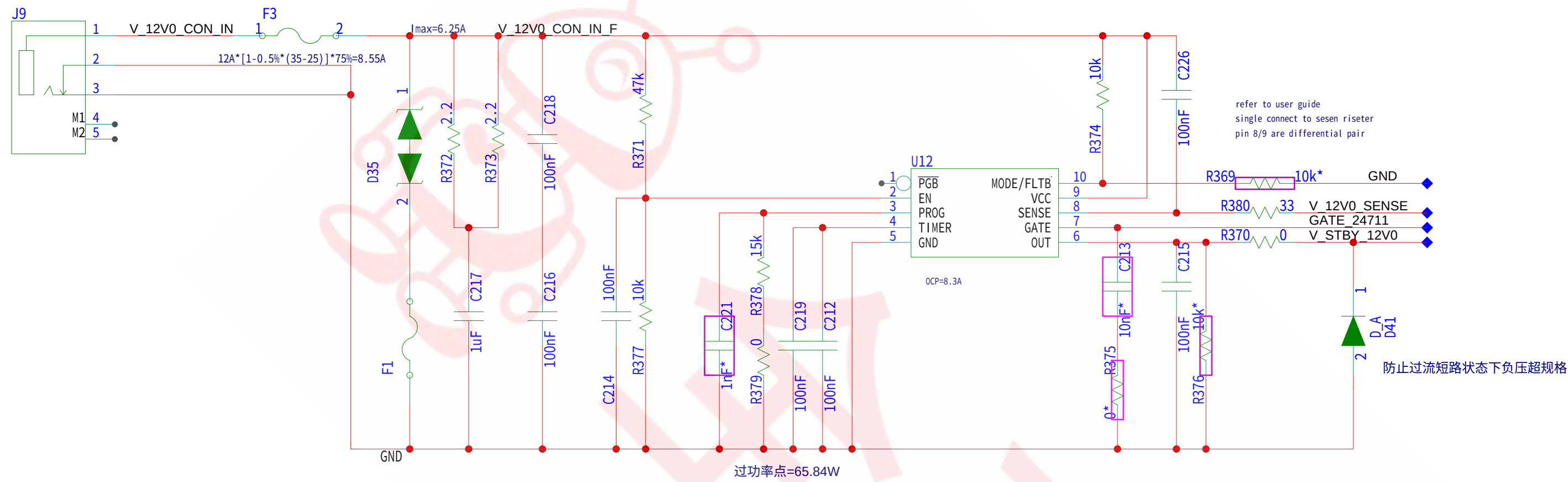
FAN Control



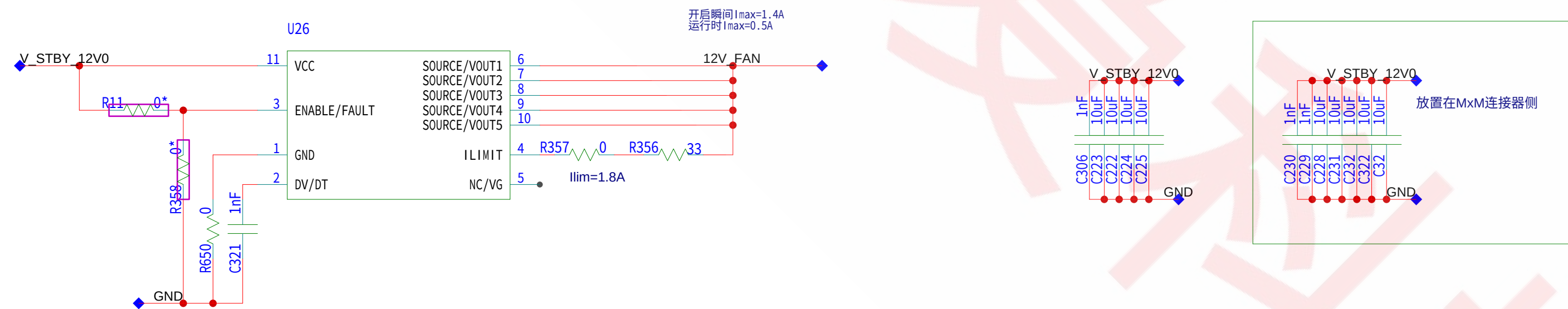
网口连接器



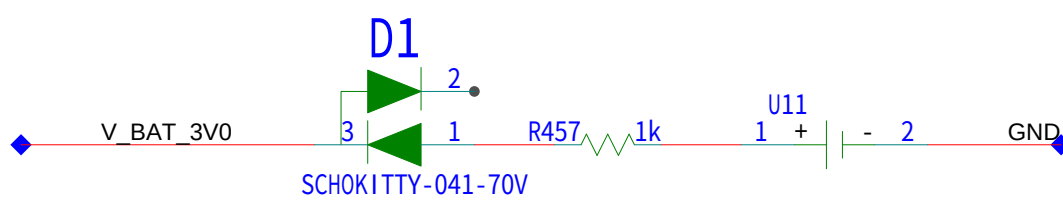
POWER



FAN电源

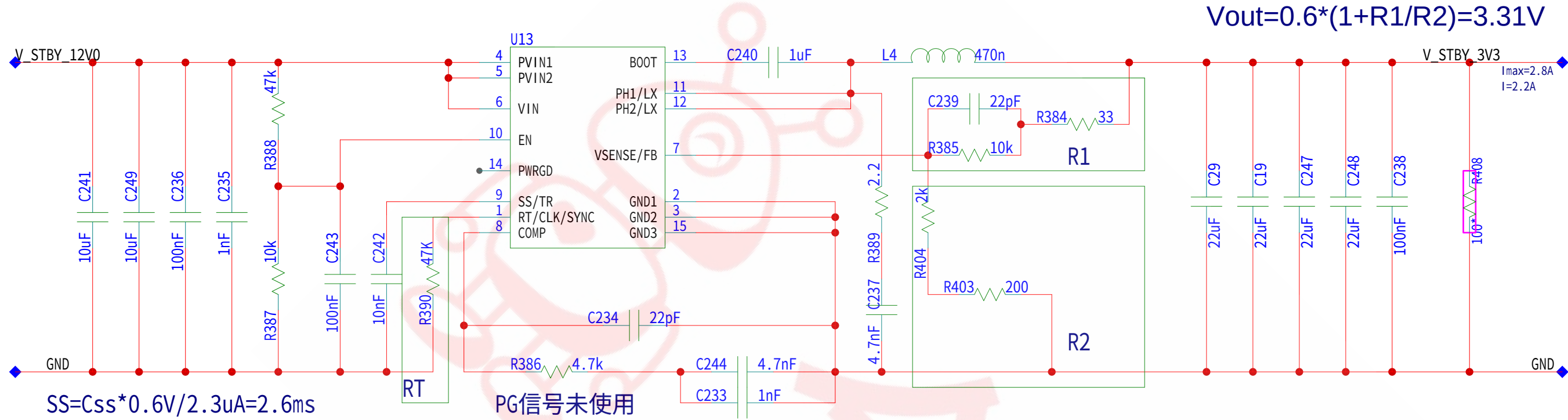


RTC电源

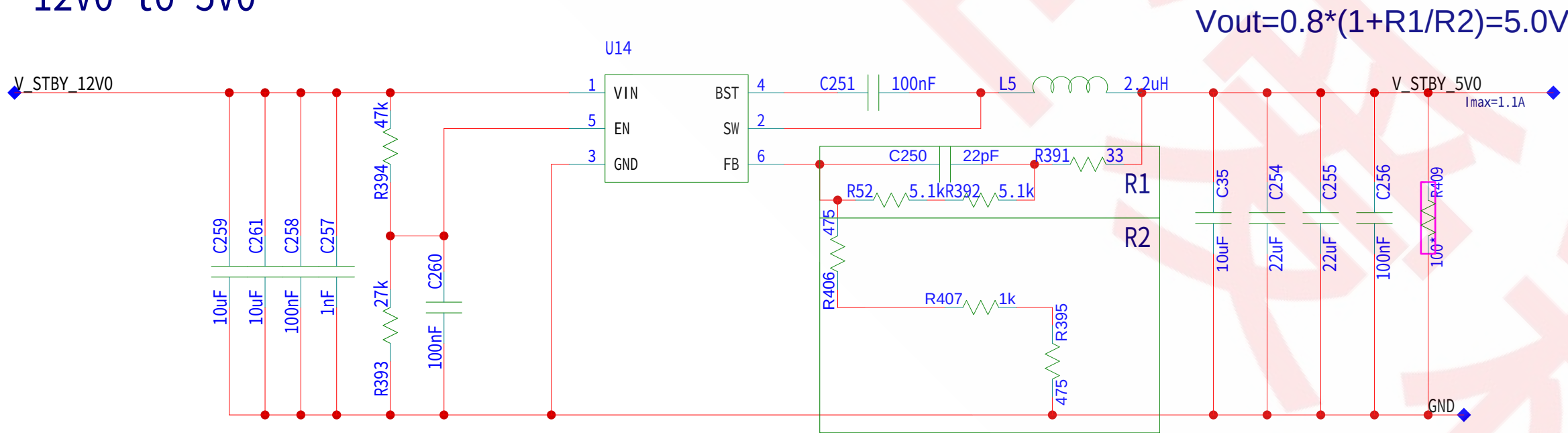


POWER

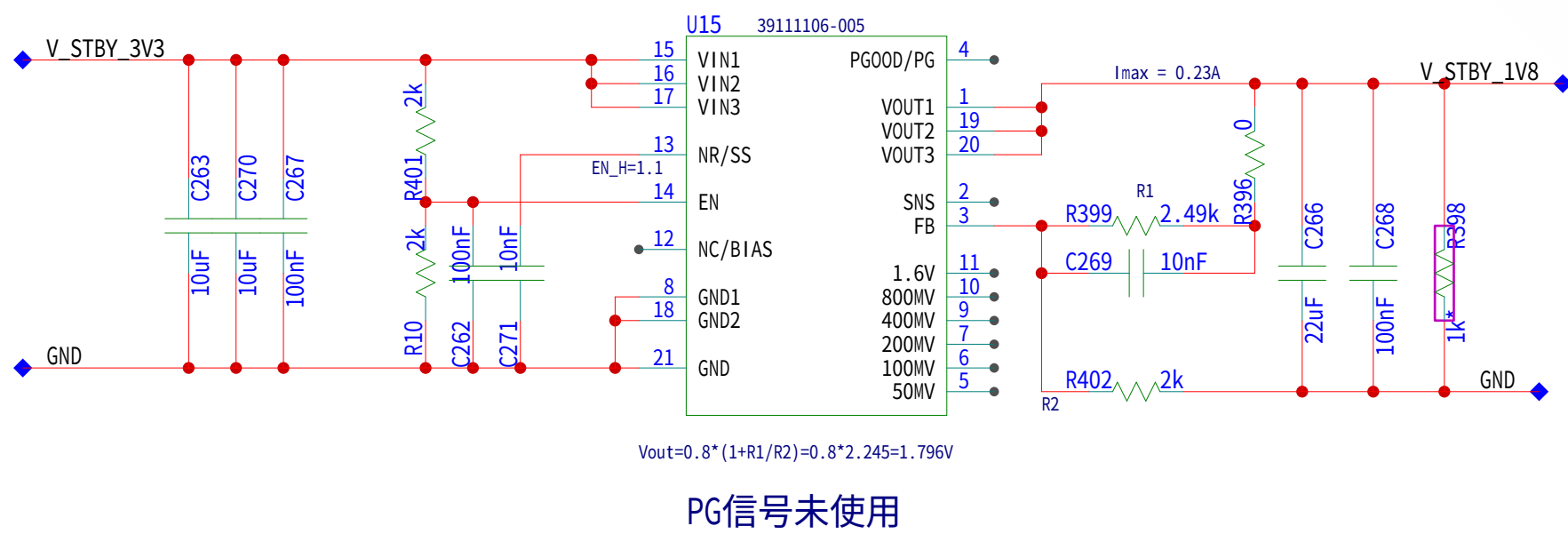
12V0 to 3V3



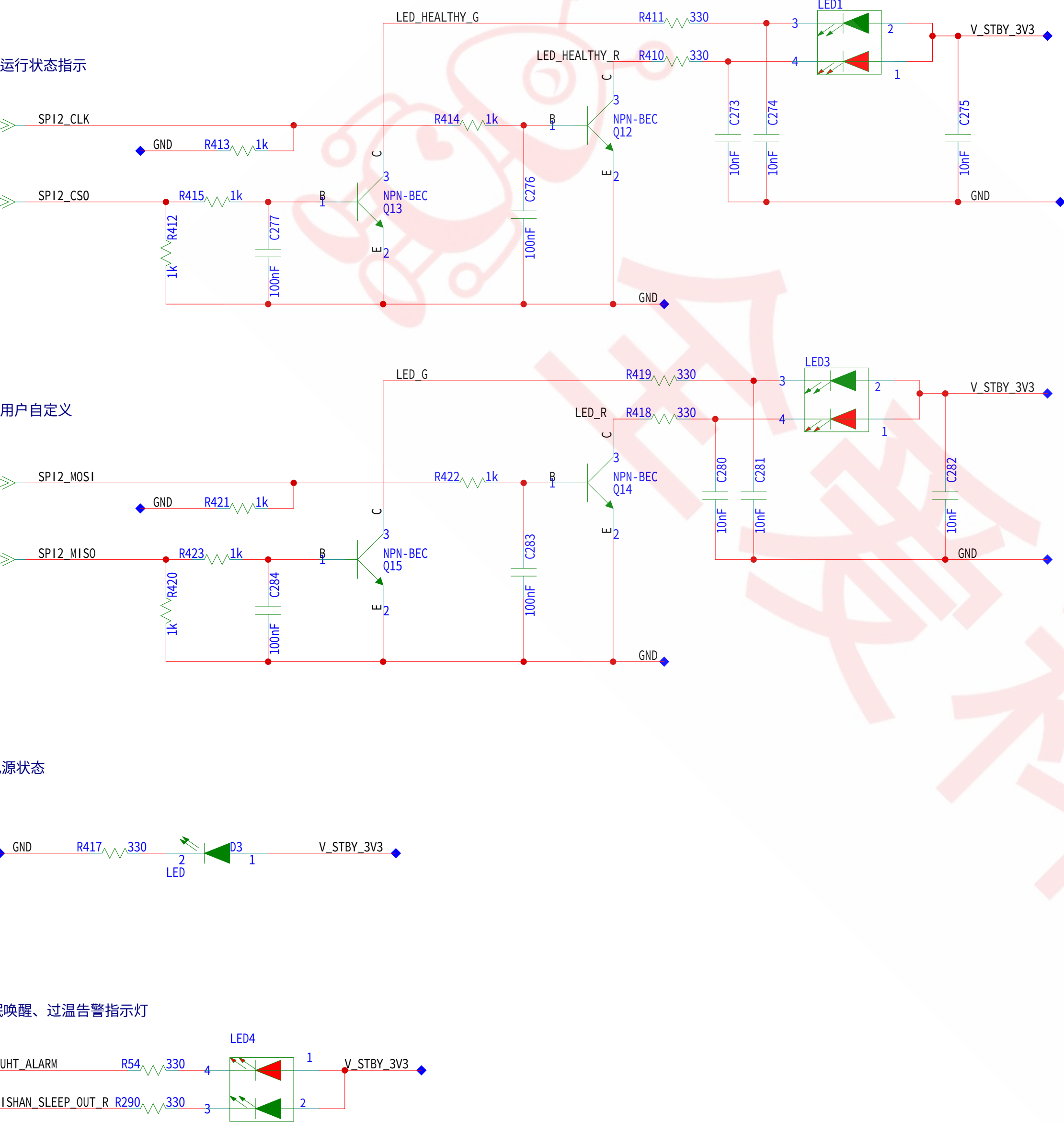
12V0 to 5V0



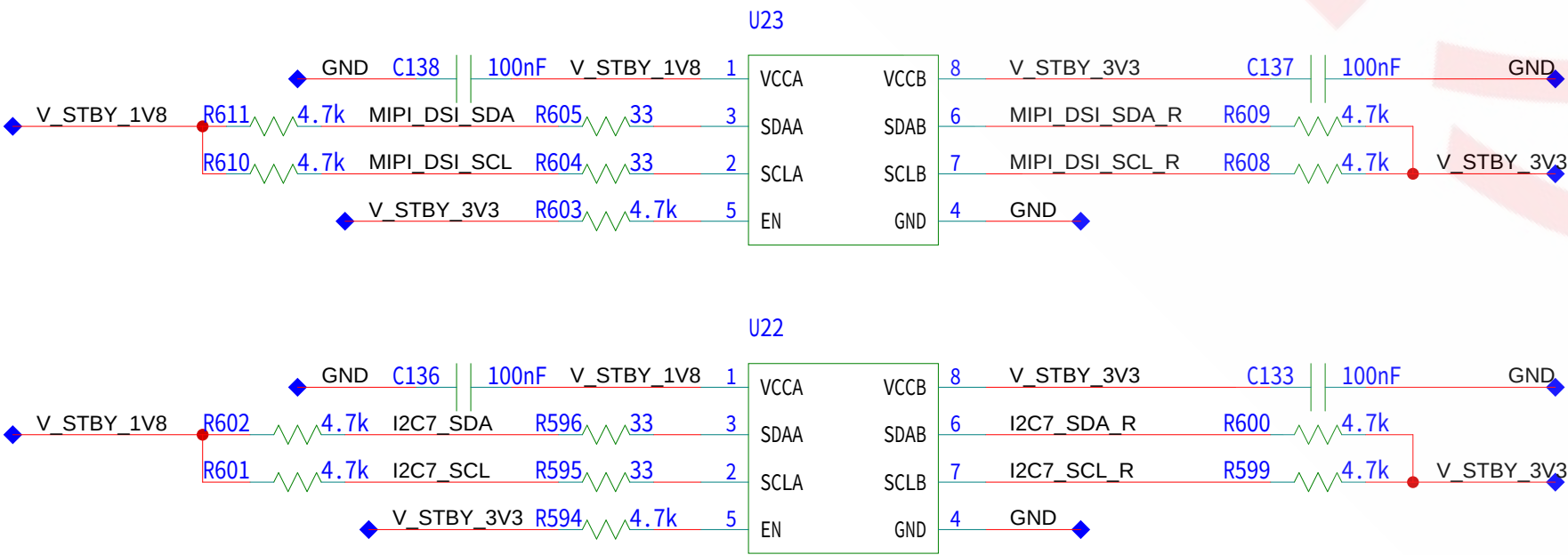
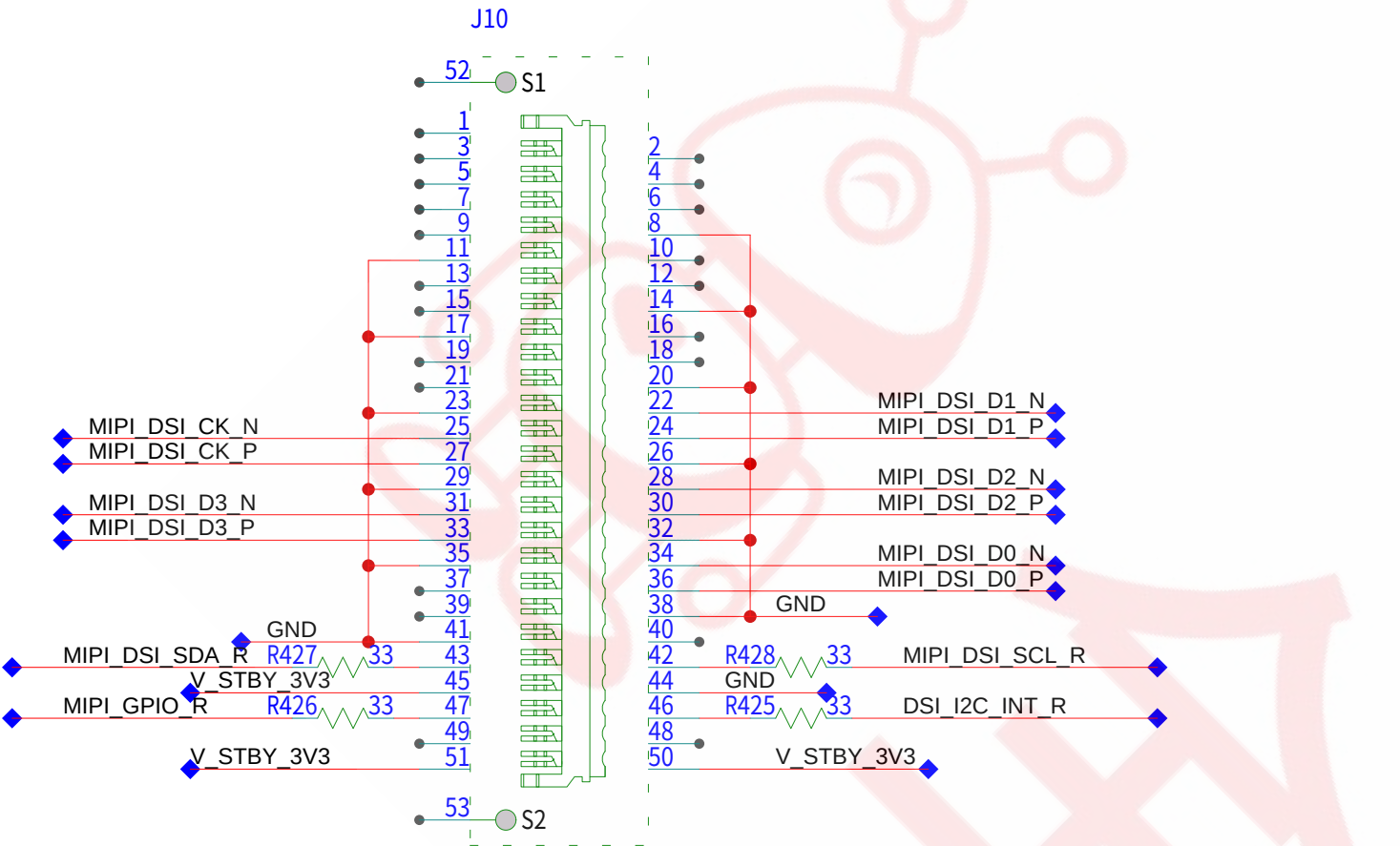
3V3 to 1V8



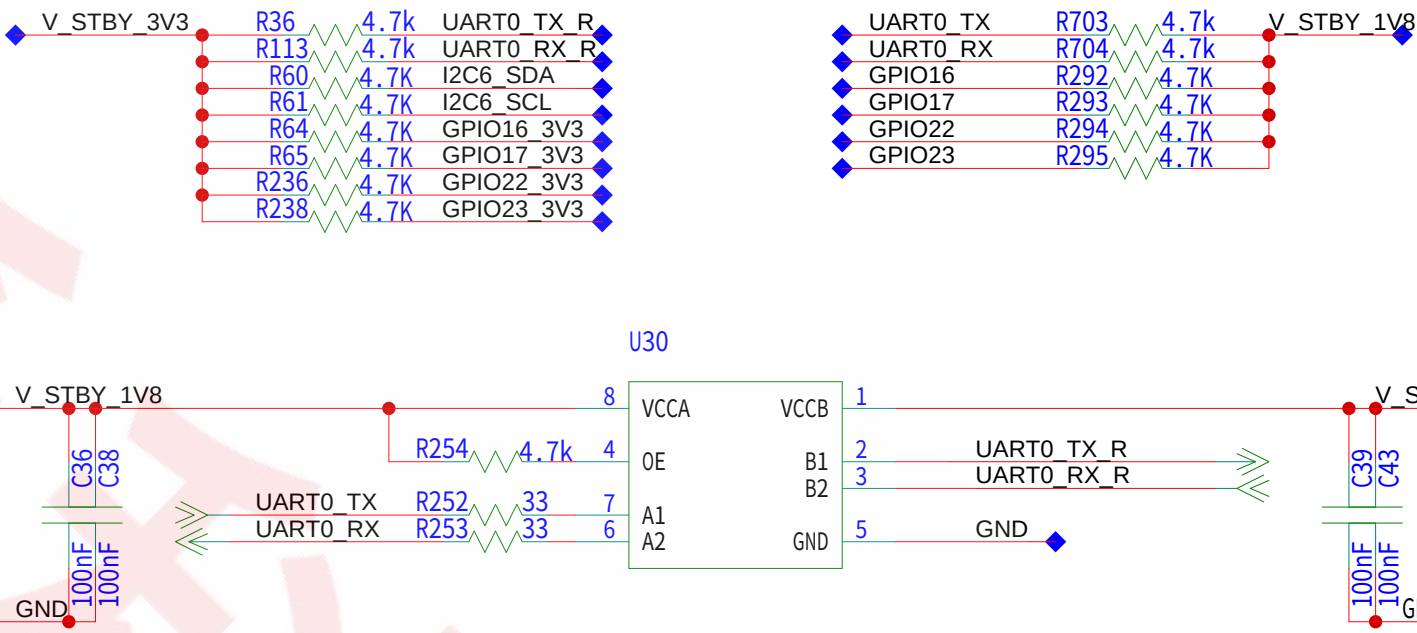
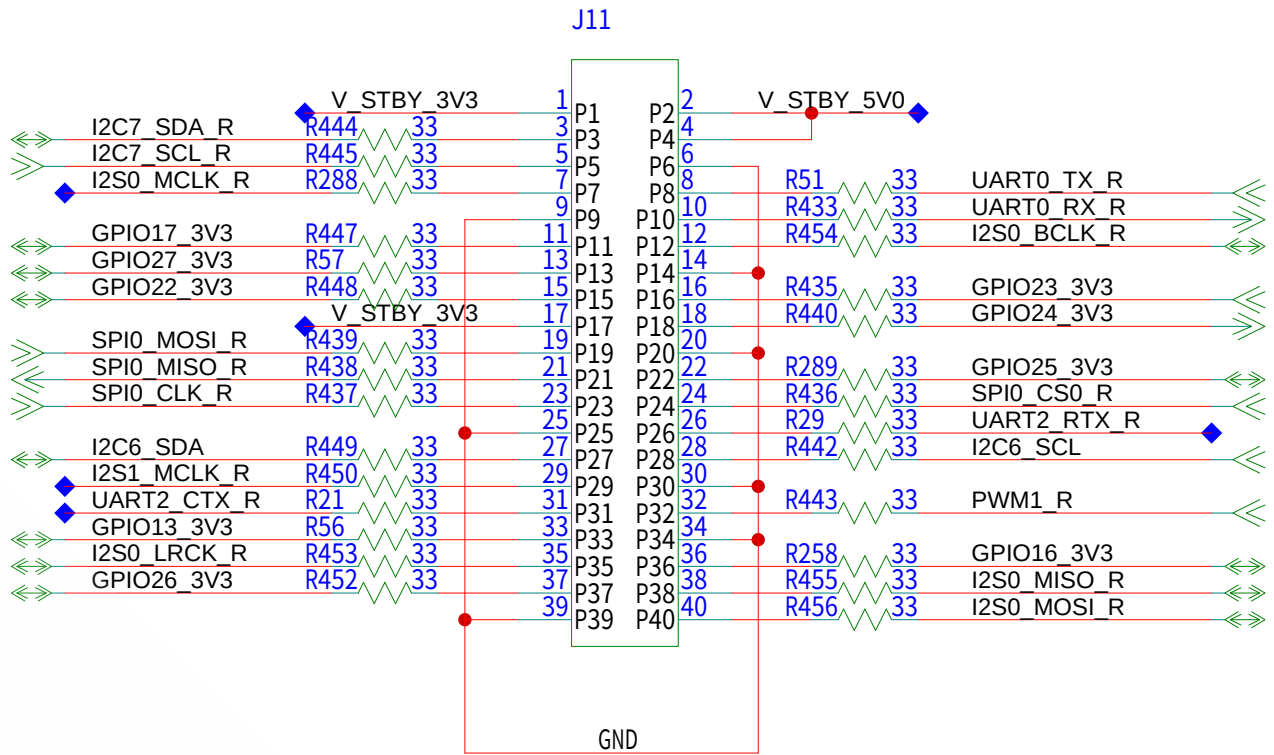
LED



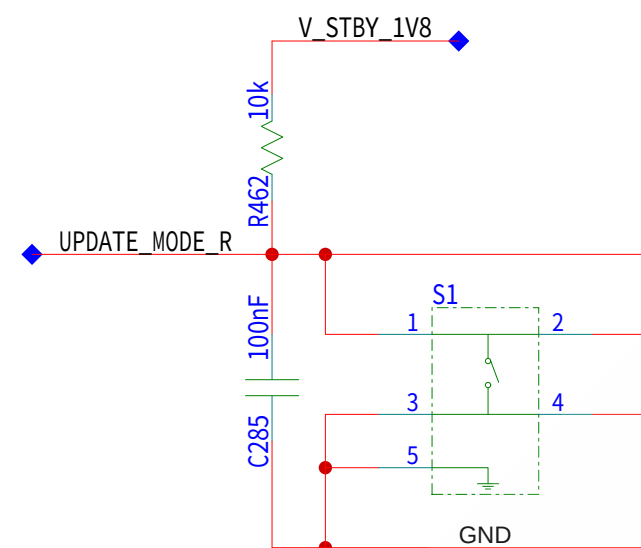
FPC连接器



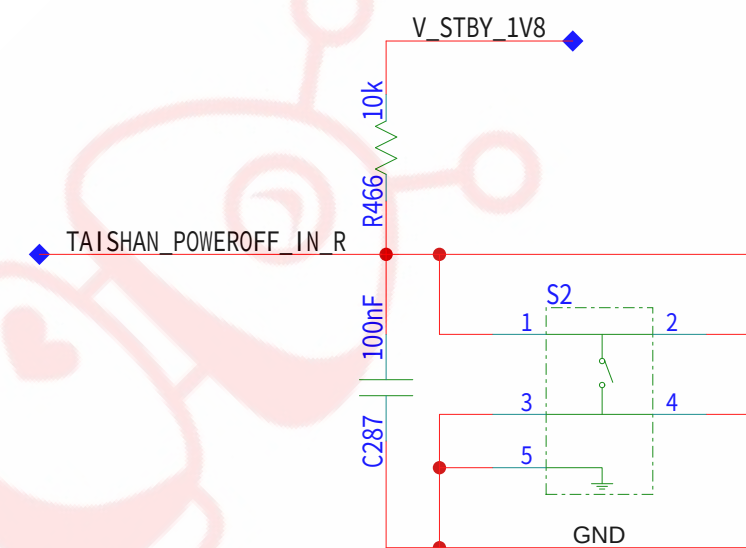
40Pin-Connector



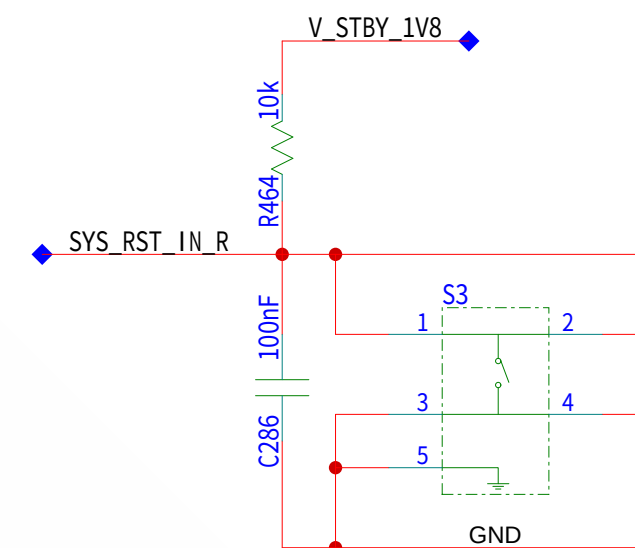
软件升级



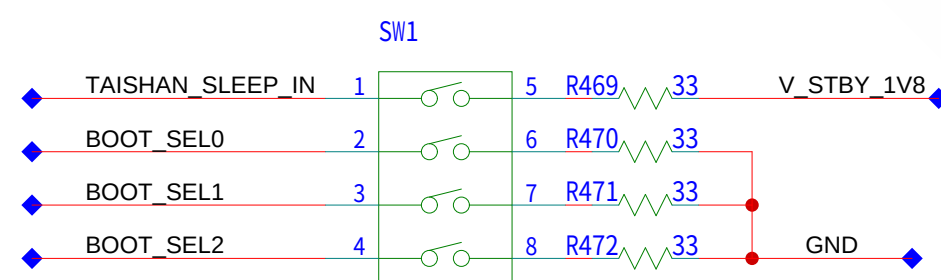
开关机



复位按键



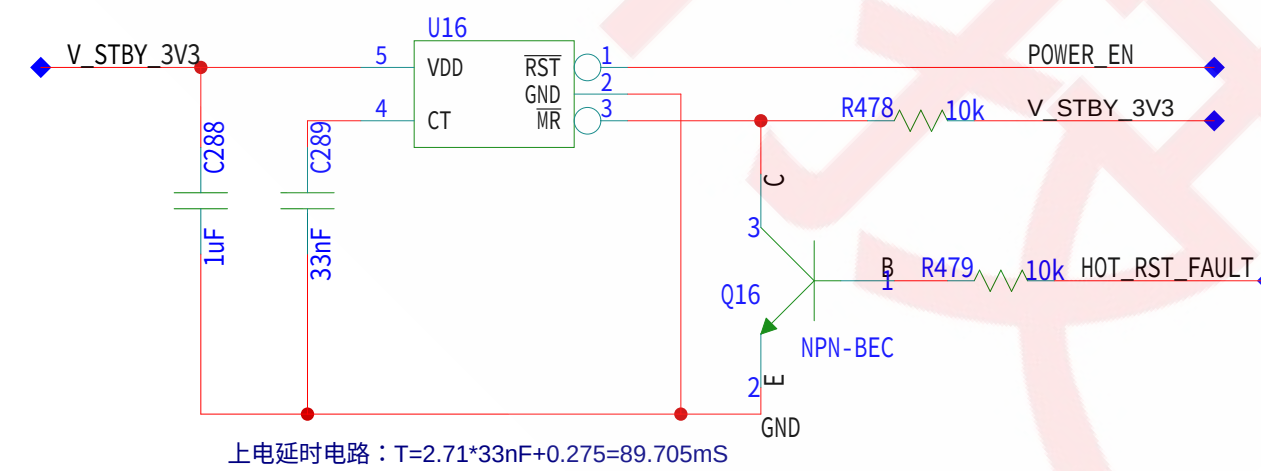
启动介质选择 休眠唤醒控制



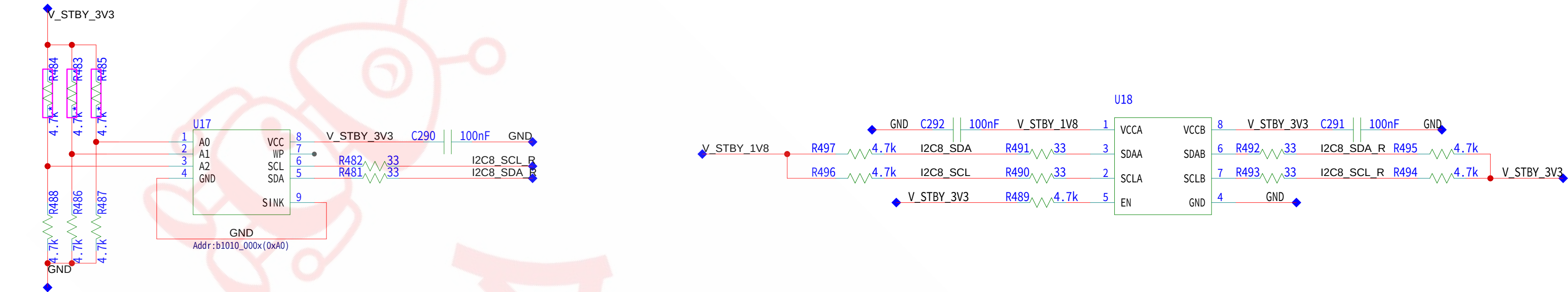
POWER_EN



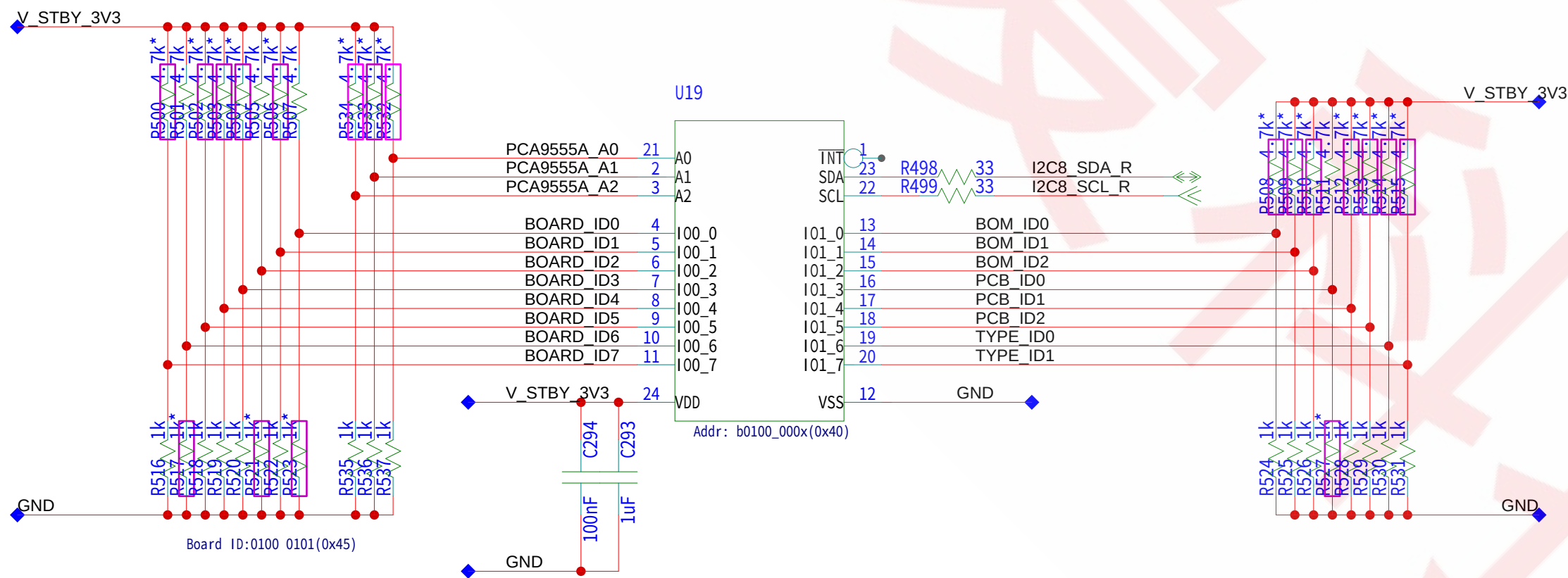
上电延时电路（预留电路，此电路已在模组上设计，不需要上件）



EEPROM

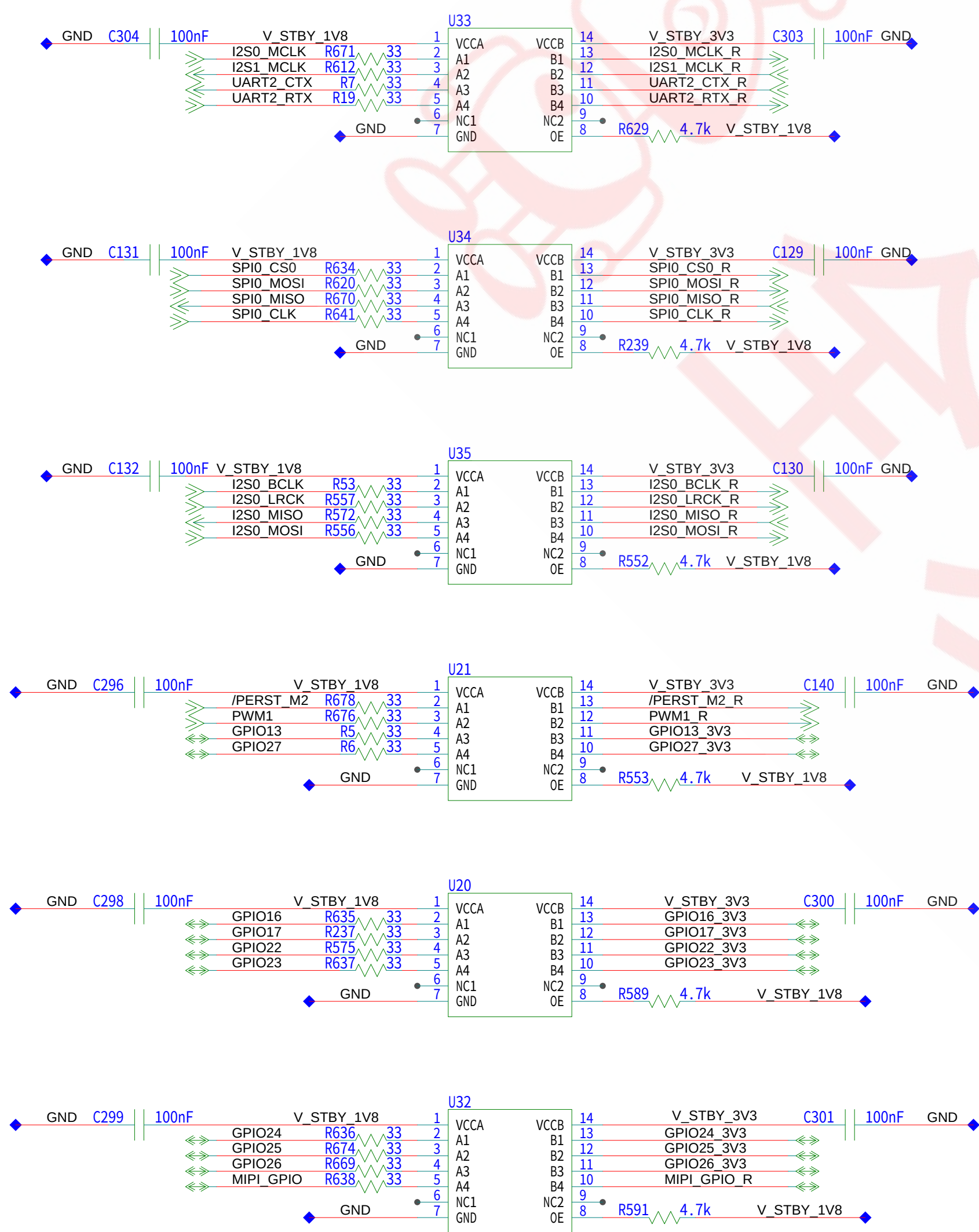


Board ID

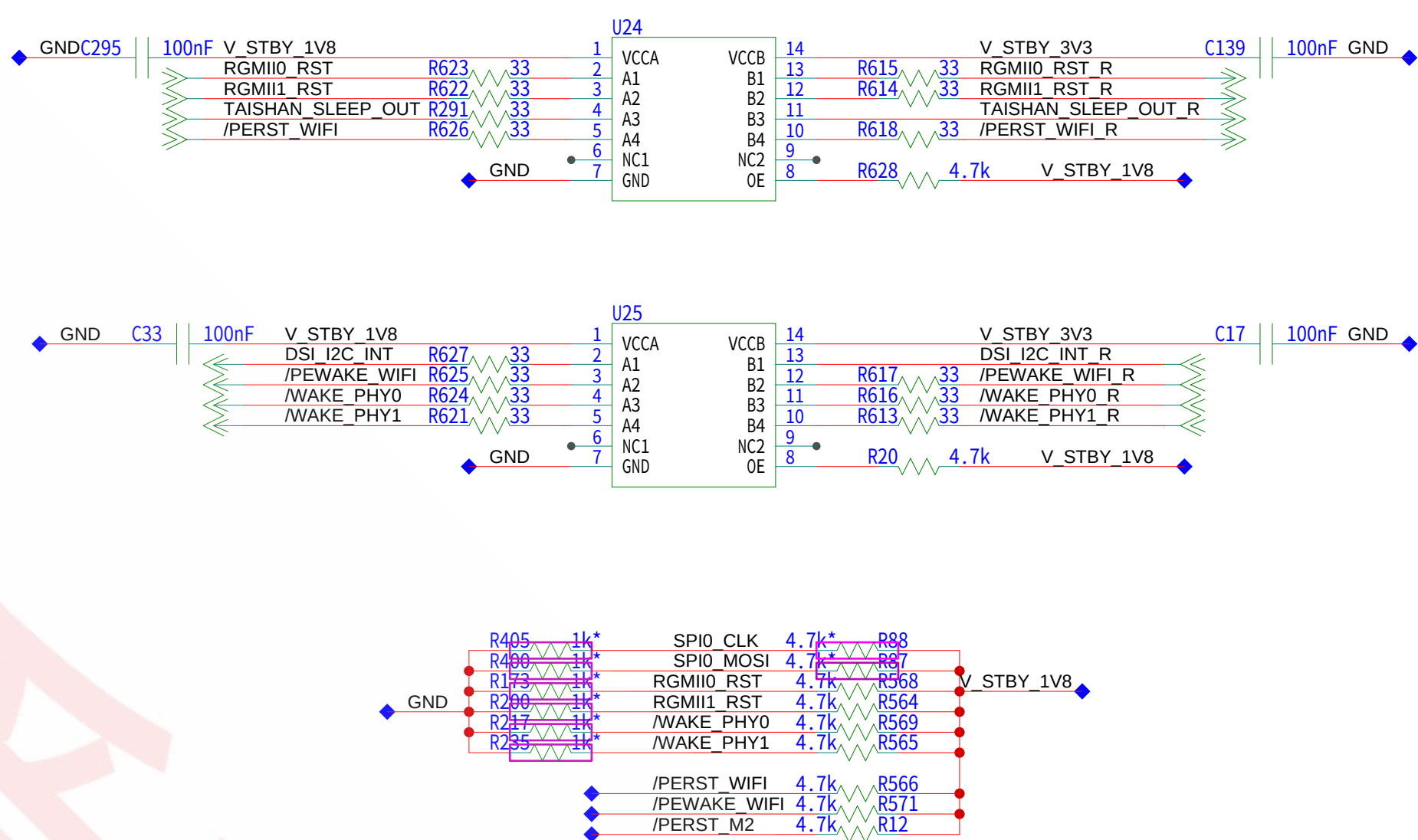


电平转换

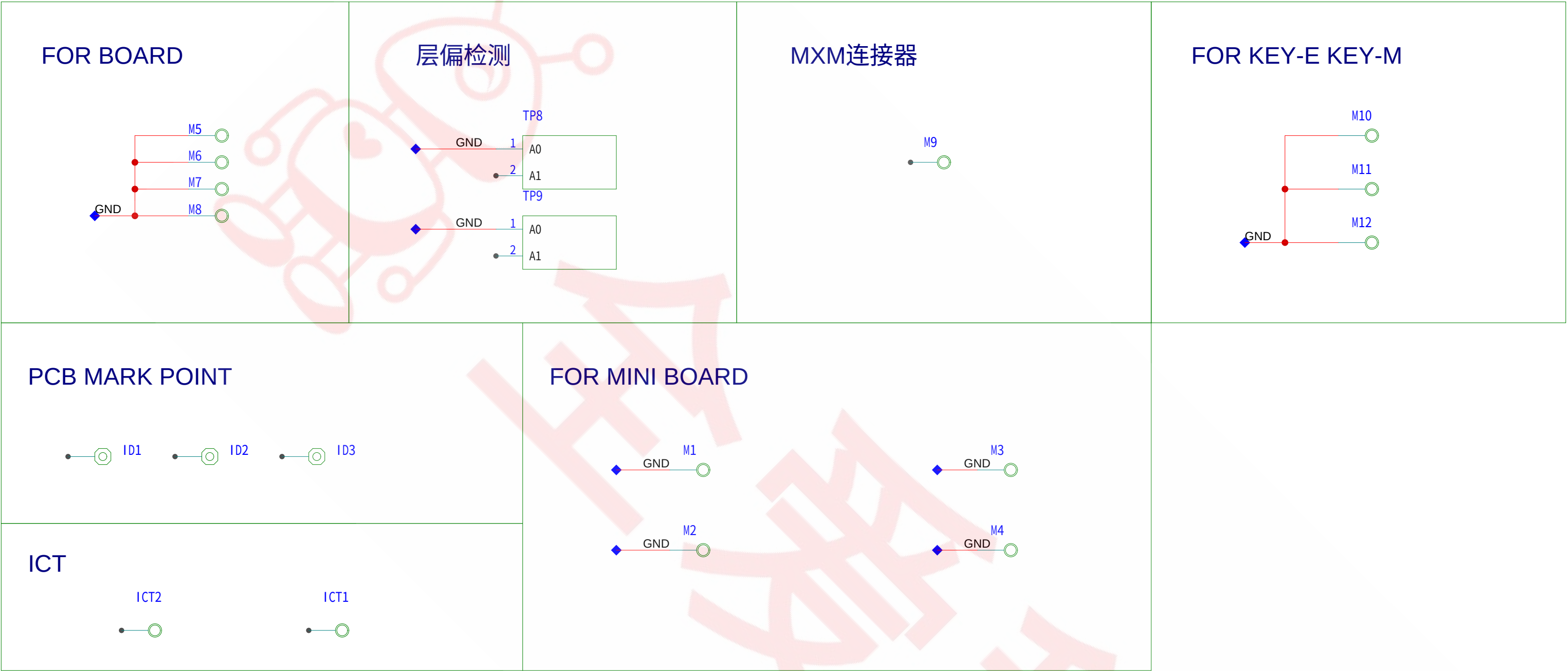
40PIN连接器电平转换



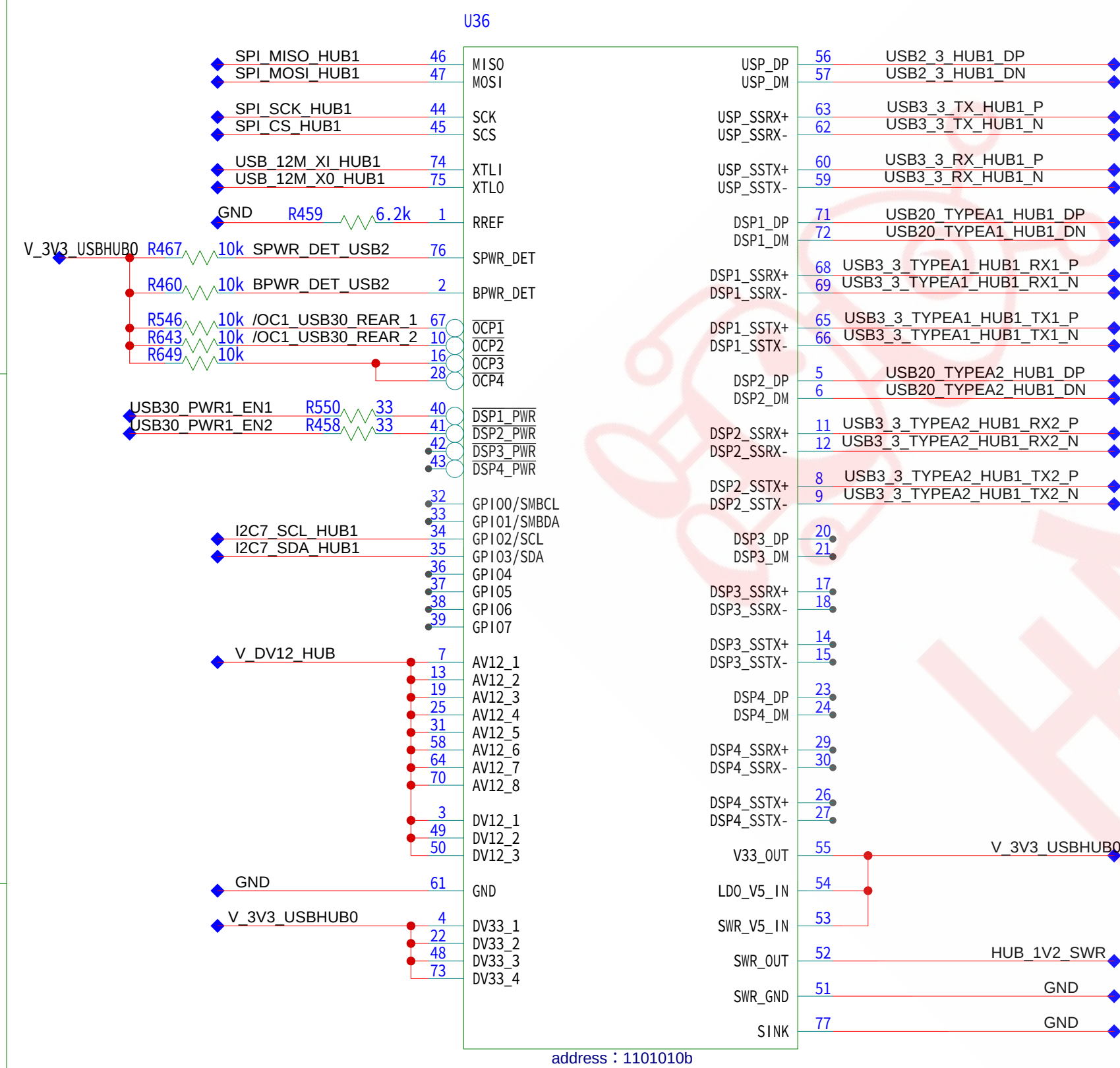
杂散信号电平转换



ICT HOLE



USB3.0 & USB2.0 HUB CHOSE



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