

野火鲁班猫5.BTB底板 (RK3588)

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历史版本

版本号	日期	设计	描述
V0.0	2023-09-12	llm	初始版本
V0.1	2024-02-21	llm	1. 更新XL9535 PCB封装 2. C4、C5改NC 3. 修正BTB USB3.0信号RX和TX接反的问题 4. 修正BTB I2C2 SDA与SCL接反的问题 5. 把i2c7电平转换3.3v侧的上拉电阻改10K 6. mini pcie电源增加220uF钽电容，兼容5G模块供电 7. HDMI TX0和TX1的DDC I2C电平转换上拉电阻改为4.7K 8. HDMI TX0和TX1的ESD改为分立的TPESD0201G05V 9. SPK座子改为PH座 10. eth0与eth1对调，需更新板子丝印 11. R194改为22K，解决HDMI RX没有插入时反复检测hdmi插入

DC IN:12V

J5
DC-044A-20A

12V DC

F1
SMD1812P200TF16

D1
SMAJ13CA

L1
100R 100MHz

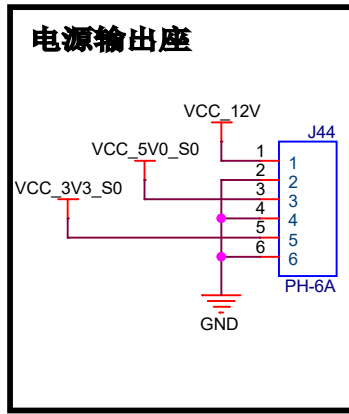
C1
10uF
C0603 25V

C2
10uF
C0603 25V

C3
0.1uF
C0402 50V

VCC 12V

GND



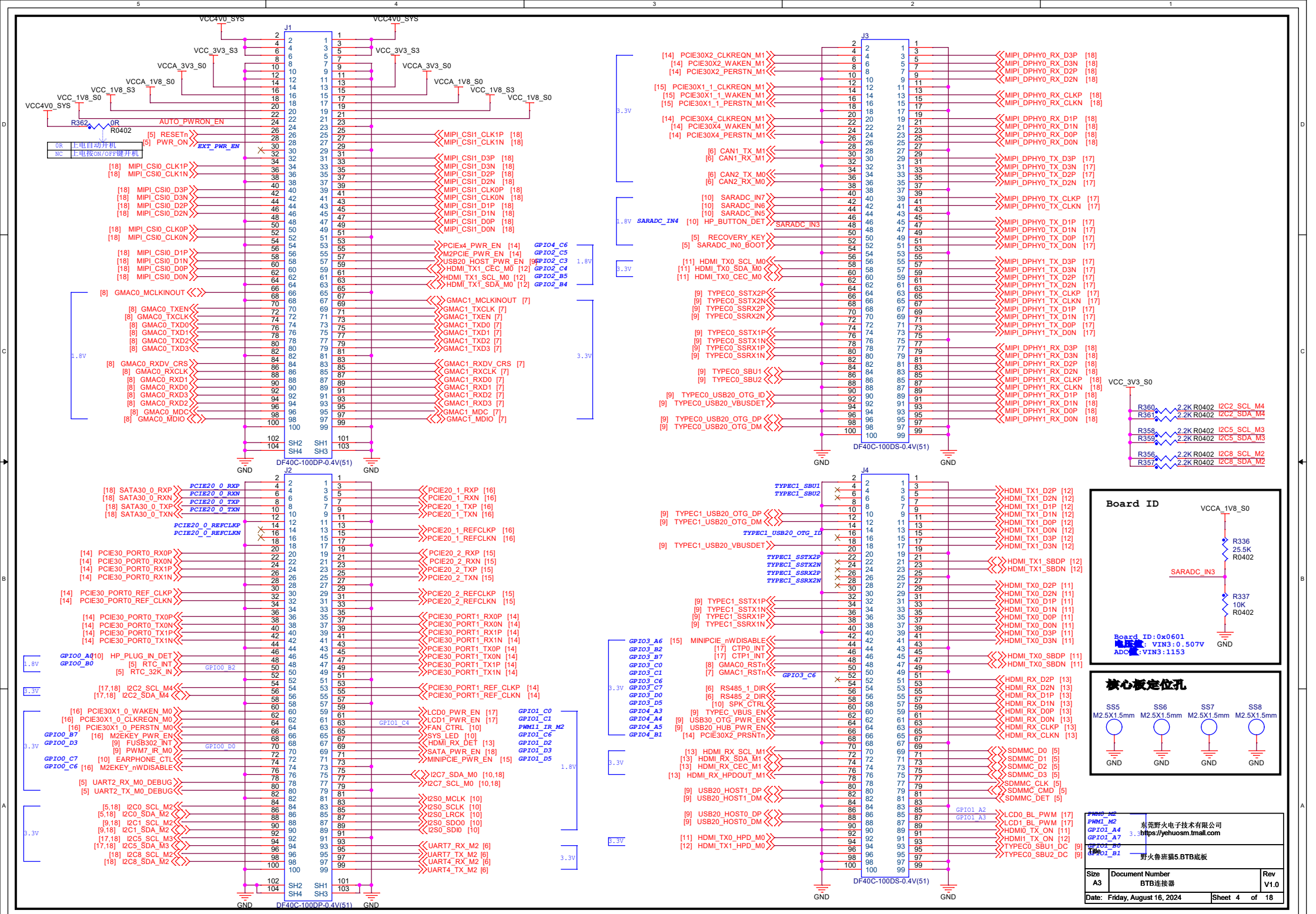
12V转3.3V：底板3.3V电源

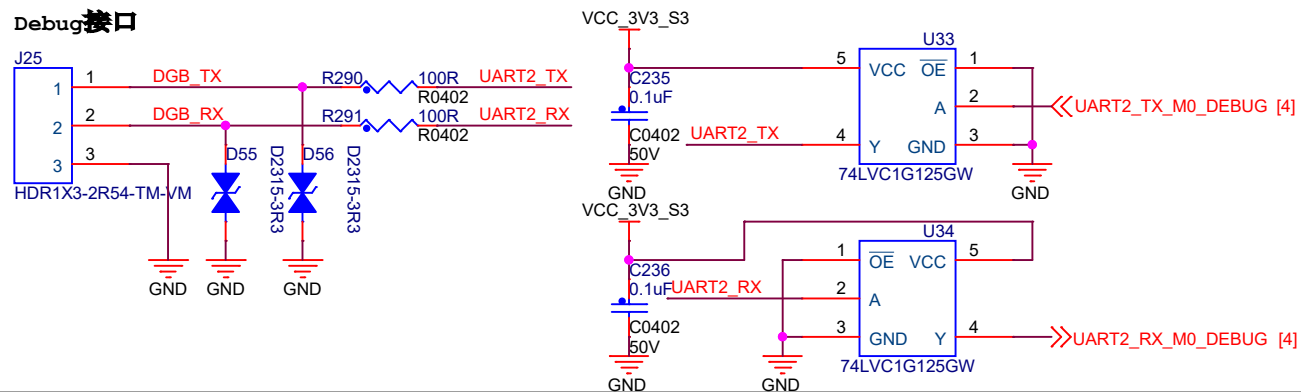
The diagram shows a DC-DC converter circuit. The input is VCC_12V, which is connected to the VIN pin of the ASP9135ZC-R chip. The chip's GND pin is connected to ground. The EN pin is connected to ground through a 10k resistor (R273). The BOOT pin is connected to the SW pin through a 0.1uF capacitor (C0402). The SW pin is connected to the output of the converter, which is VCC_3V3_S0. The FB pin is connected to the feedback voltage (0.765V) through a 100k resistor (R272). The feedback voltage is also connected to ground through a 30k resistor (R274). The output is filtered by a 3.3uH inductor (L21) and a 22uF capacitor (C230). The input is also filtered by a 22uF capacitor (C233) and a 0.1uF capacitor (C234). The output is also filtered by a 0.1uF capacitor (C231).

The diagram shows a DC-DC converter circuit using the MP8759GD-Z IC. The input is VCC_12V, which is filtered by capacitors C17 (10uF), C18 (10uF), and C19 (0.1uF). The IC's VIN pin is connected to the input, and its EN pin is connected to a 510K resistor (R9) to ground. The VCC pin is connected to a 100K resistor (R16) to ground and a 0.1uF capacitor (C26) to ground. The PG pin is connected to a 100K resistor (R14) to ground and a 10uF capacitor (C25) to ground. The MODE pin is connected to a 100K resistor (R15) to ground and a 10uF capacitor (C25) to ground. The SW pin is connected to a 3.3R resistor (R8) to the input and a 0.22uF capacitor (C16) to ground. The FB pin is connected to a feedback network consisting of a 43K resistor (R12) to the output and a 1% resistor (R17) to ground. The VOUT pin is connected to the output, which is filtered by a 0.1uF capacitor (C27) to ground. The PGND and AGND pins are connected to ground. The output is connected to a load (LED1) through a 4.7K resistor (R11). The output voltage is VCC4V0_SYS.

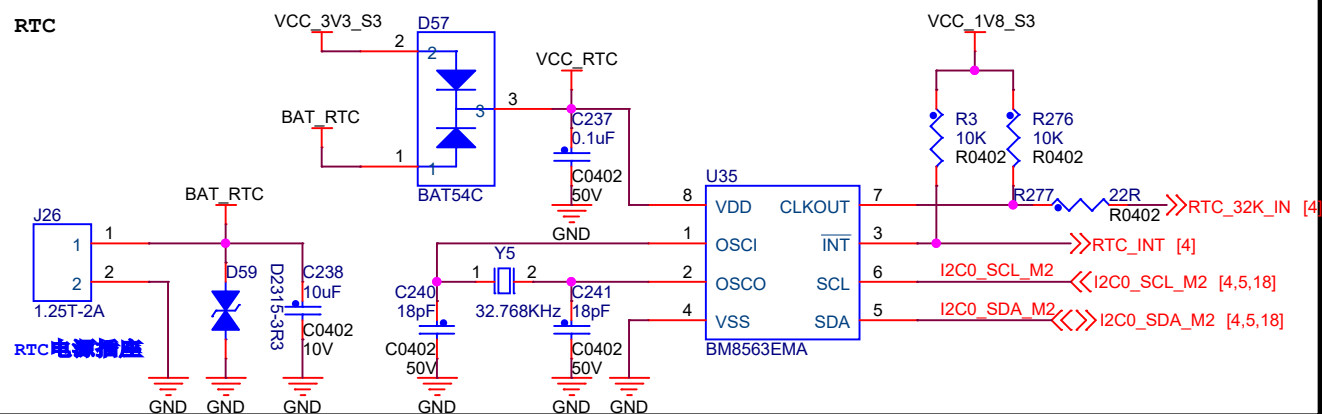
板子定位孔

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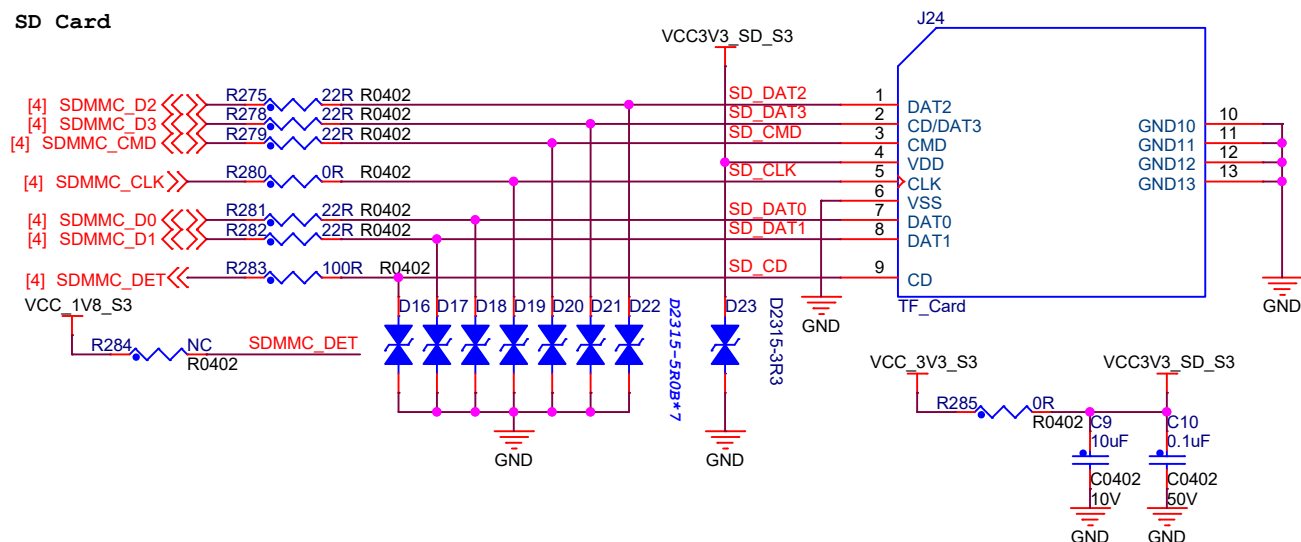




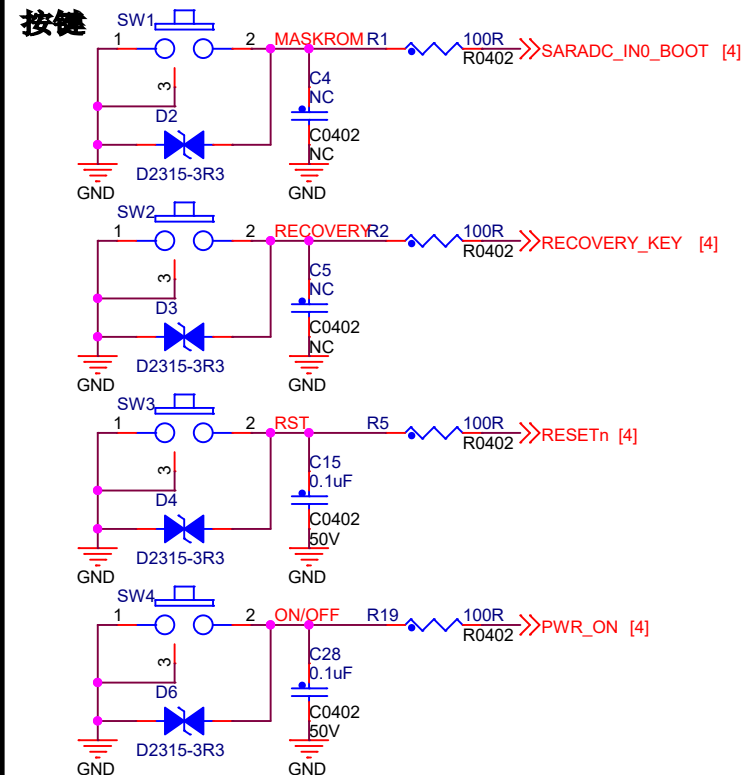
RTC



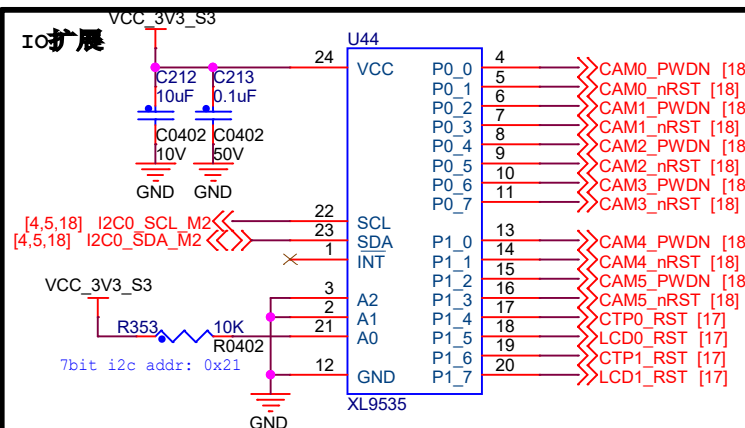
SD Card



按键



IO扩展



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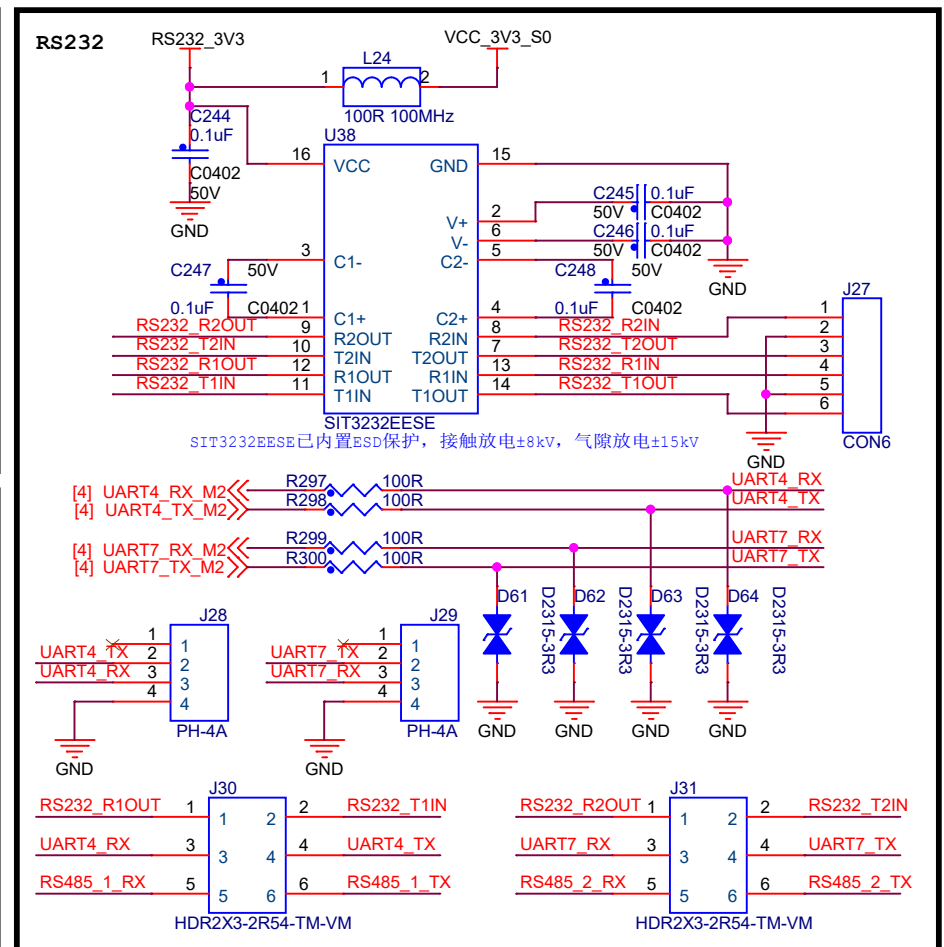
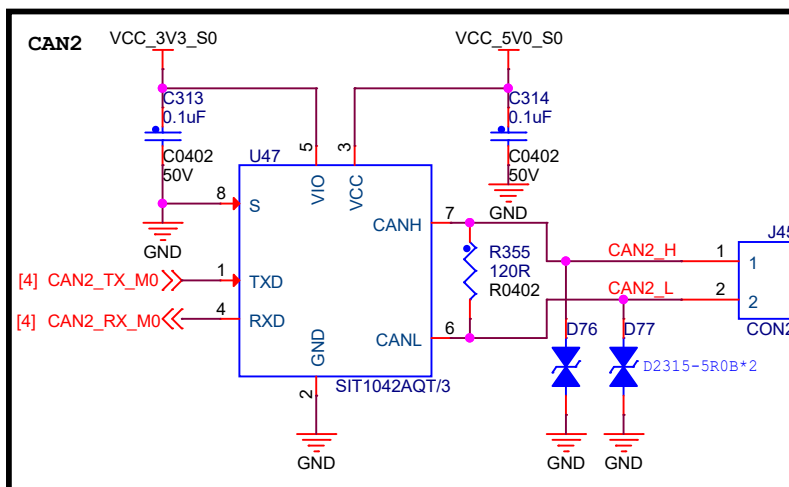
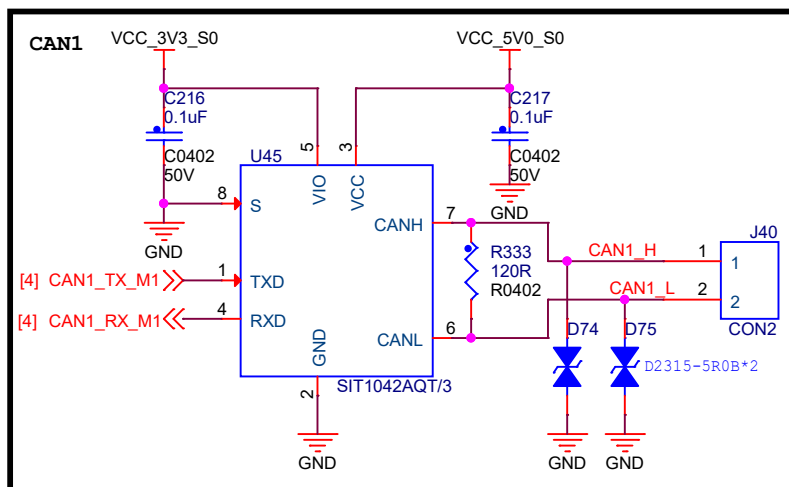
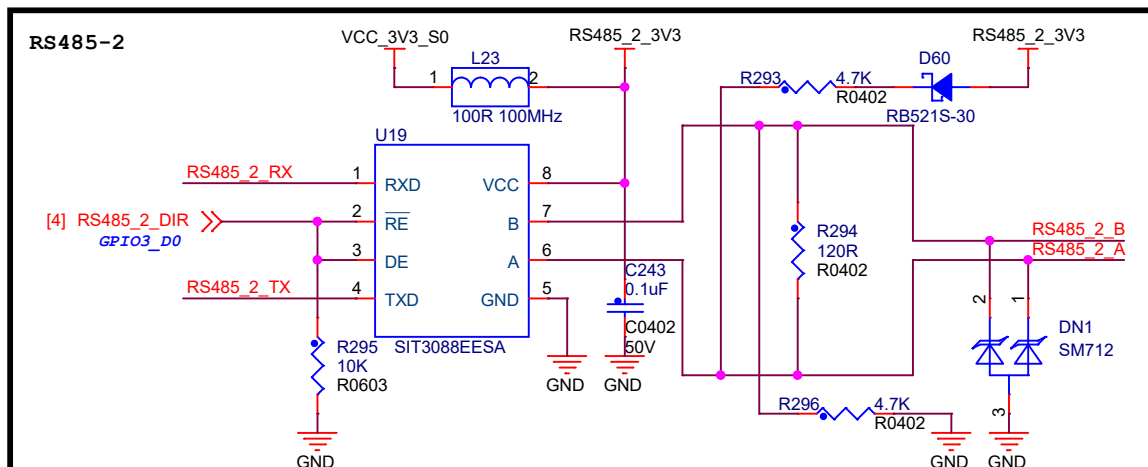
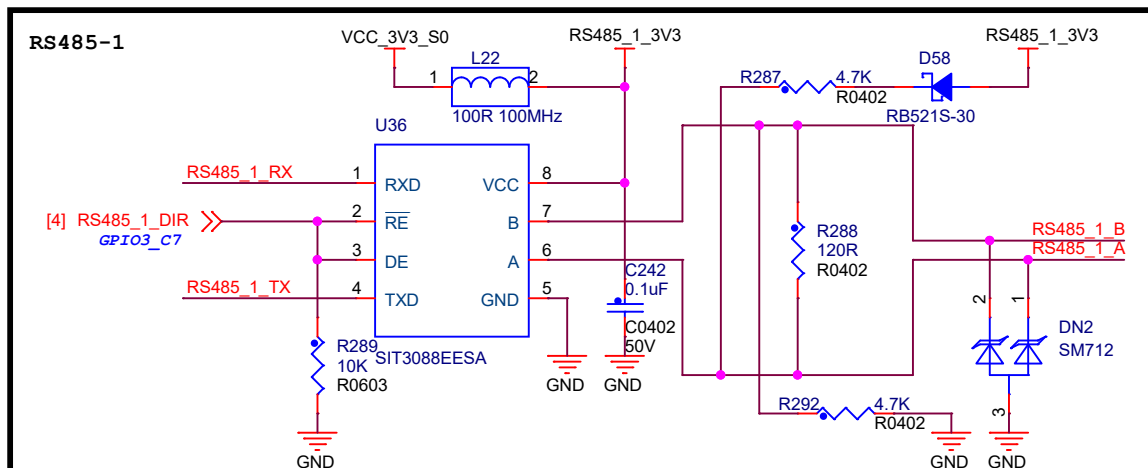
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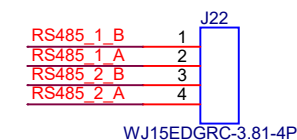
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RS485接线端子



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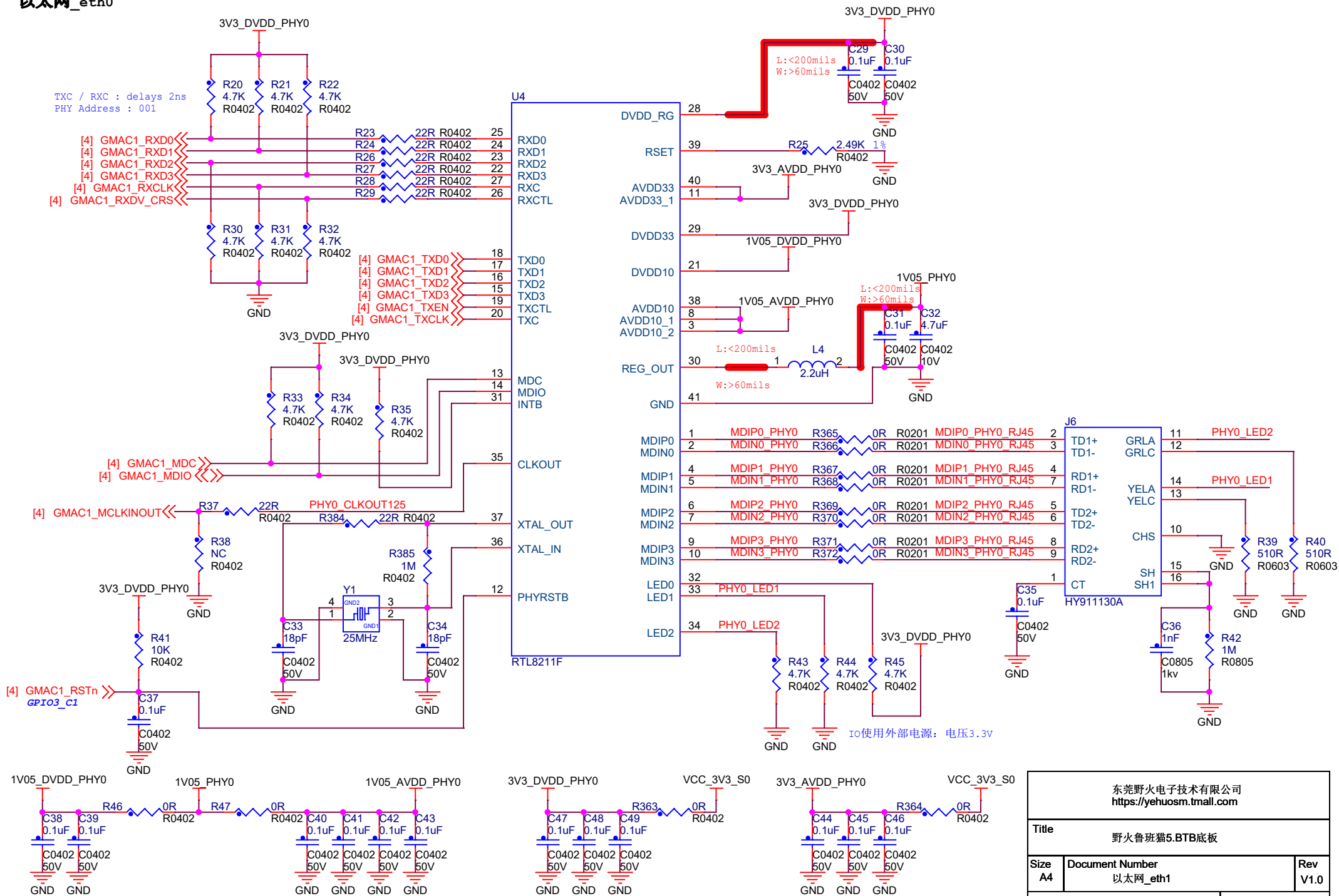
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以太网_eth0



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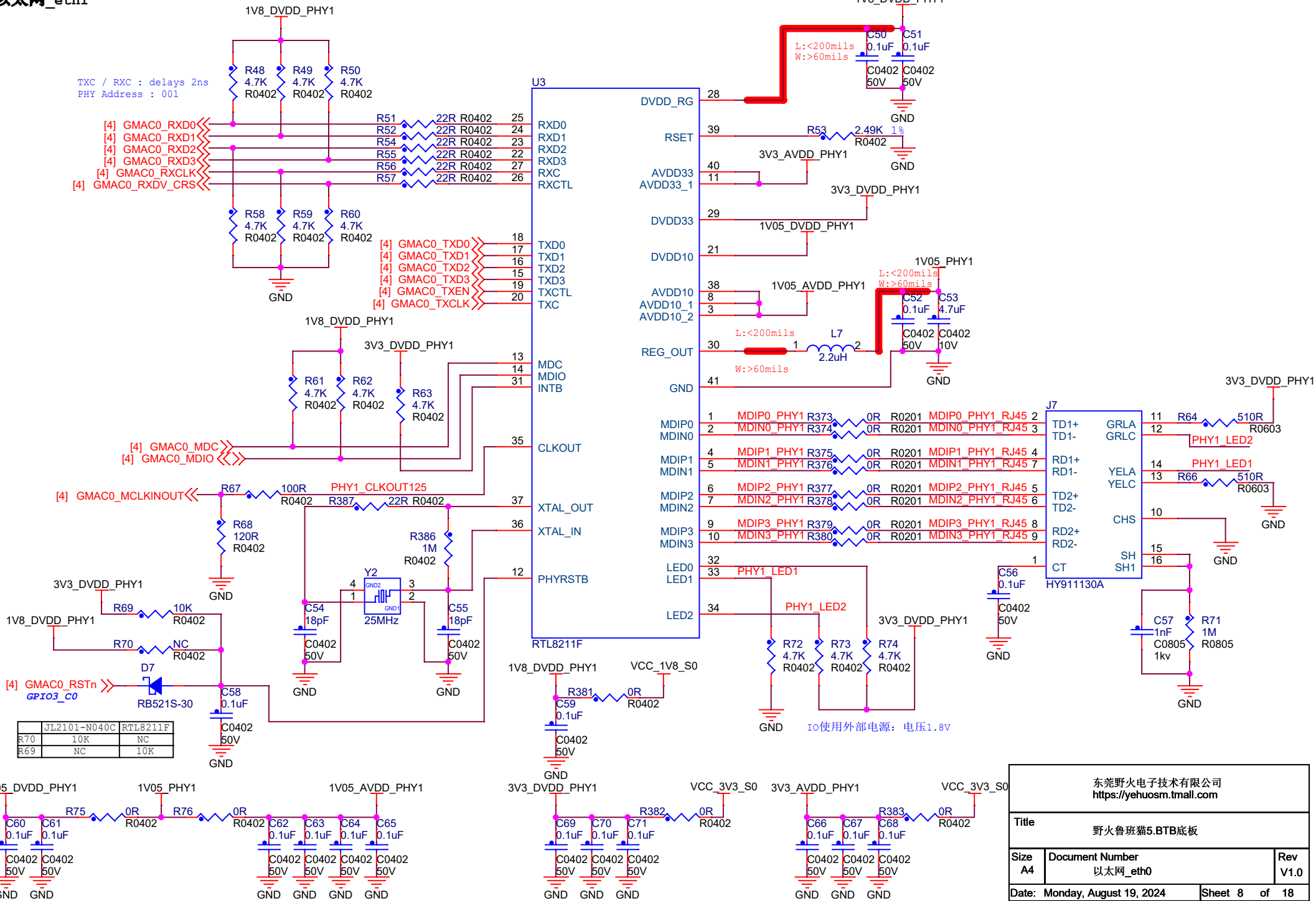
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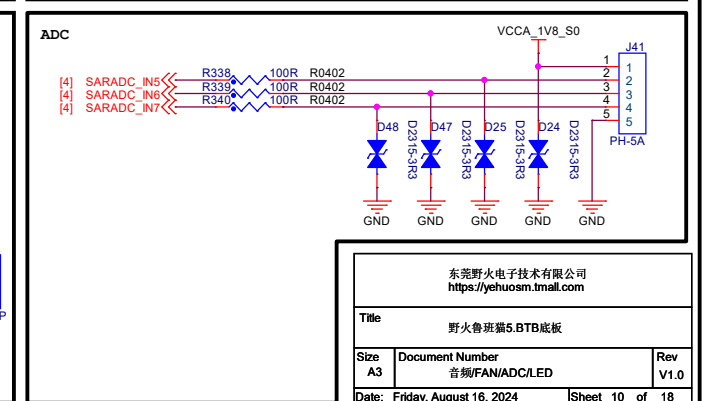
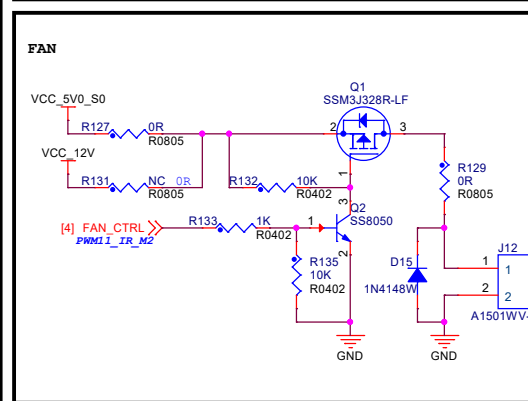
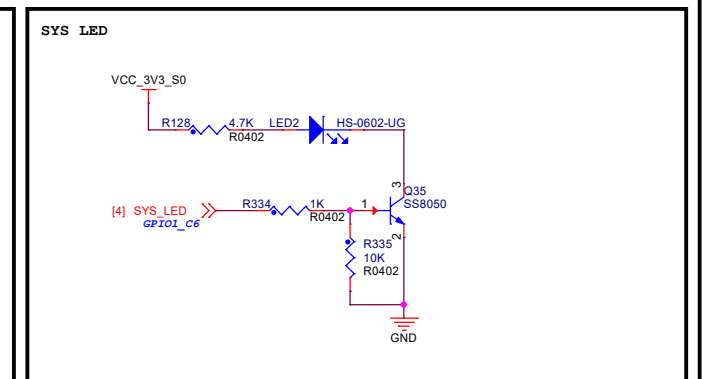
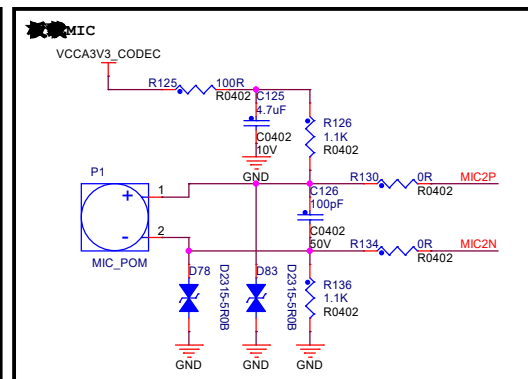
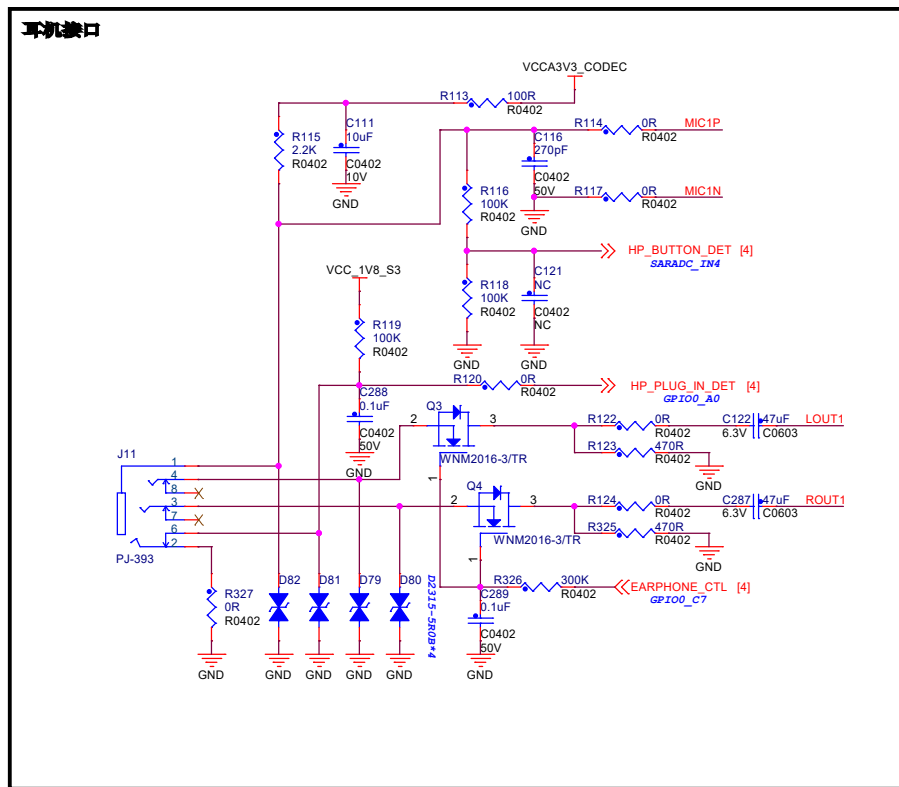
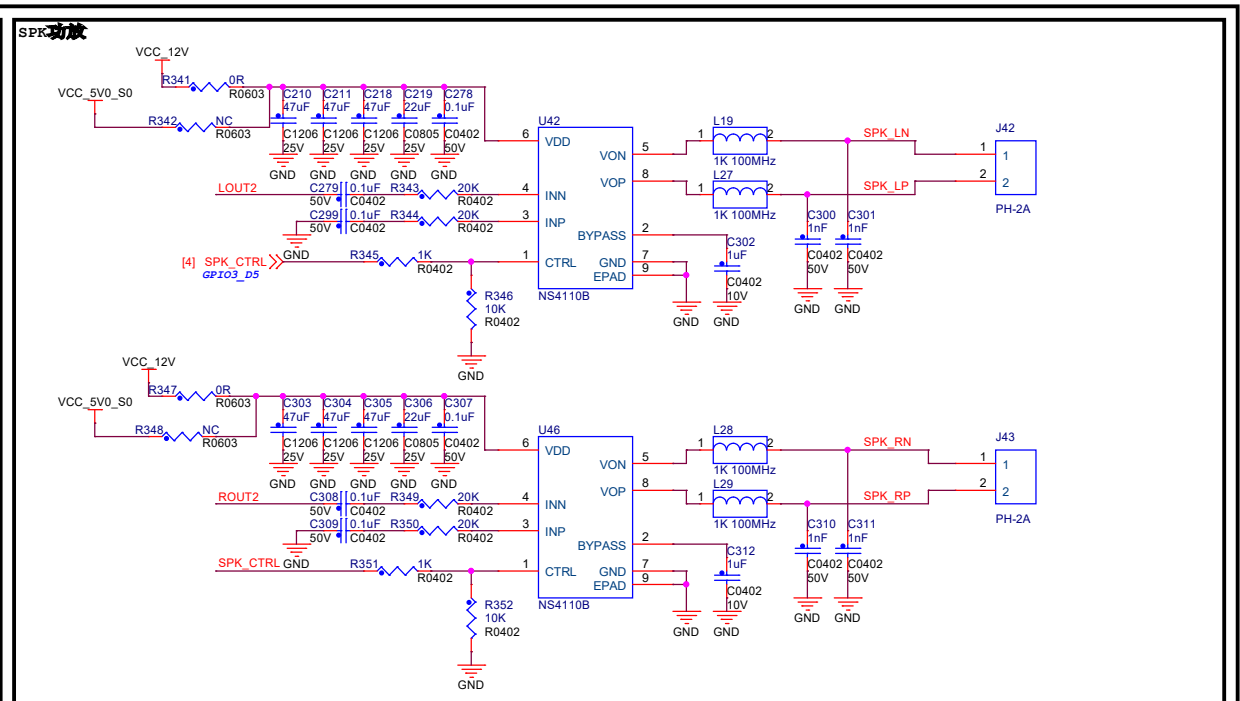
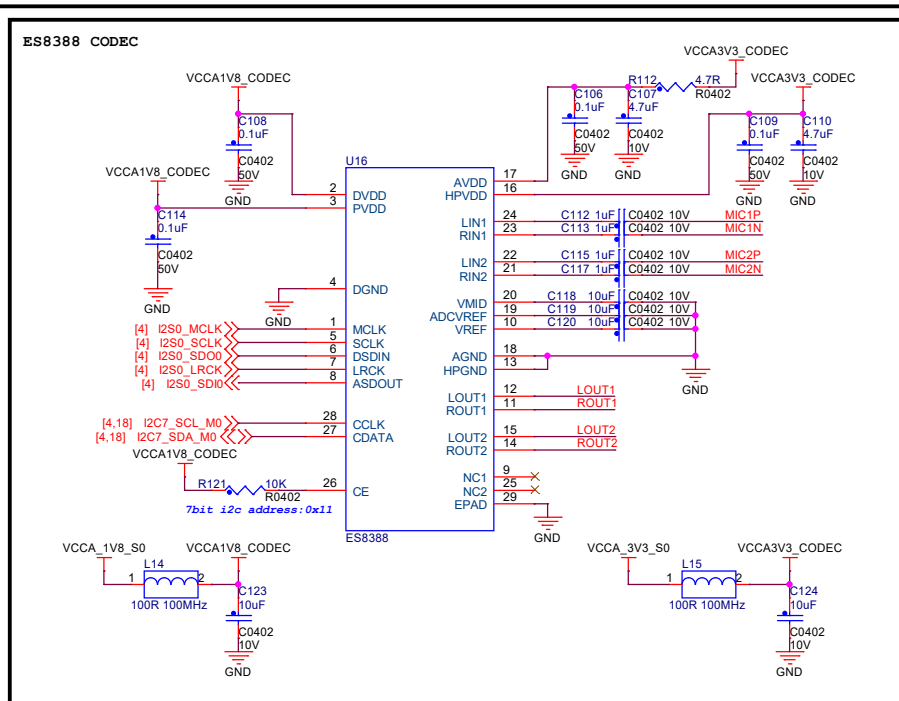


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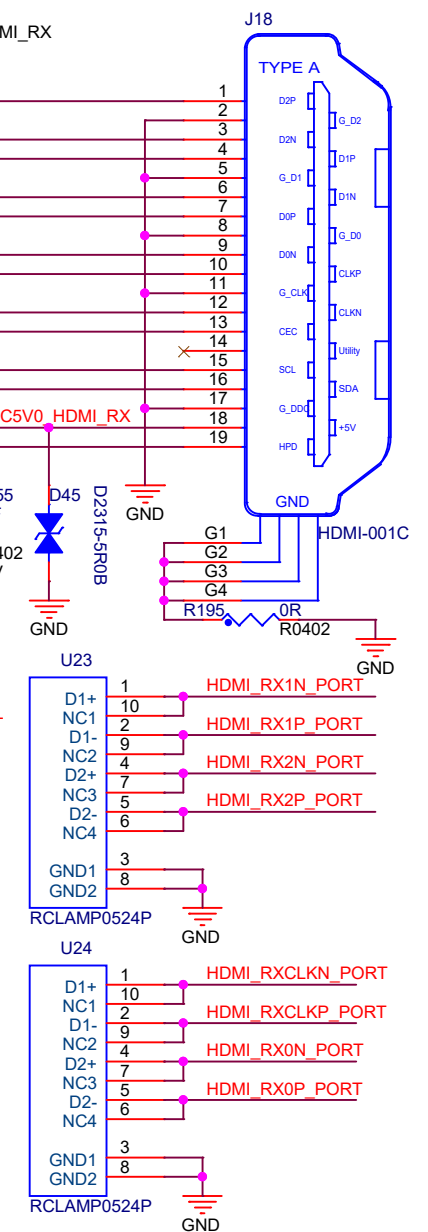
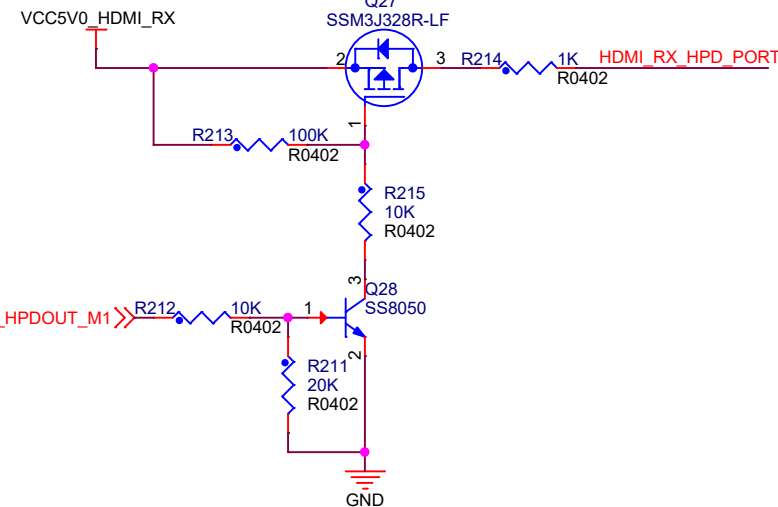
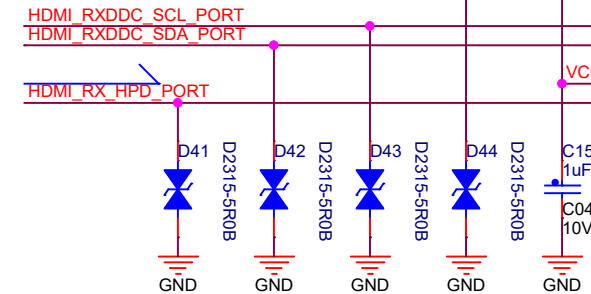
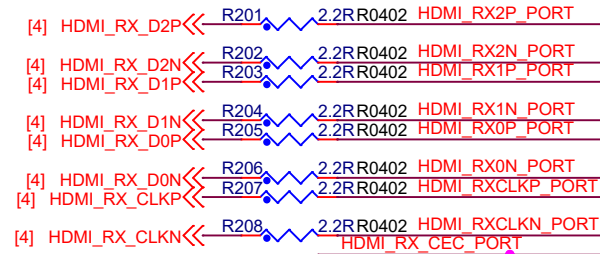
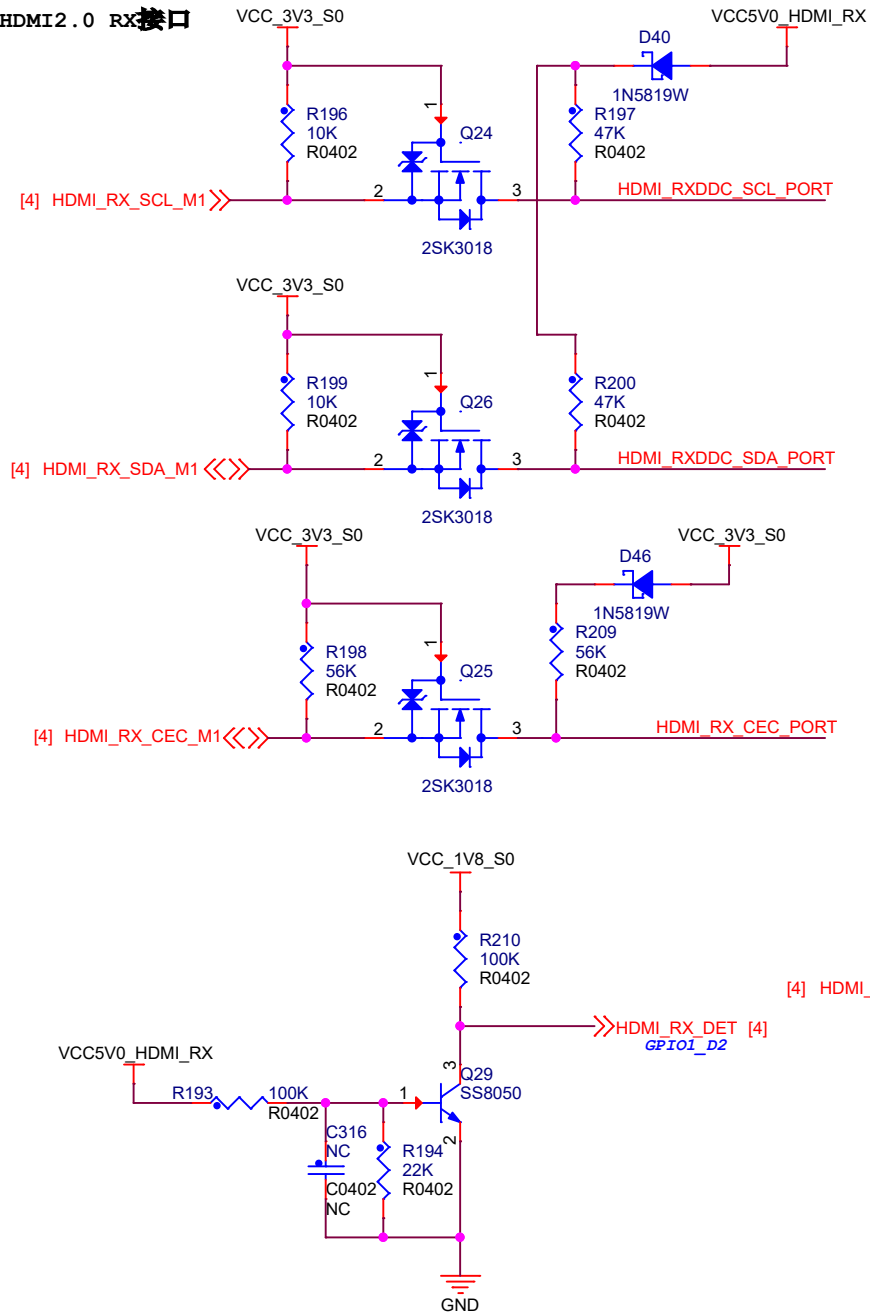
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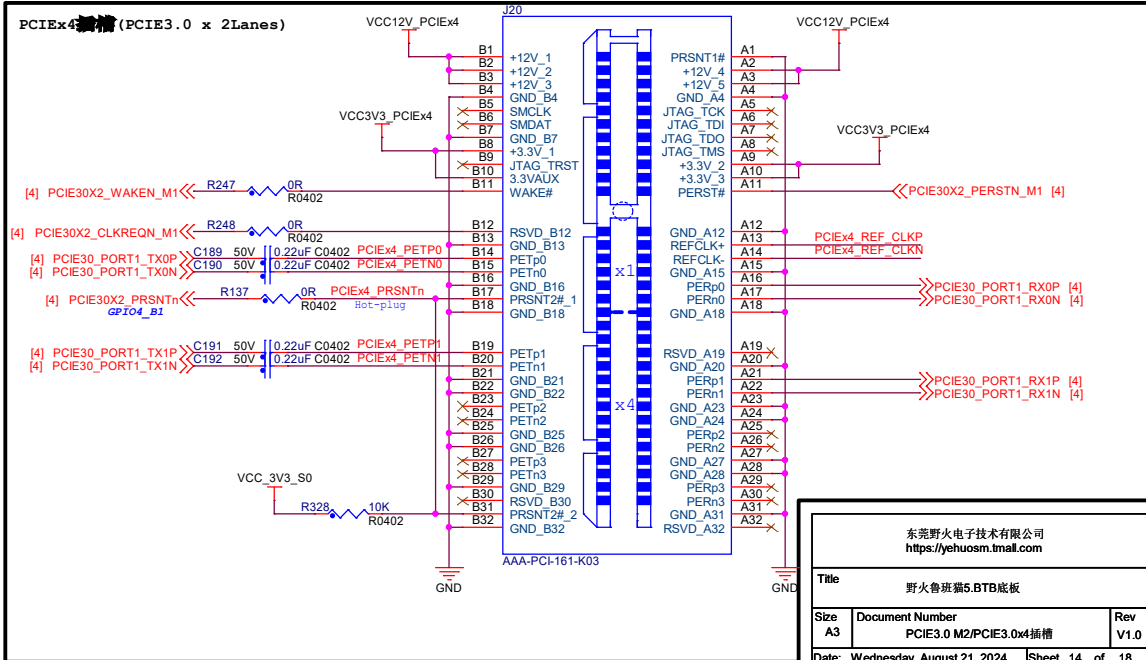
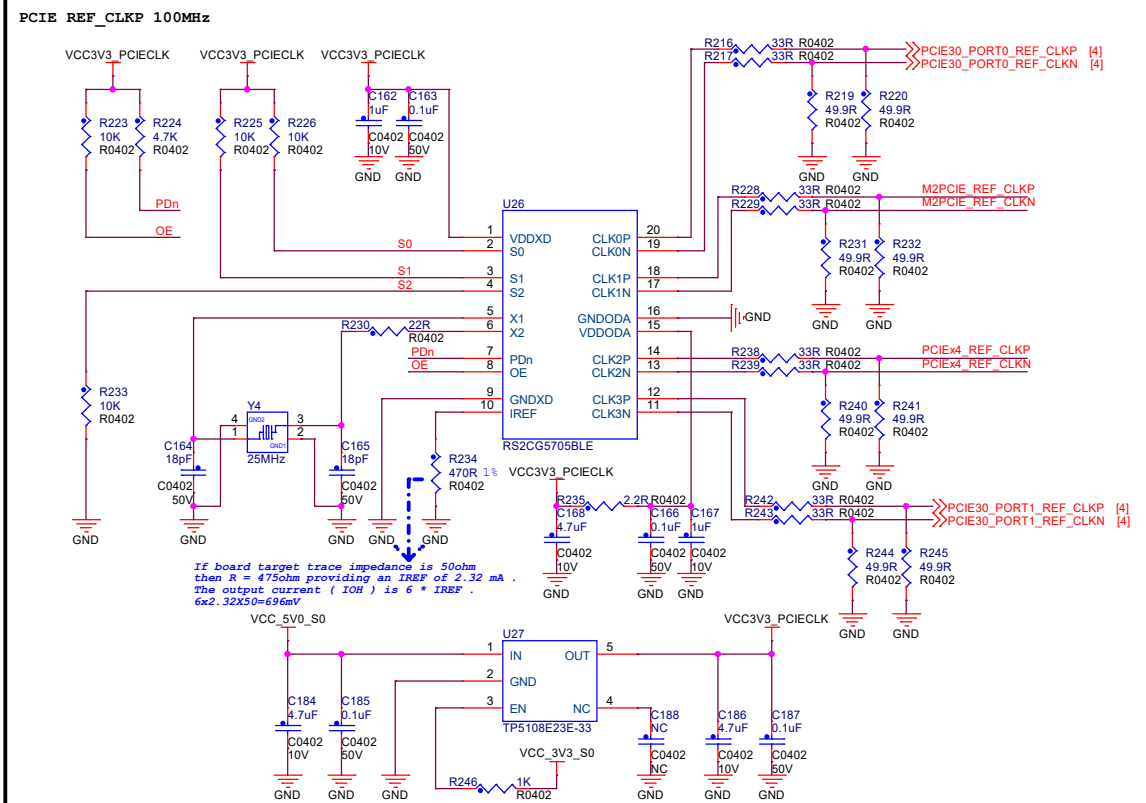
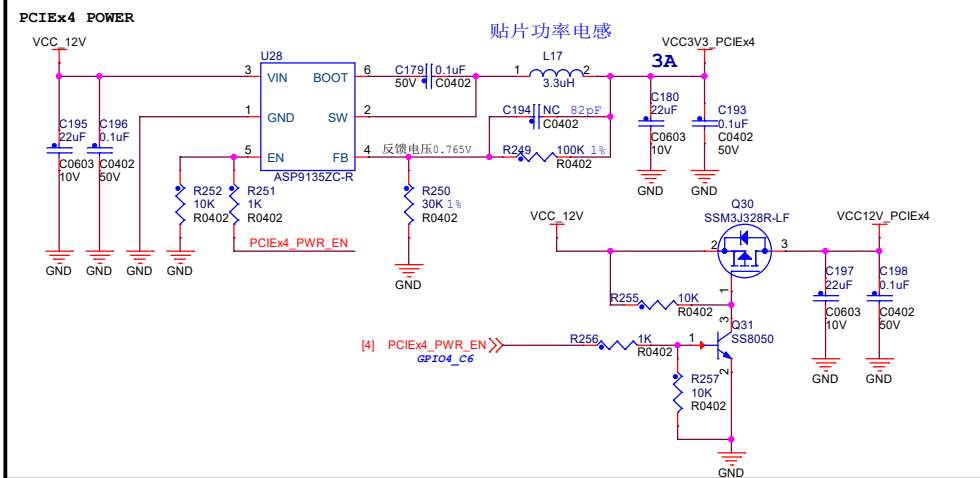
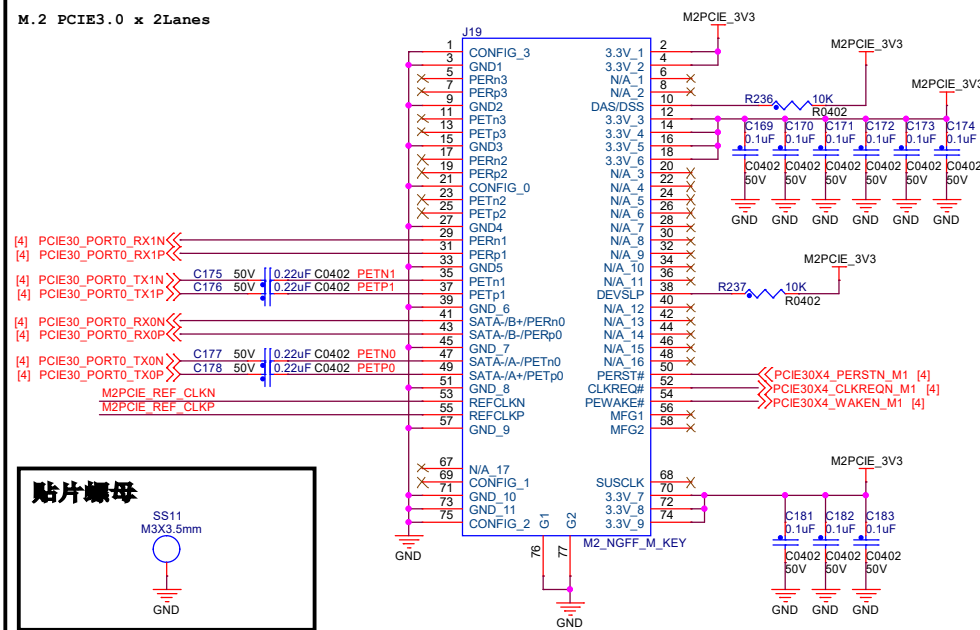
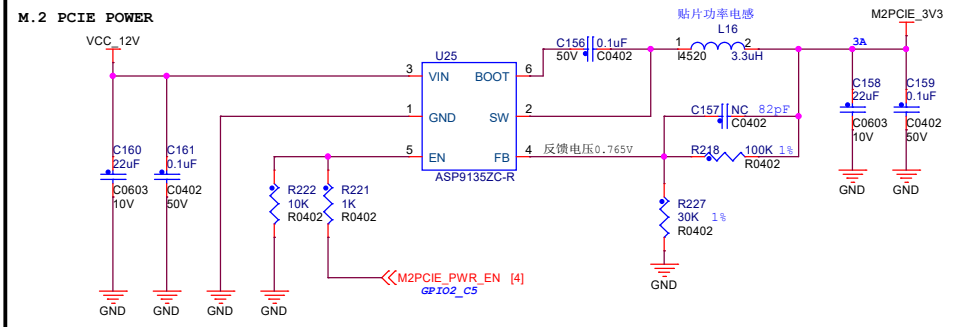
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HDMI2.0 RX接口

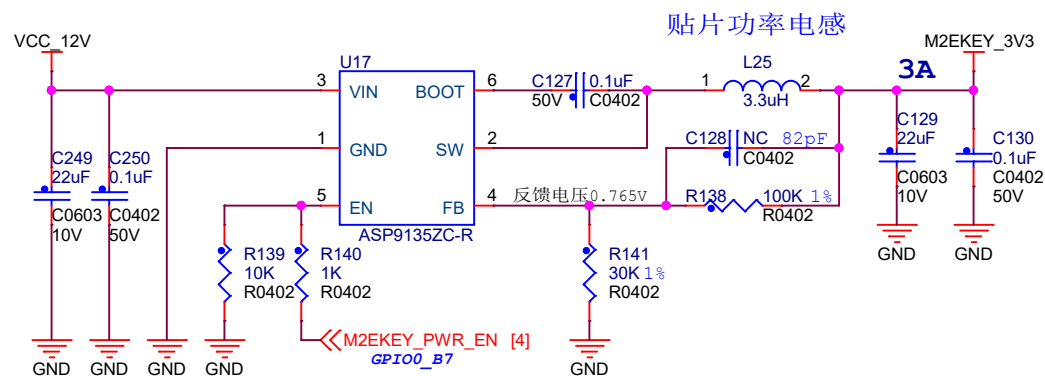


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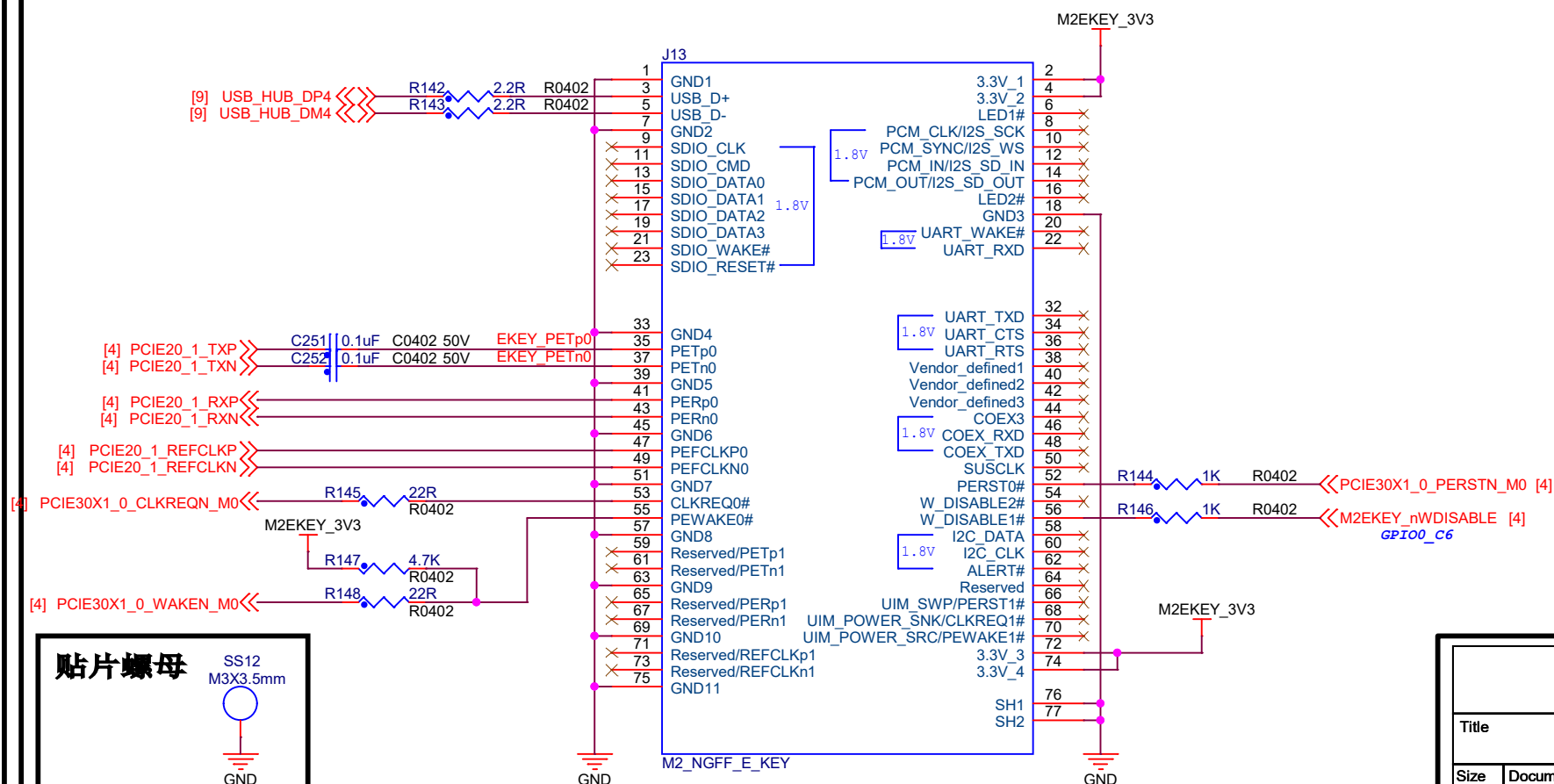


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Size	Document Number		Rev
A3	PCIE3.0 M2/PCIE3.0x4插槽		V1.0
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M2 E KEY POWER



M2 E KEY



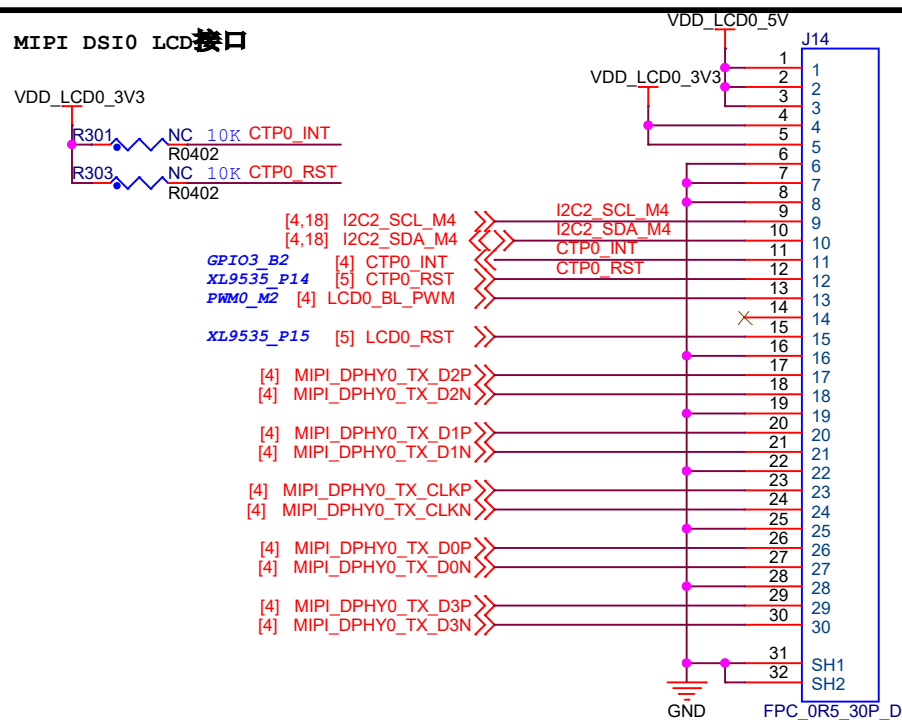
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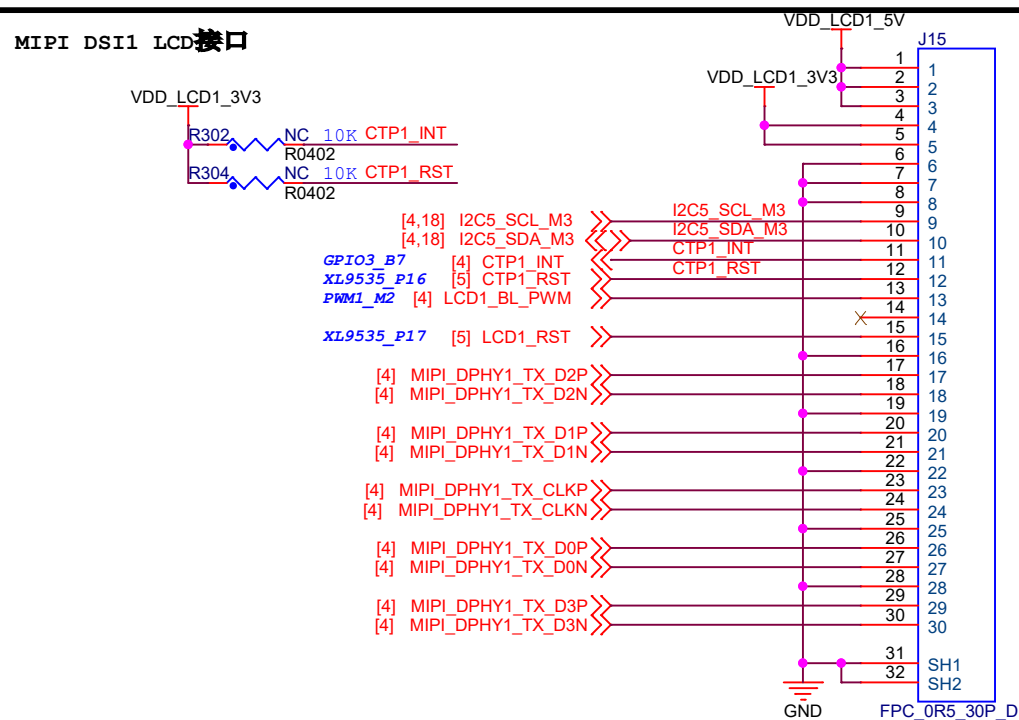
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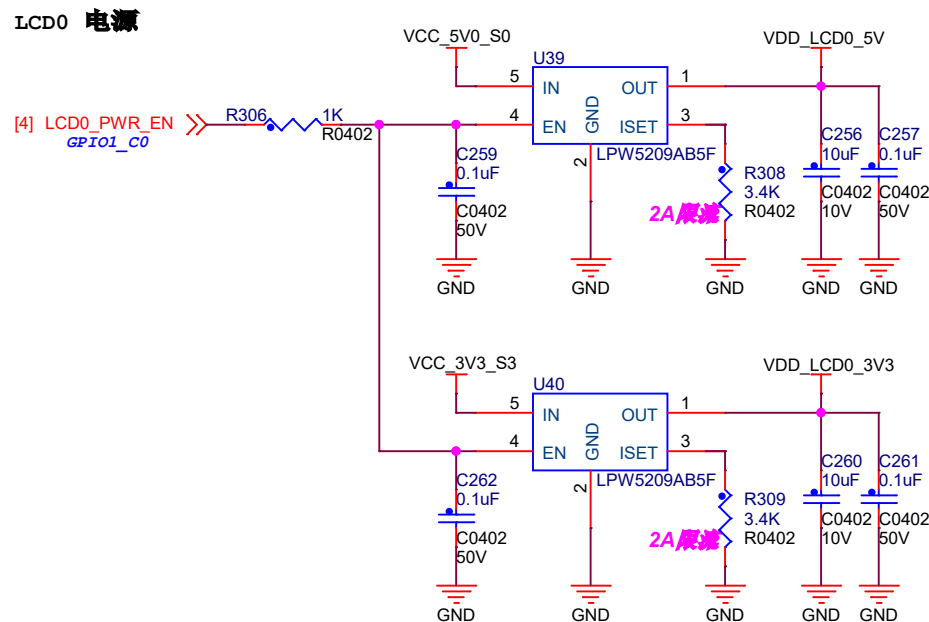
MIPI DSI0 LCD接口



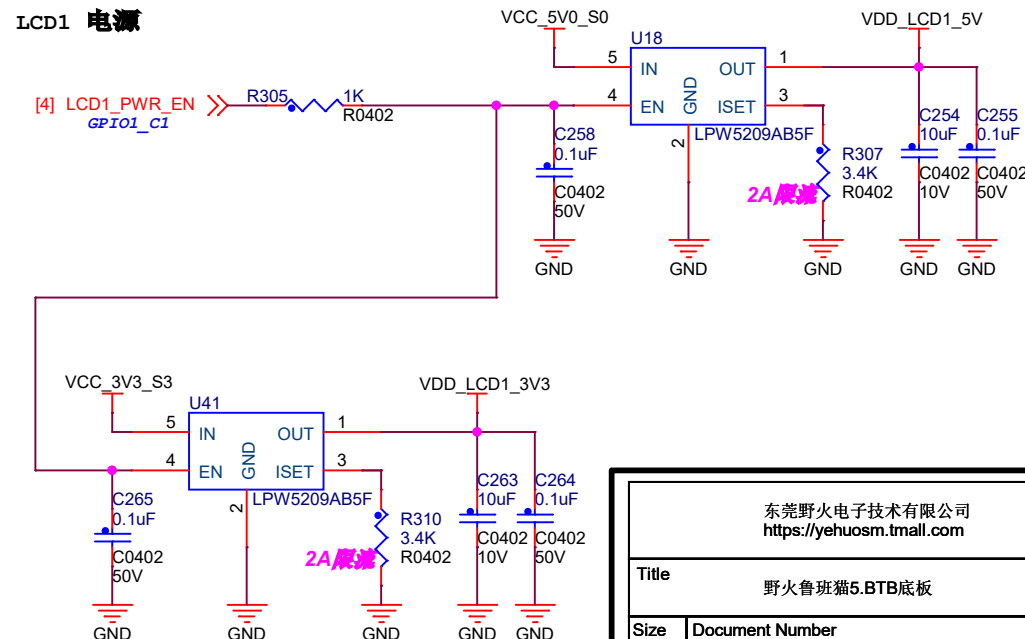
MIPI DSI1 LCD接口



LCD0 电源



LCD1 电源



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