

# 野火\_i.MX6ULL S1 Pro EVK底板\_原理图\_V1.0

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Title

野火\_i.MX6ULL S1 Pro EVK底板\_原理图

Size  
A4

Document Number

目录

Rev  
V1.0

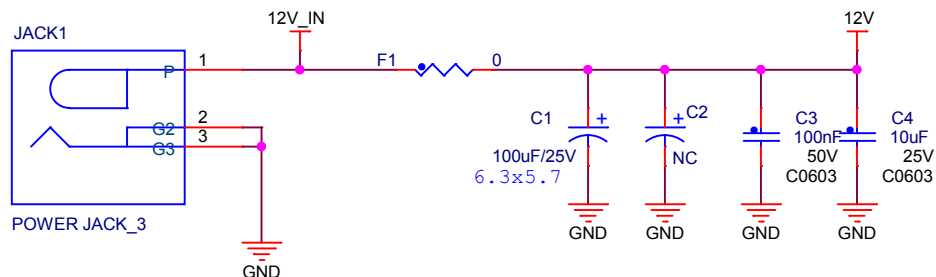
Date: Thursday, October 31, 2019

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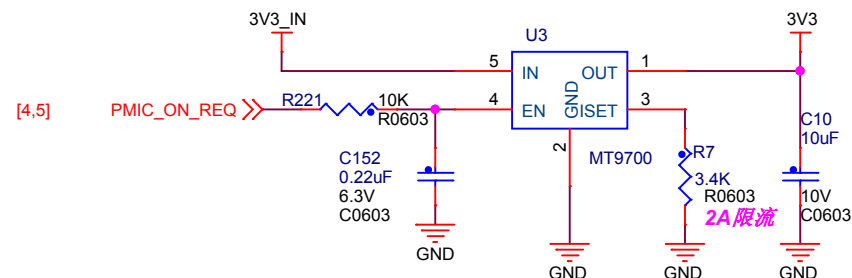
历史版本

| 版本号  | 日期         | 设计      | 描述   |
|------|------------|---------|------|
| V0.1 | 2019-06-20 | cancore | 初始版本 |
| V1.0 | 2019-10-31 | cancore | 发布版本 |
|      |            |         |      |
|      |            |         |      |
|      |            |         |      |

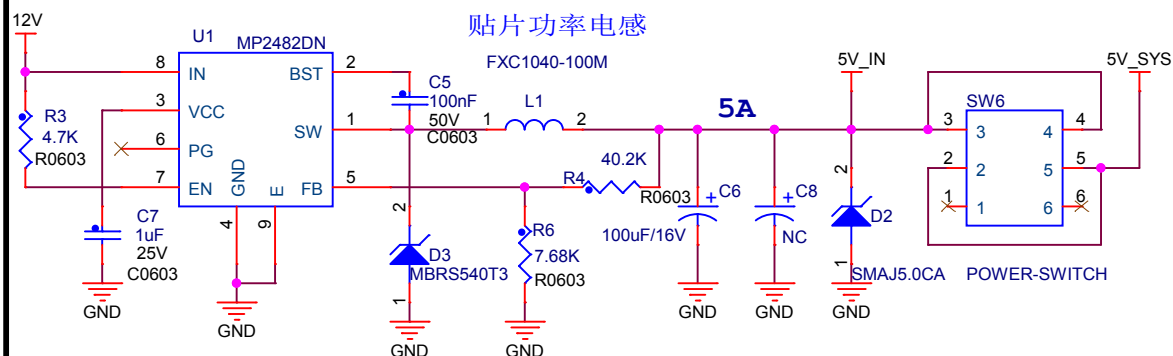
## DC IN : 12V



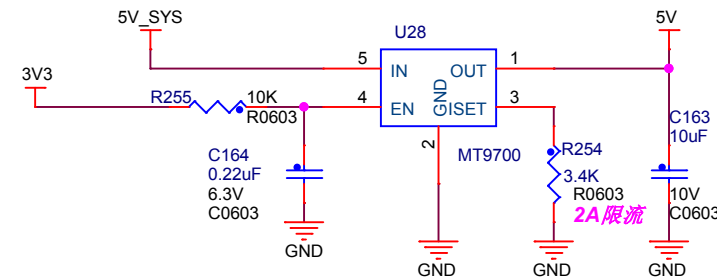
## 3.3V 输出控制及过流保护



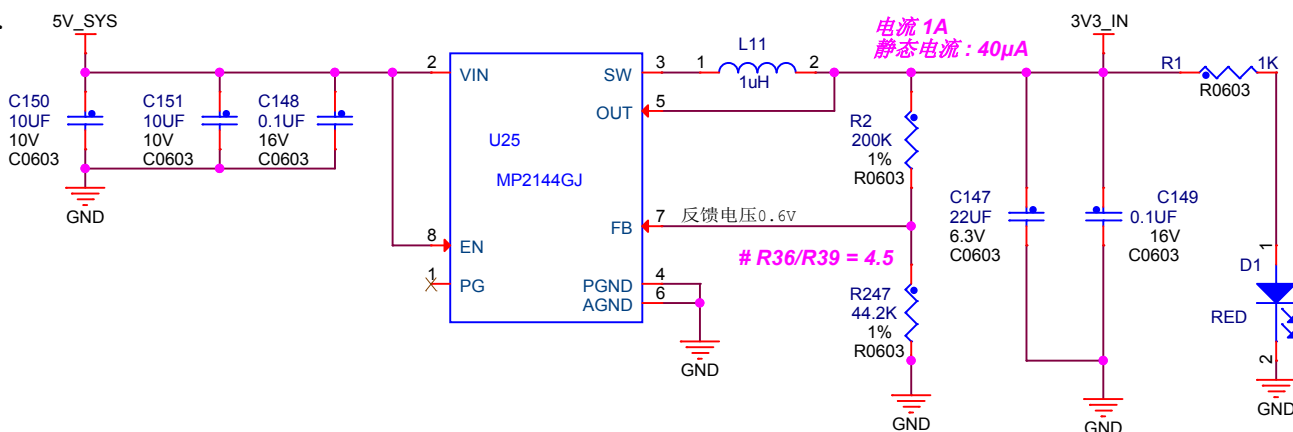
## DC/DC 5V



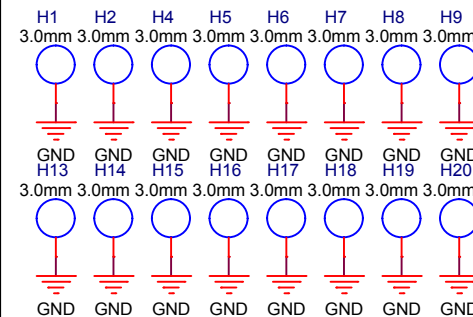
## 5V输出控制及过流保护



## 5V转3.3V



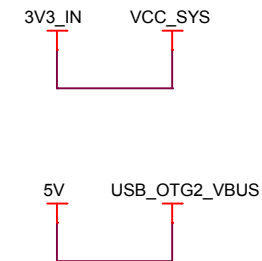
## 定位孔



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|                              |                            |               |
|------------------------------|----------------------------|---------------|
| Title                        |                            |               |
| 野火_i.MX6ULL S1 Pro EVR底板_原理图 |                            |               |
| Size                         | Document Number            | Rev           |
| A4                           | 电源                         | V1.0          |
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## 邮票孔核心板 [5,15,16,18]

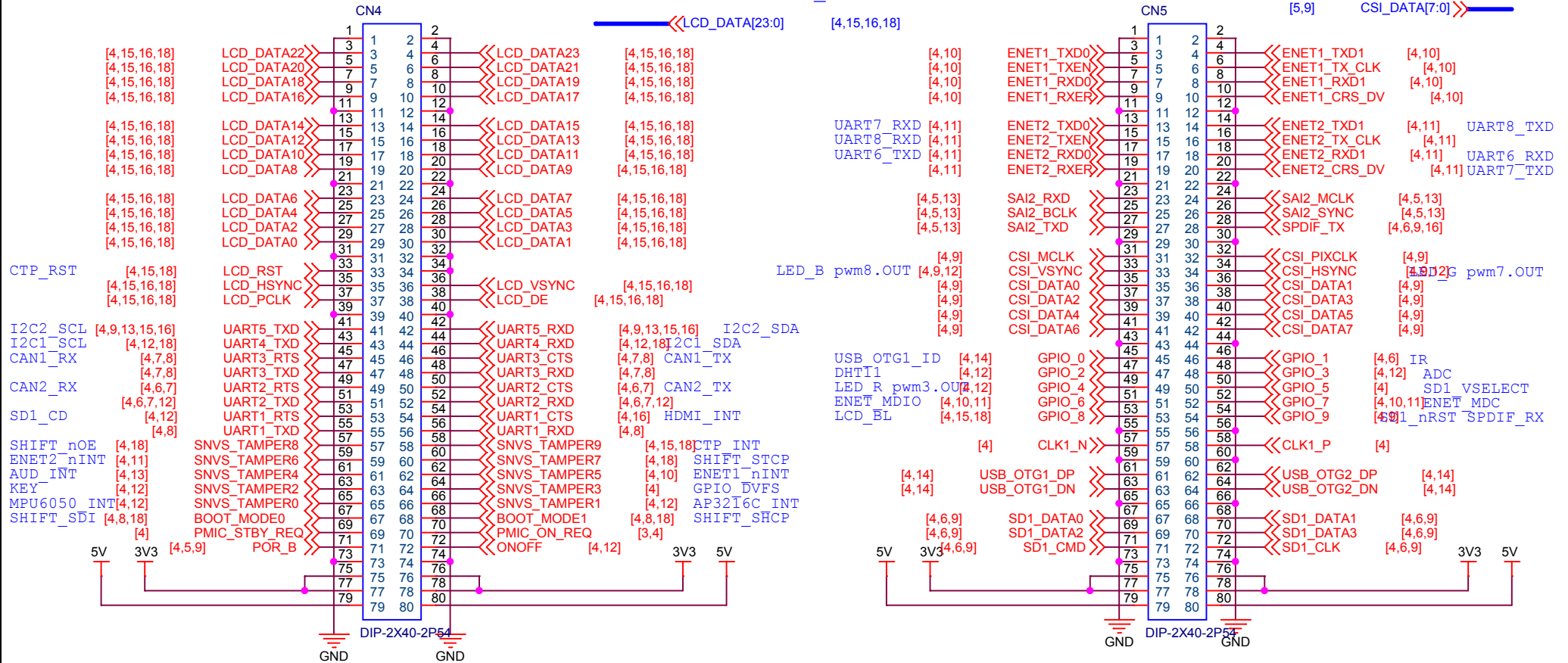


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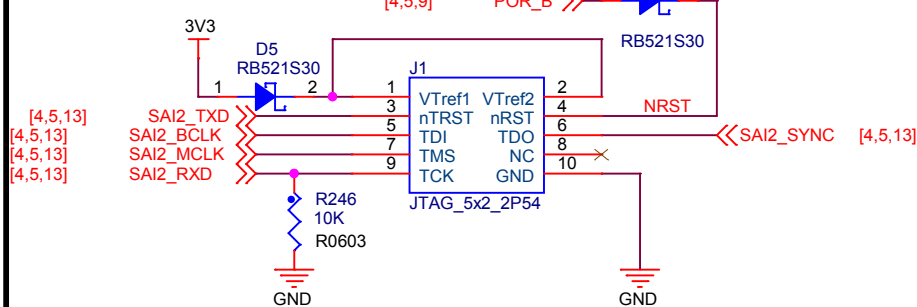
|                              |                            |            |             |
|------------------------------|----------------------------|------------|-------------|
| Title                        |                            |            |             |
| 野火_i.MX6ULL S1 Pro EVK底板_原理图 |                            |            |             |
| Size<br>A4                   | Document Number            |            | Rev<br>V1.0 |
|                              | CPU_B2B                    |            |             |
| Date:                        | Thursday, October 31, 2019 | Sheet 4 of | 18          |

## 引出IO口(排针)

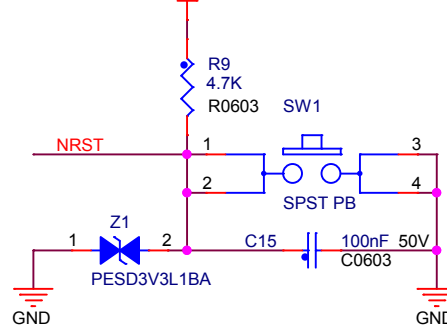
所有IO全部引出, 包括GPIO引出107个, 差分时钟一组, USB专用口2个, POR\_B复位脚1个, 电源控制口2个



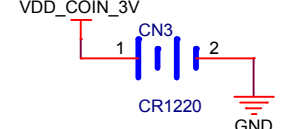
## JTAG调试口



## 复位



## RTC电池



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Title

野火\_i.MX6ULL S1 Pro EVK底板\_原理图

Size

Document Number

引出IO

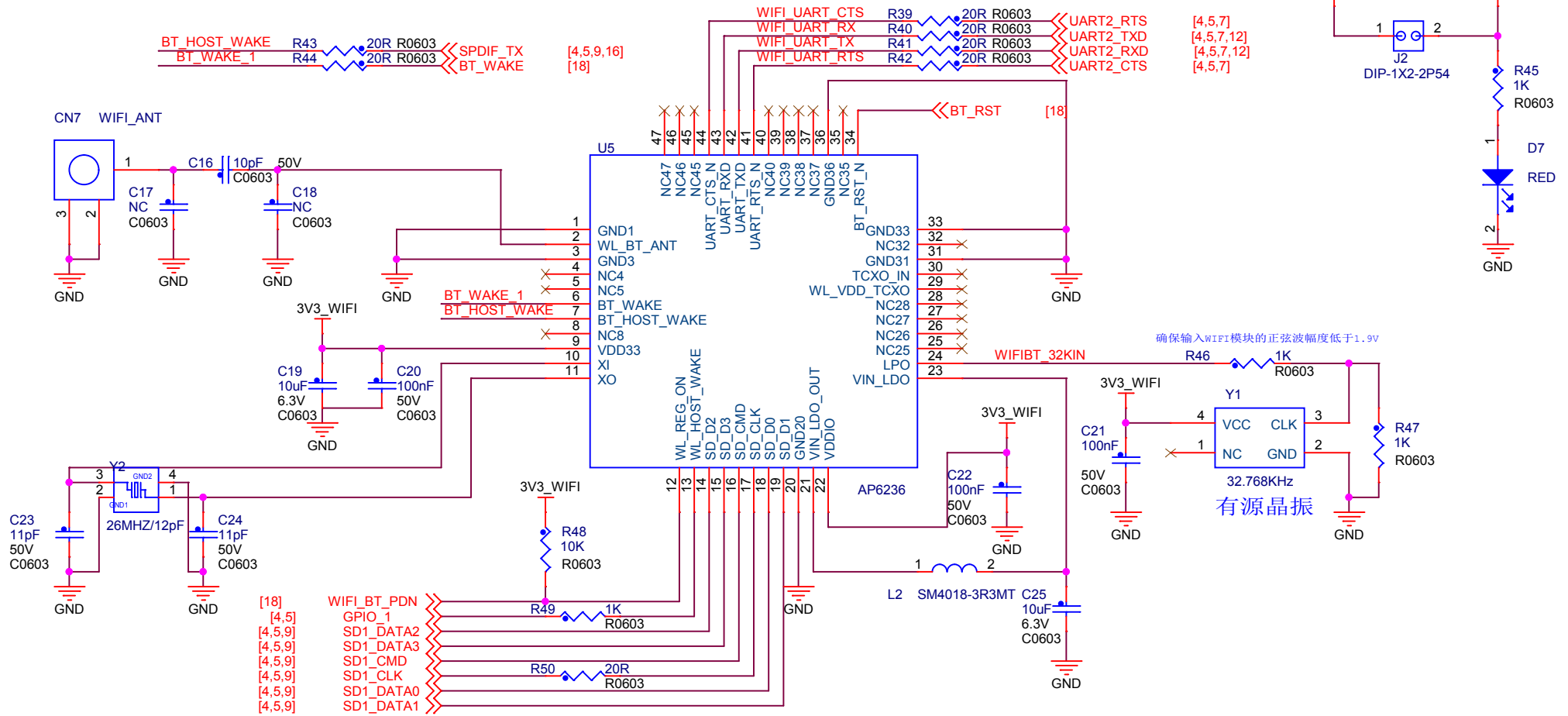
Rev

V1.0

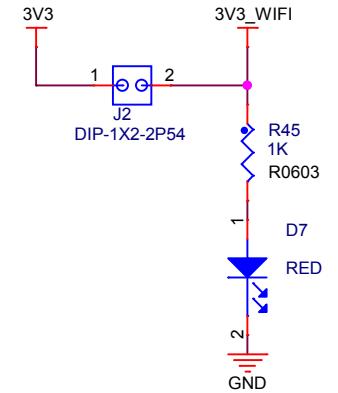
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## WIFI&Bluetooth

与SD卡共用SDIO接口，因此WIFI跟SD卡不能同时使用

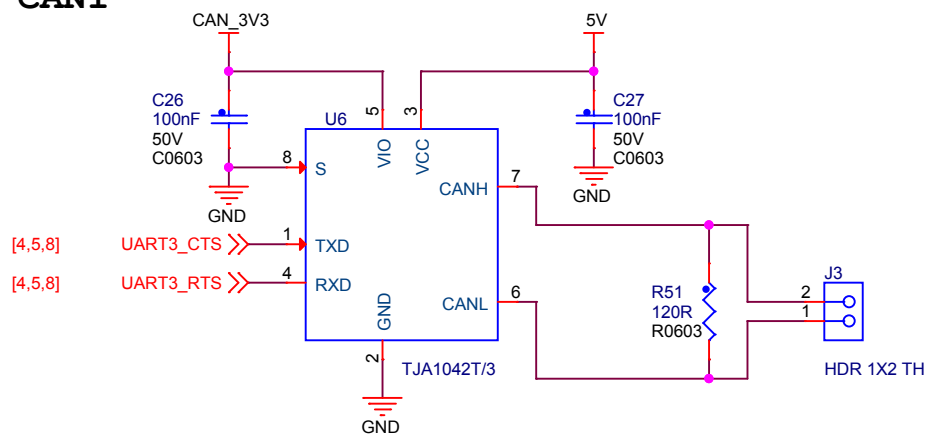


## WIFI电源指示灯

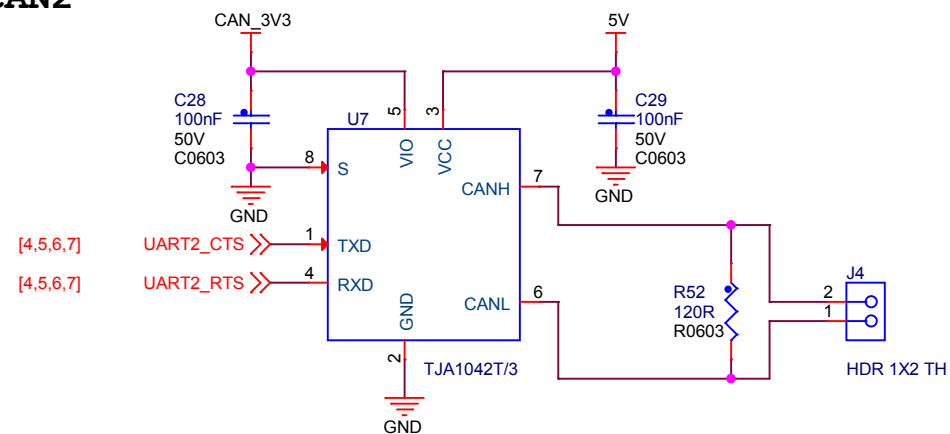


|   |                                   |             |
|---|-----------------------------------|-------------|
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| Title<br>野火_i.MX6ULL S1 Pro EVK底板_原理图       |                                   |             |
| Size<br>A4                                  | Document Number<br>WIFI&Bluetooth | Rev<br>V1.0 |
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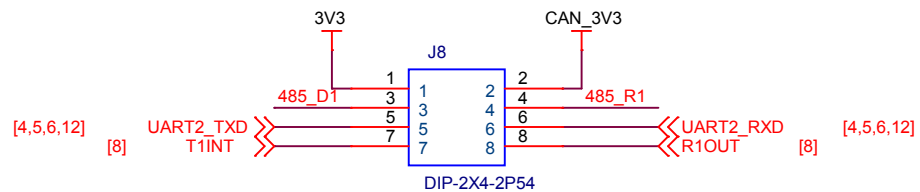
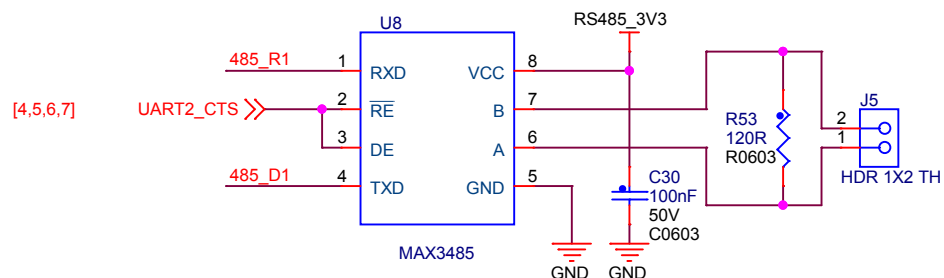
## CAN1



## CAN2

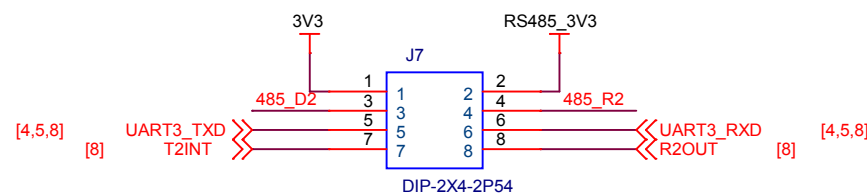
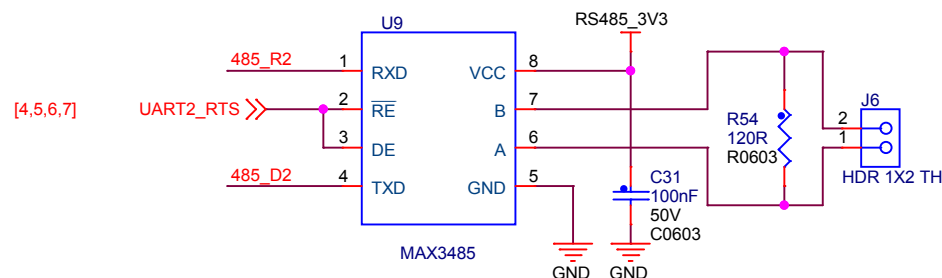


## RS485-1



CAN1和CAN2的电源  
由跳帽J8的1和2脚控制，默认不接

## RS485-2



RS485-1和RS485-2的电源  
由跳帽J7的1和2脚控制，默认不接

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|                                  |                              |             |
|----------------------------------|------------------------------|-------------|
| Title                            |                              |             |
| 野火_i.MX6ULL S1 Pro EVK底板_原理图     |                              |             |
| Size<br>A4                       | Document Number<br>CAN/RS485 | Rev<br>V1.0 |
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## C

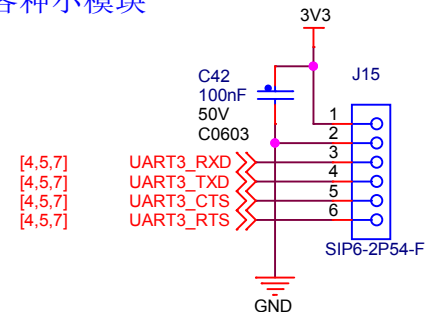


# A

[7]  
[7]  
[7]  
[7]



[4,5,7]  
[4,5,7]  
[4,5,7]  
[4,5,7]

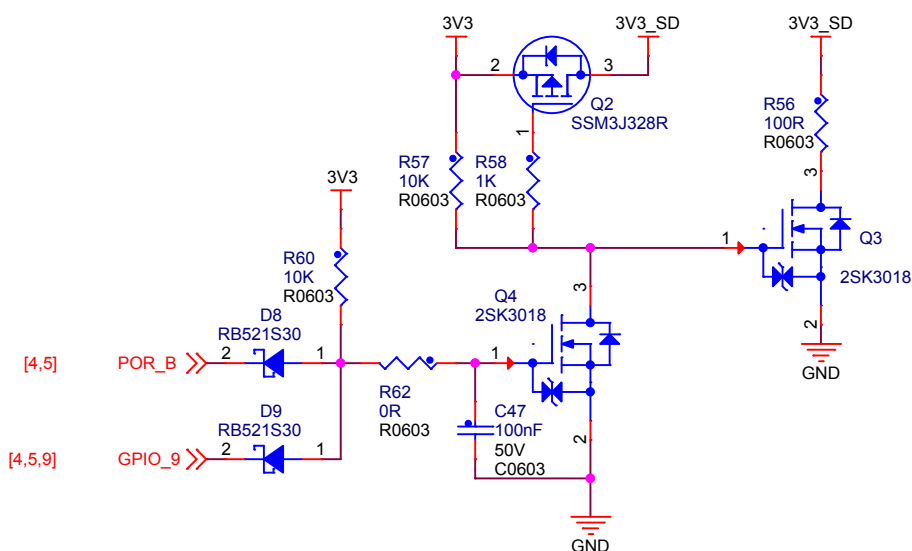
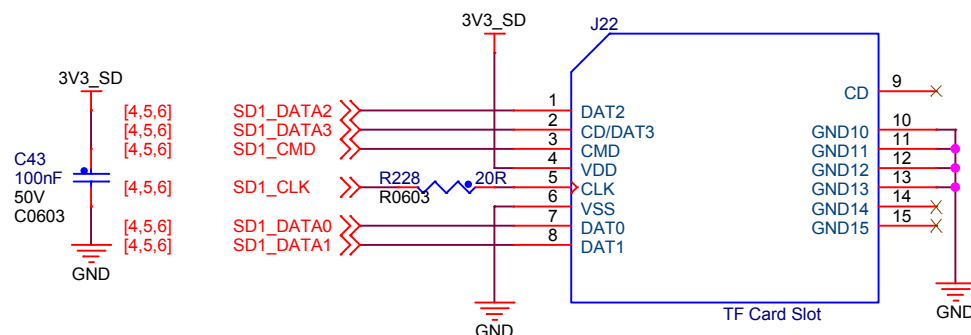


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| 野火_i.MX6ULL S1 Pro EVK底板_原理图 |                            |            |    |
| Size<br>A4                   | Document Number            | Rev        |    |
|                              | 串口 (RS232/TTL/USB转串口)      | V1.0       |    |
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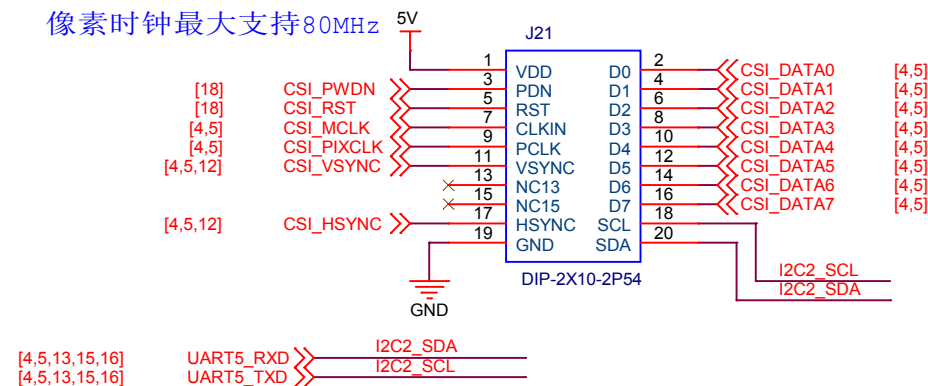
## SD卡

## 与WIFI复用SDIO引脚

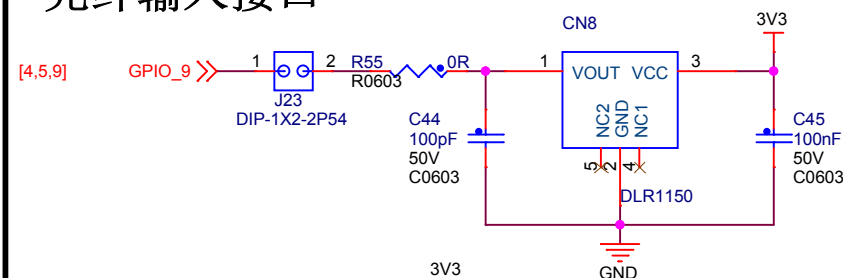


## 摄像头接口

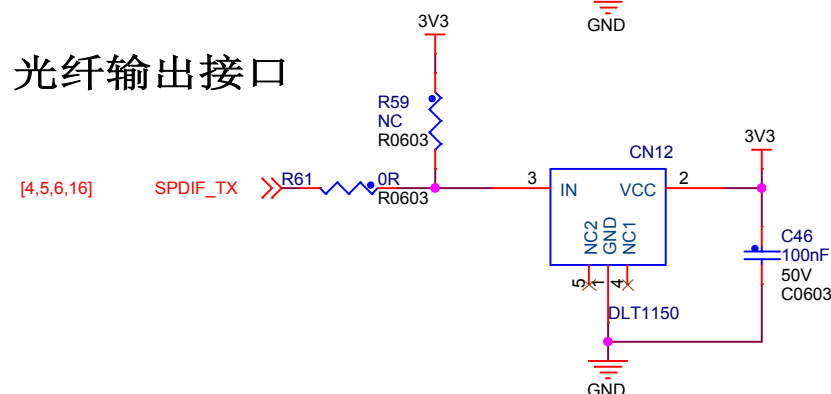
像素时钟最大支持80MHz



## 光纤输入接口



## 光纤输出接口



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| Title |
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野火 i.MX6ULL S1 Pro EVK底板 原理图

Size  
A4

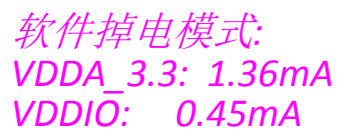
Document Number

SD卡/摄像头/光纤

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|------|--|
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| V1.0 |  |

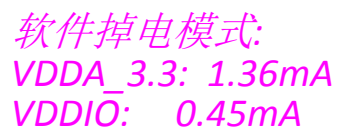
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## 百兆以太网PHY



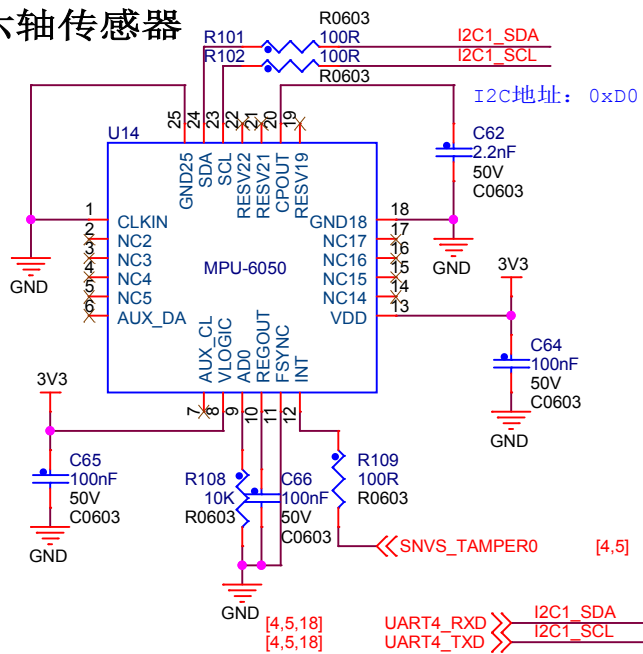
|   |                            |                |
|---|----------------------------|----------------|
| 东莞野火电子技术有限公司<br><a href="https://fire-stm32.taobao.com">https://fire-stm32.taobao.com</a> |                            |                |
| Title<br>野火_i.MX6ULL S1 Pro EVK底板_原理图   |                            |                |
| Size<br>A4  | Document Number<br>以太网x1   | Rev<br>V1.     |
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## 百兆以太网PHY

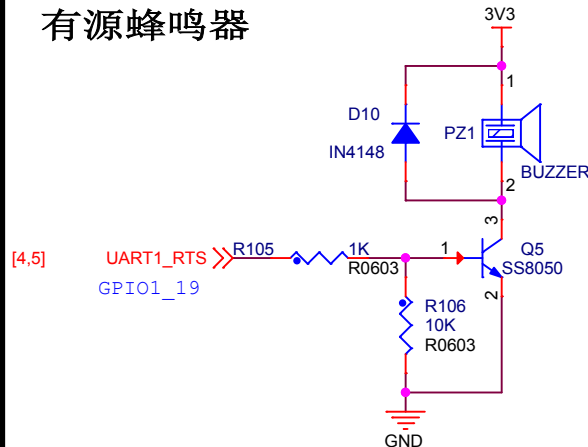


|   |                                 |                 |                    |
|---|---------------------------------|-----------------|--------------------|
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| <b>Title</b><br>野火_i.MX6ULL S1 Pro EVK底板_原理图  |                                 |                 |                    |
| <b>Size</b><br>A4   | <b>Document Number</b><br>以太网x2 |                 | <b>Rev</b><br>V1.0 |
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## 六轴传感器

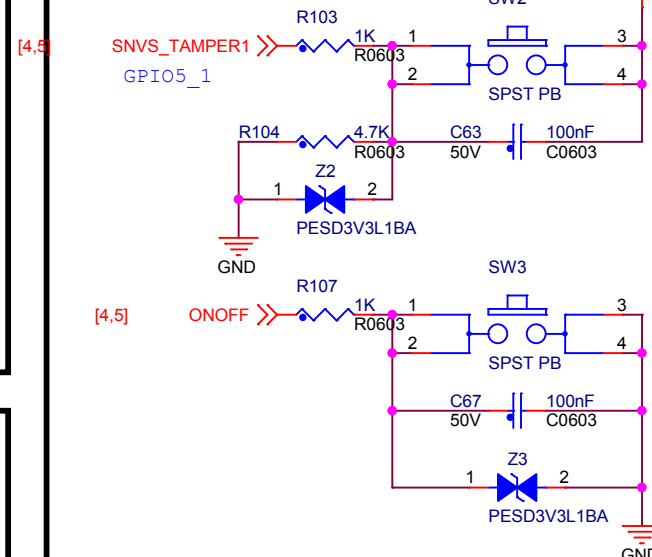


## 有源蜂鸣器

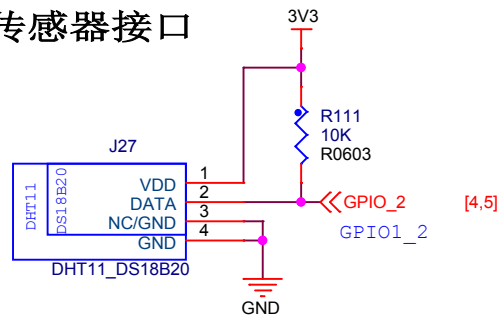


## 按键

长按SW3按键可以实现开关机

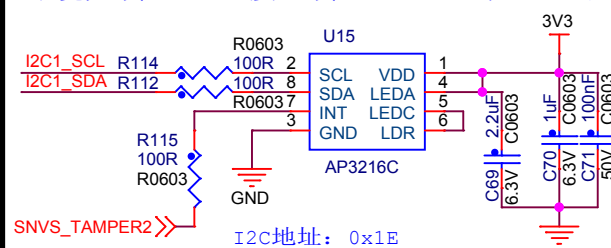


## 温湿度传感器接口

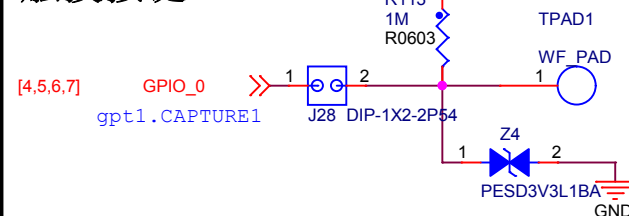


## ALS+PS+IRLED (三合一)

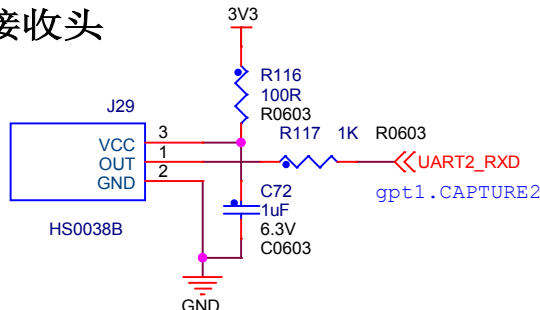
环境光传感器、接近传感器、红外LED三合一



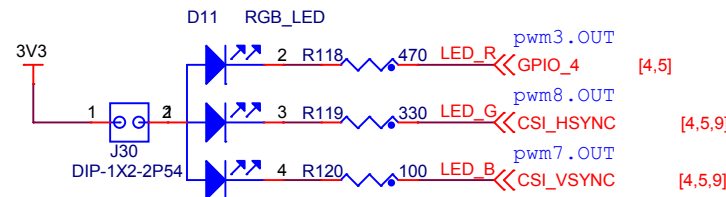
## 触摸按键



## 红外接收头



## 彩色LED



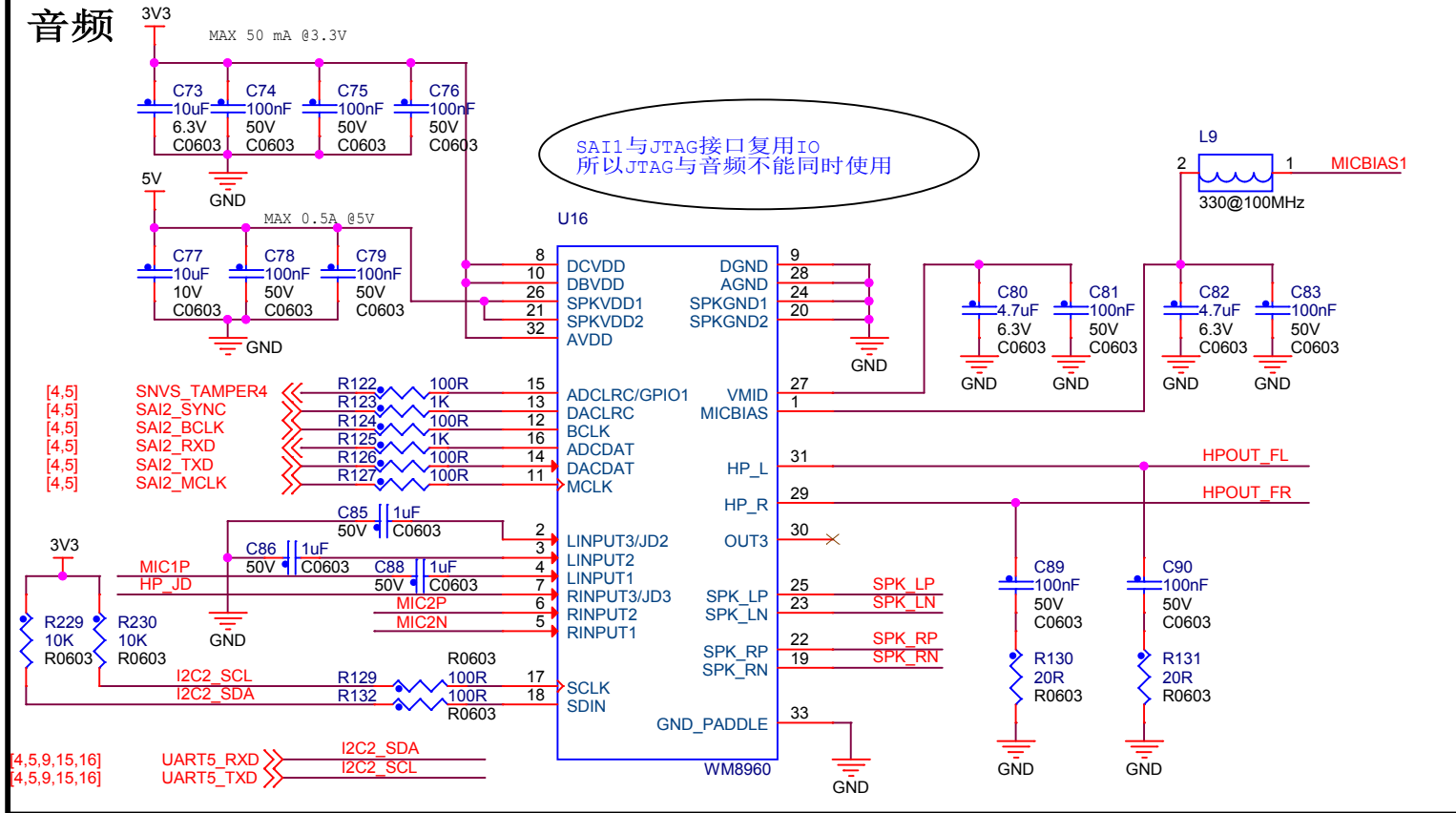
## 用户LED



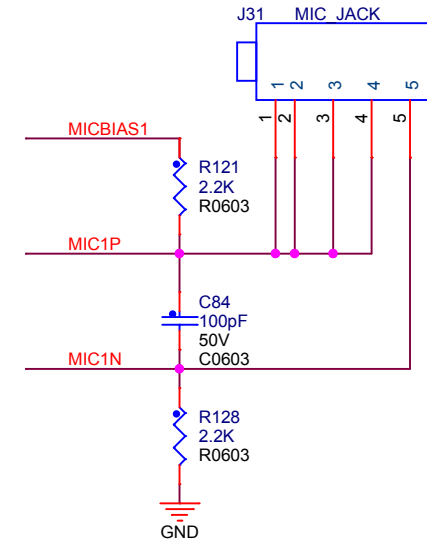
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|                              |                            |                |
|------------------------------|----------------------------|----------------|
| Title                        |                            |                |
| 野火_i.MX6ULL S1 Pro EVK底板_原理图 |                            |                |
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| A4                           | 传感器/按键/LED                 | V1.0           |
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## 音频

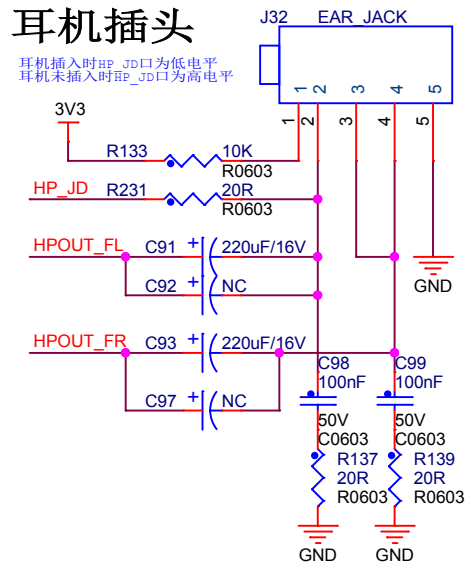


## MIC插头

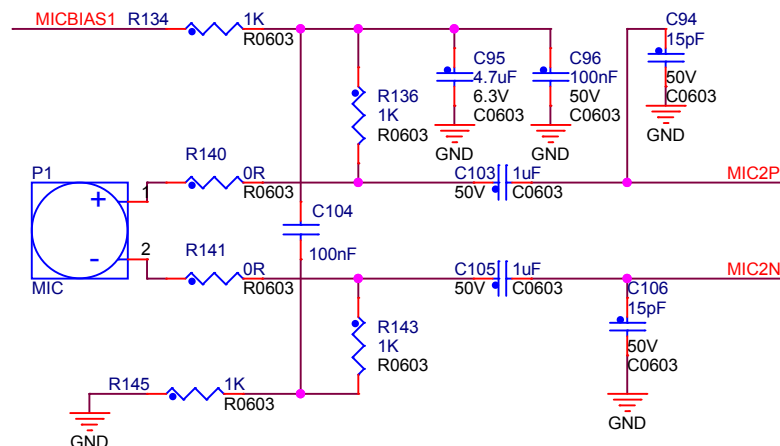


## 耳机插头

耳机插入时HP\_JD口为低电平  
耳机未插入时HP\_JD口为高电平

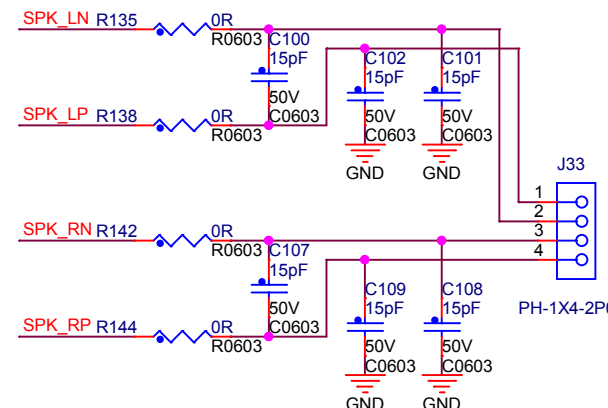


## MIC



## 喇叭插座

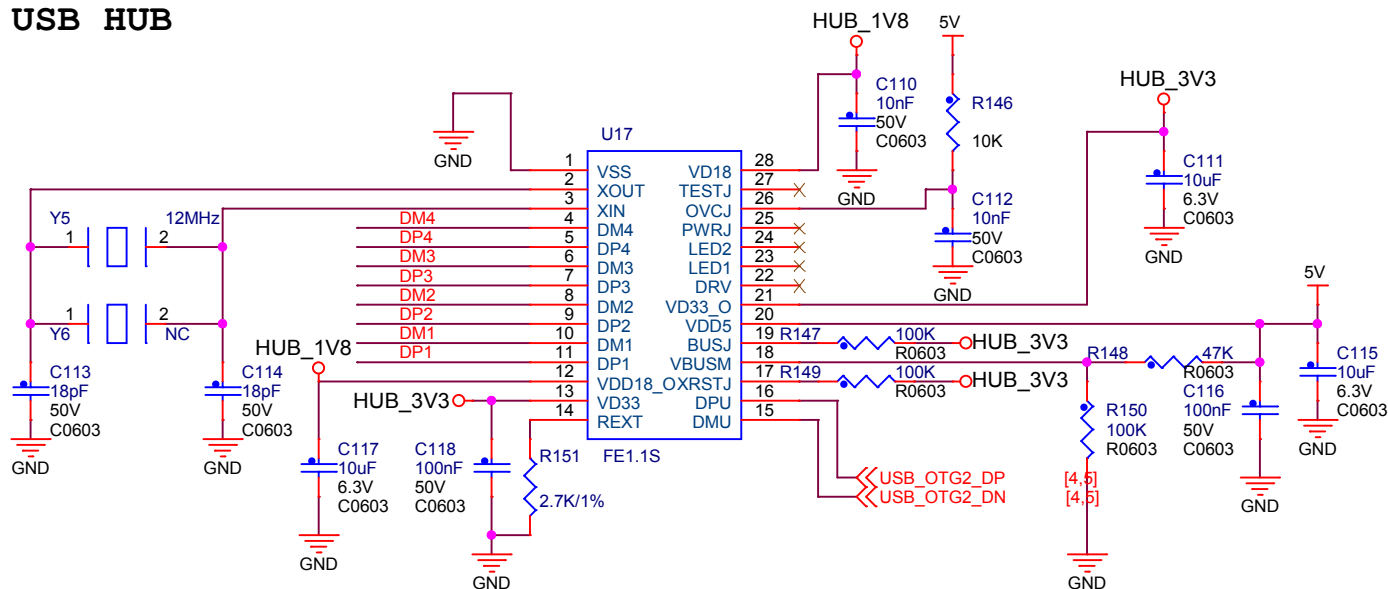
可以驱动2个8Ω 1W的喇叭 (BTL方式)



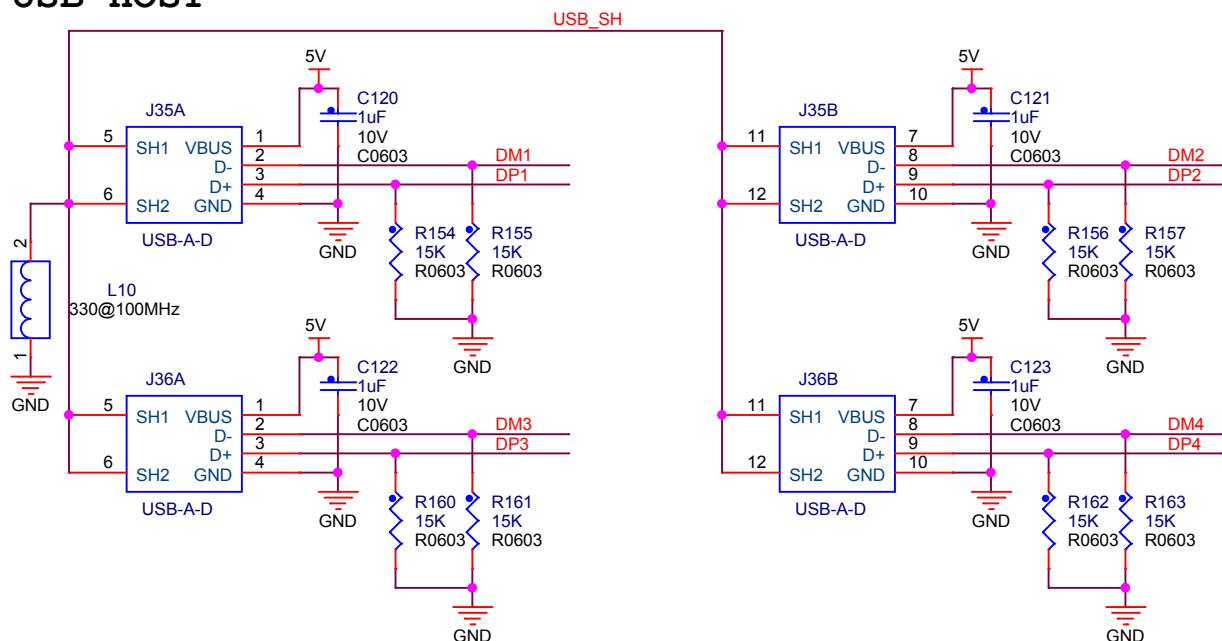
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|       |                            |       |                              |       |
|-------|----------------------------|-------|------------------------------|-------|
| Title |                            |       | 野火_i.MX6ULL S1 Pro EVK底板_原理图 |       |
| Size  | Document Number            | 音频    |                              | Rev   |
| A4    |                            |       |                              | V1.0  |
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## USB HUB

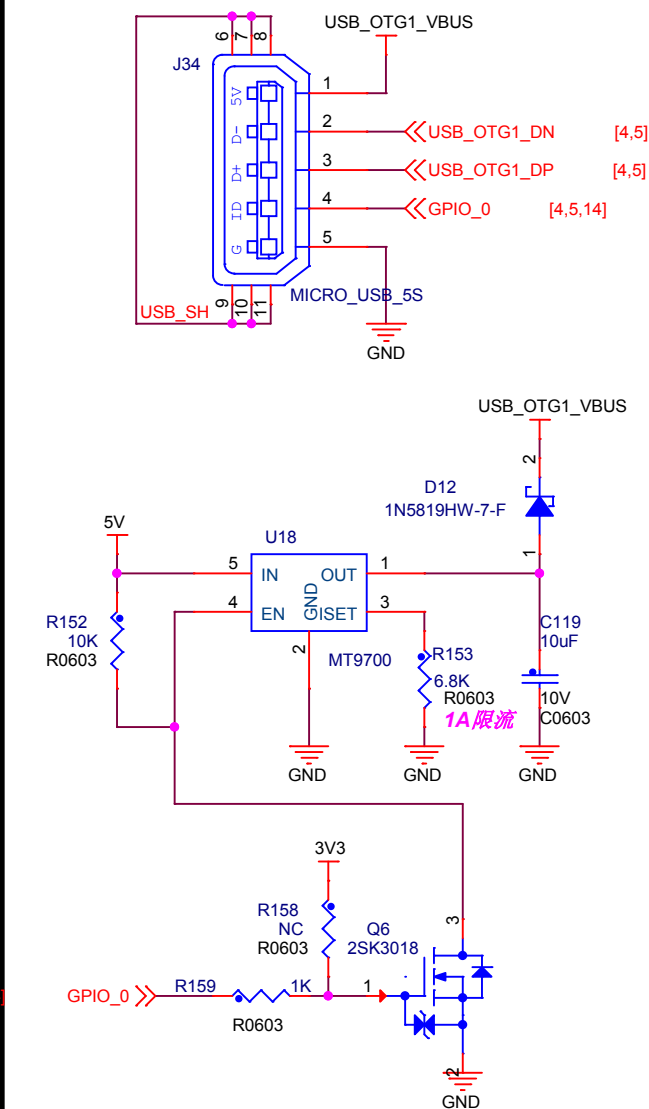


## USB HOST



## USB OTG

ID悬空时为Device设备，接地为HOST主机



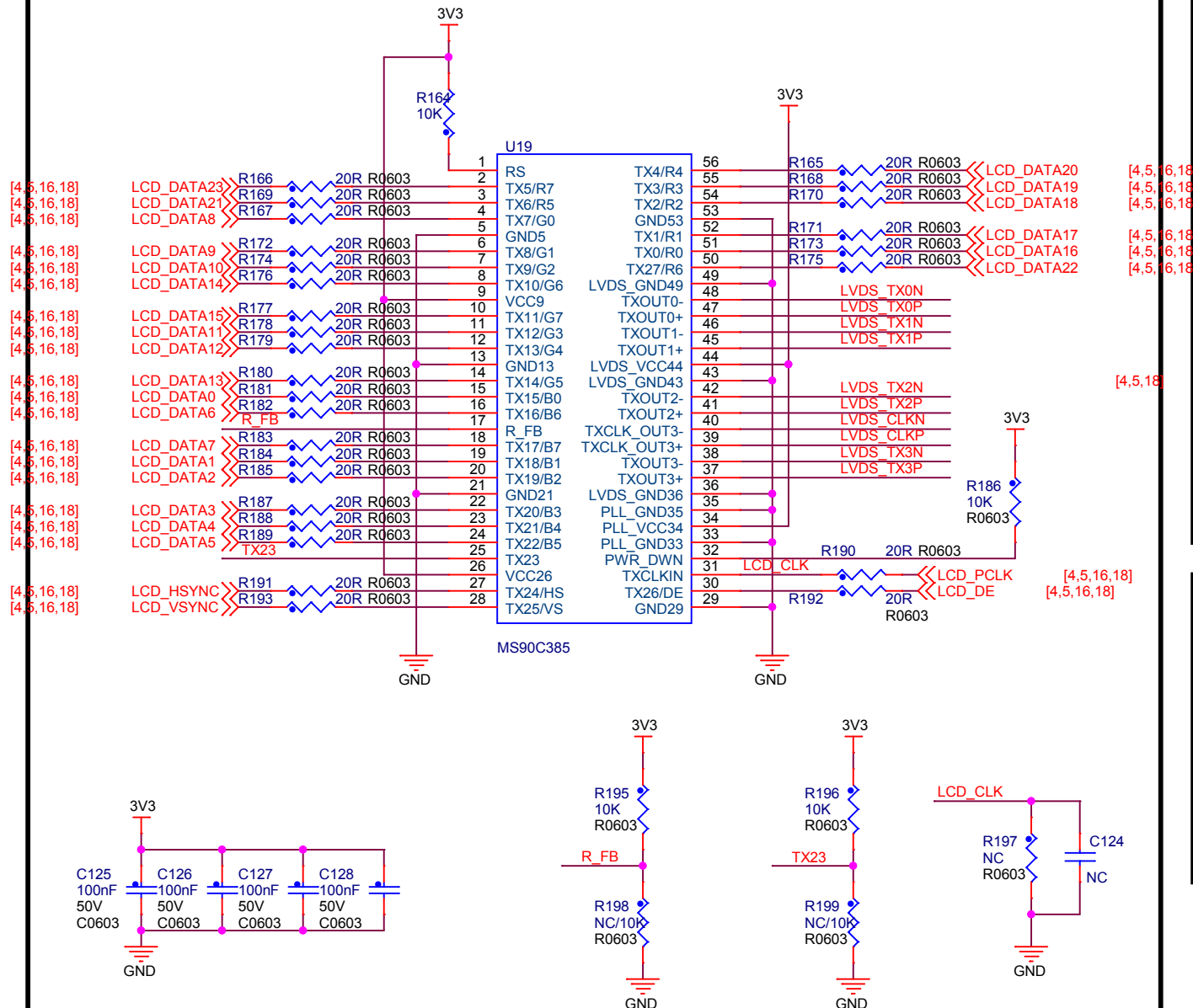
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https://fire-stm32.taobao.com

|                                  |                                     |             |
|----------------------------------|-------------------------------------|-------------|
| Title                            |                                     |             |
| 野火_i.MX6ULL S1 Pro EVK底板_原理图     |                                     |             |
| Size<br>A4                       | Document Number<br>USB HOST/USB OTG | Rev<br>V1.0 |
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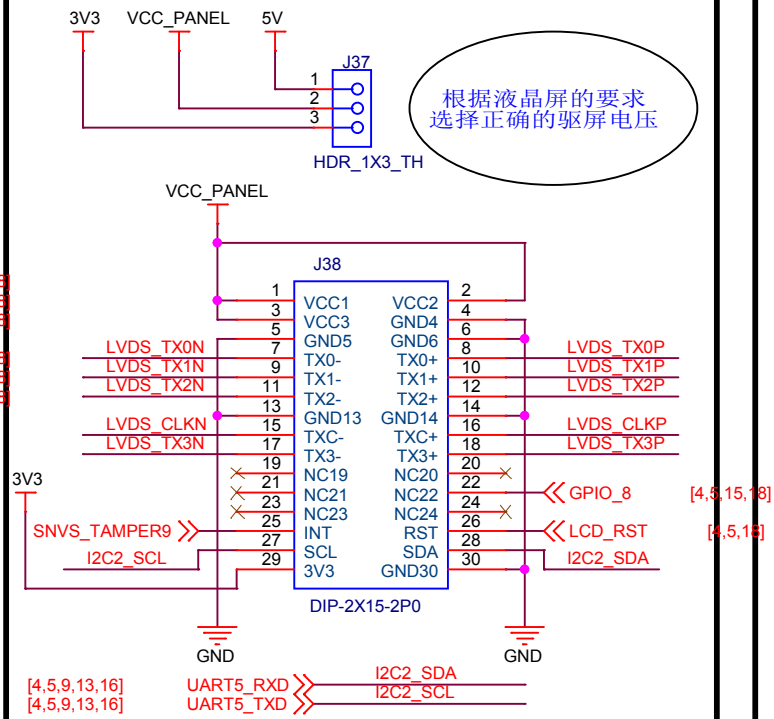
## RGB888转LVDS

支持高达1366\*768分辨率

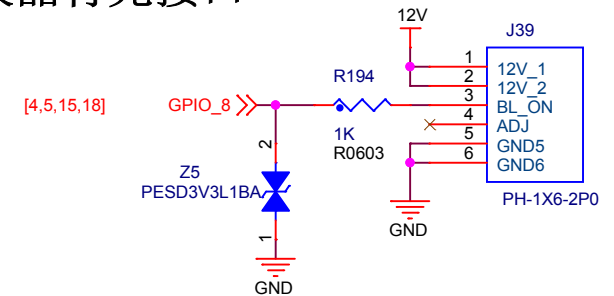
支持单八位的LVDS接口的液晶屏



## 驱屏接口



## 液晶背光接口



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|       |  |
|-------|--|
| Title |  |
|-------|--|

野火 i.MX6ULL S1 Pro EVK底板 原理图

Size  
A4

|                 |          |
|-----------------|----------|
| Document Number | RGB转LVDS |
|-----------------|----------|

|      |  |
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# RGB转HDMI

待机功耗: 150 uW

[4,5,15,18]

LCD\_DATA[23:0]

[18]

HDMI\_nRST

[4,5,6,9]

SPDIF\_TX

[4,5,9,13,15]

UART5\_RXD  
UART5\_TXD

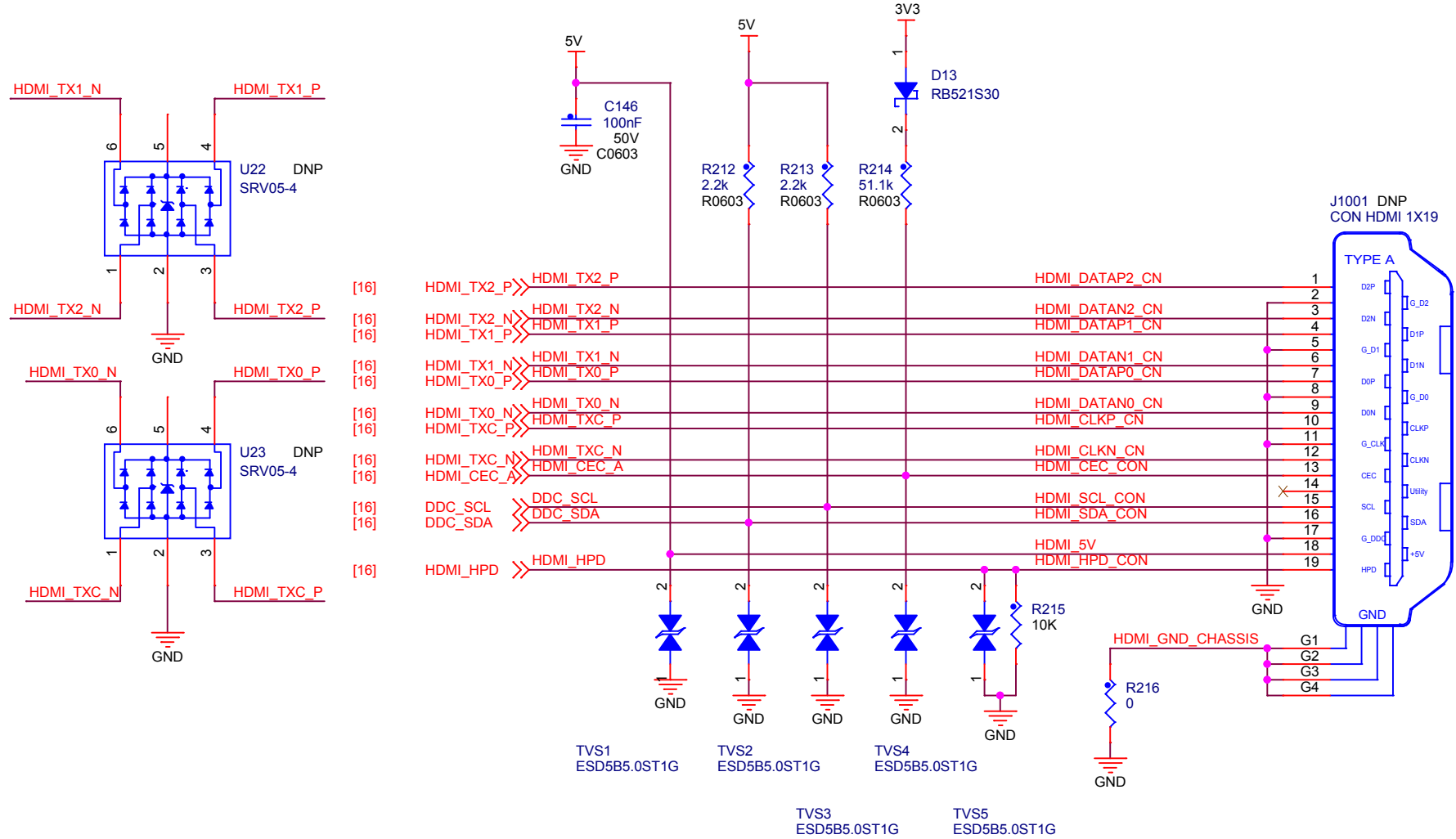
## HDMI TRANSMITTER

|   |                             |             |
|---|-----------------------------|-------------|
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| Title   |                             |             |
| 野火_i.MX6ULL S1 Pro EVK底板_原理图  |                             |             |
| Size<br>A4  | Document Number<br>RGB转HDMI | Rev<br>V1.0 |
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# HDMI连接器

Type A型



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|                                       |                            |             |
|---------------------------------------|----------------------------|-------------|
| Title<br>野火_i.MX6ULL S1 Pro EVK底板_原理图 |                            |             |
| Size<br>A4                            | Document Number<br>HDMI连接器 | Rev<br>V1.0 |
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