

野火_EBF6ULL S1 Pro 底板

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Title
野火_EBF6ULL S1 Pro 底板

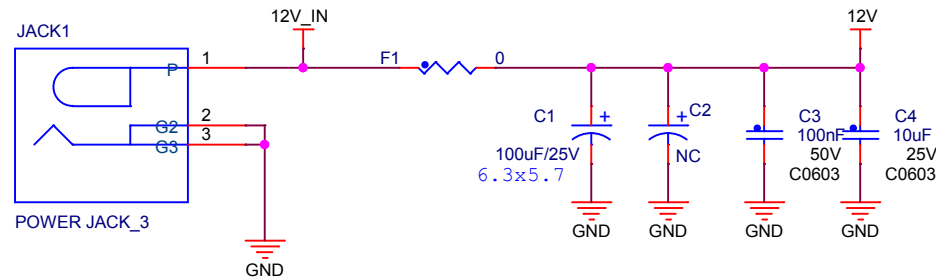
Size A4	Document Number 目录	Rev V1.0
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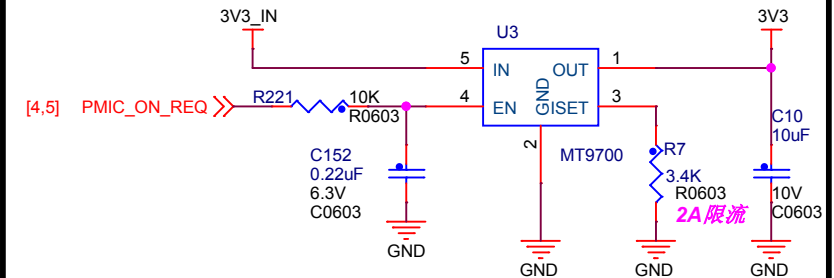
历史版本

版本号	日期	设计	描述
V0.1	2019-06-20	ZWC	初始版本，开发阶段
V1.0	2019-08-15	ZWC	整理对外发布，稳定版
V1.1	2020-02-24	ZWC	1.MINI USB接口改为TYPE C接口 2.WIFI的SD CLK通过跳帽选通，解决SD卡的兼容性问题 3.触摸按键增加触摸IC 4.修改电源开关

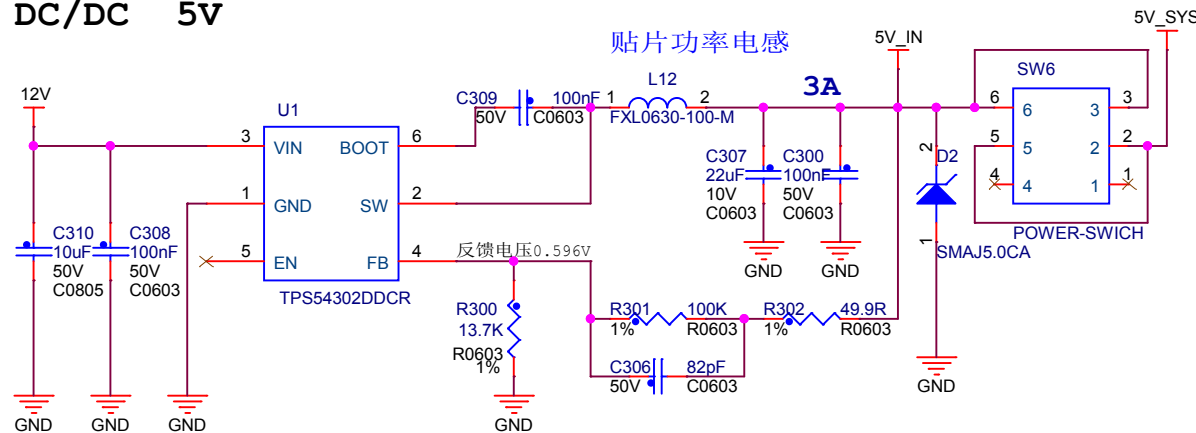
DC IN : 12V



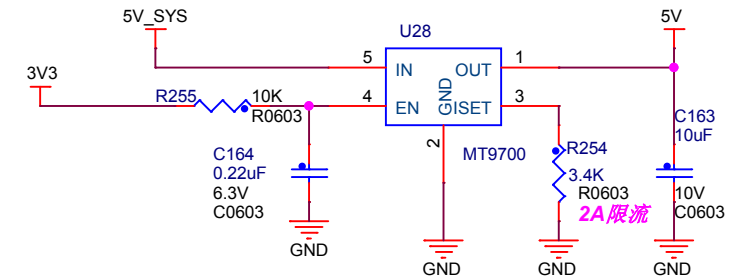
3.3V 输出控制及过流保护



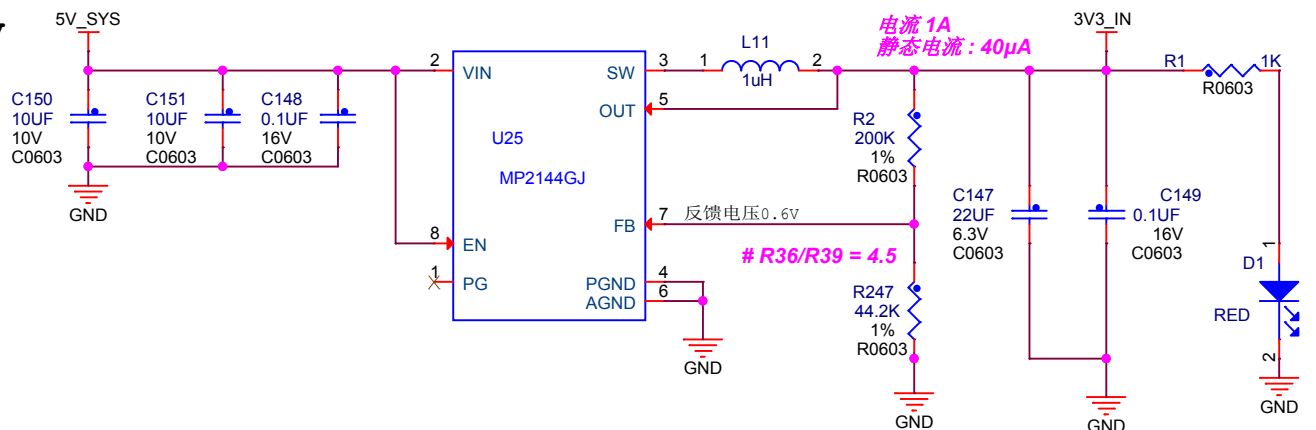
DC/DC 5V



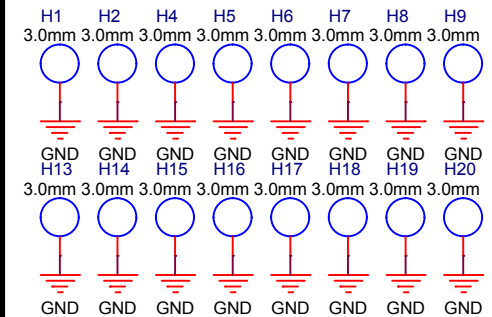
5V输出控制及过流保护



5V转3.3V



定位孔



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邮票孔核心板

[5,15,16,18]

LCD_DATA[23:0]

J12

VCC_SYS

VDD_COIN_3V

[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]

LCD_DATA23
LCD_DATA22
LCD_DATA21
LCD_DATA20
LCD_DATA19
LCD_DATA18
LCD_DATA17
LCD_DATA16

1
2
3
4
5
6
7
8

140
139
138
137
136
135
134
133

PMIC_ON_REQ

[3,5]

[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]

LCD_DATA15
LCD_DATA14
LCD_DATA13
LCD_DATA12
LCD_DATA11
LCD_DATA10
LCD_DATA9
LCD_DATA8

10
11
12
13
14
15
16
17

132
131
130
129
128
127
126
125

ENET2_TXD0
ENET2_TXD1
ENET2_TXEN
ENET2_TX_CLK
ENET2_RXD0
ENET2_RXD1
ENET2_RXER
ENET2_CRSDV

[5,11] UART7_RXD
[5,11] UART8_TXD
[5,11] UART8_RXD
[5,11]
[5,11] UART6_TXD
[5,11] UART6_RXD
[5,11] UART7_TXD

ECSPI4_MOSI
ECSPI4_MISO
ECSPI4_SS2

[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]

LCD_DATA7
LCD_DATA6
LCD_DATA5
LCD_DATA4
LCD_DATA3
LCD_DATA2
LCD_DATA1
LCD_DATA0

18
19
20
21
22
23
24
25

123
122
121
120
119
118
117
116

ENET1_TXD0
ENET1_TXD1
ENET1_TXEN
ENET1_TX_CLK
ENET1_RXD0
ENET1_RXD1
ENET1_RXER
ENET1_CRSDV

[5,10]
[5,10]
[5,10]
[5,10]
[5,10]
[5,10]
[5,10]
[5,10]

[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]
[5,15,16,18]

LCD_HSYNC
LCD_VSYNC
LCD_DE
LCD_PCLK
LCD_RST

27
28
29
30
31

114
113
112
111
110

UART5_TXD
UART5_RXD
UART4_TXD
UART4_RXD
UART3_RTS
UART3_CTS
UART3_TXD
UART3_RXD

[5,9,13,15,16]
[5,9,13,15,16]
[5,12,18]
[5,12,18]
[5,7,8]
[5,7,8]
[5,7,8]
[5,7,8]

I2C1_SCL
I2C1_SDA
I2C1_SCL
I2C1_SDA
CAN1_RX
CAN1_TX
CAN2_RX
CAN2_TX

[5,6,9]
[5,6,9]
[5,6,9]
[5,6,9]
[5,6,9]
[5,6,9]

SD1_DATA0
SD1_DATA1
SD1_DATA2
SD1_DATA3
SD1_CMD
SD1_CLK

34
35
36
37
38
39

108
107
106
105
104
103

UART2_RTS
UART2_CTS
UART2_TXD
UART2_RXD
UART1_RTS
UART1_CTS
UART1_TXD
UART1_RXD

[5,6,7]
[5,6,7]
[5,6,7,12]
[5,6,7,12]
[5,12]
[5,10]
[5,8]
[5,8]

ADMI_INT

[5,9]

CSI_DATA[7:0]

[5,9,12]
[5,9,12]
[5,9]
[5,9]

CSI_HSYNC
CSI_VSYNC
CSI_PIXCLK
CSI_MCLK

50
51
52
53

92
91
90
89

USB_OTG1_DP
USB_OTG1_DN
USB_OTG2_DP
USB_OTG2_DN

[5,14]
[5,14]
[5,14]
[5,14]

USB_OTG1_VBUS

USB_OTG2_VBUS

3V3_IN

VCC_SYS

5V

USB_OTG2_VBUS

[5,15,18]
[5,18]
[5,18]
[5,11]
[5,10]
[5,13]
[5]
[5,12]
[5,12]

SNVS_TAMPER9
SNVS_TAMPER8
SNVS_TAMPER7
SNVS_TAMPER6
SNVS_TAMPER5
SNVS_TAMPER4
SNVS_TAMPER3
SNVS_TAMPER2
SNVS_TAMPER1
SNVS_TAMPER0

54
55
56
57
58
59
60
61
62
63

87
86
85
84
83
82
81
80
79
78

GPIO_0
GPIO_1
GPIO_2
GPIO_3
GPIO_4
GPIO_5
GPIO_6
GPIO_7
GPIO_8
GPIO_9

[5,14]
[5,6]
[5,12]
[5,12]
[5,12]
[5]
[5,10,11]
[5,10,11]
[5,15,18]
[5,9]

USB_OTG1_ID
IR
DHT11
ADC
LED_R_pwm3.OUT
SD1_VSELECT
ENET_MDIO
ENET_MDC
LCD_BL
SD1_nRST

USB_OTG2_ID
SPDIF_RX

[5,8,18]
[5,8,18]
[5]
[5,9]
[5,12]

BOOT_MODE1
BOOT_MODE0
PMIC_STBY_REQ
POR_B
ONOFF

65
66
67
68
69
70

76
75
74
73
72
71

SAI2_MCLK
SAI2_RXD
SAI2_SYNC
SAI2_BCLK
SPDIF_TX
SAI2_TXD

[5,13]
[5,13]
[5,13]
[5,13]
[5,6,9,16]
[5,13]

JTAG_TMS
JTAG_TCK
JTAG_TDO
JTAG_TDI
JTAG_MOD
JTAG_nTRST

IMX6ULL_SOM_S1

GND

GND

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Title

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Size
A4

Document Number

CPU_B2B

Rev

V1.0

Date:

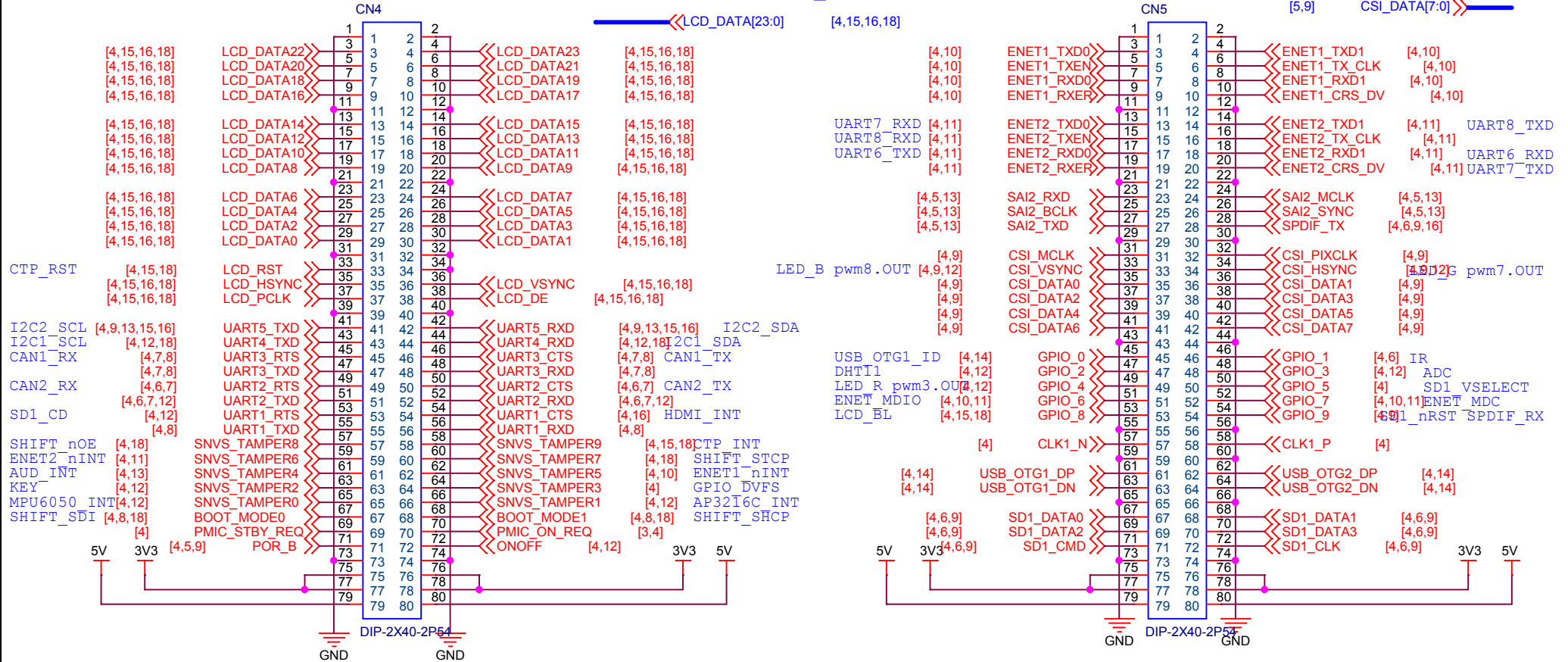
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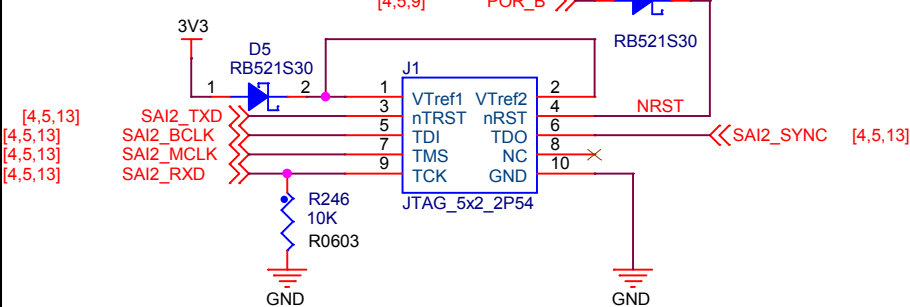
of 18

引出IO口(排针)

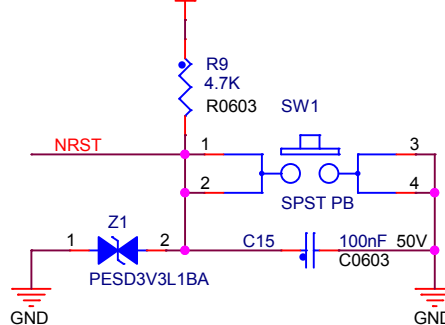
所有IO全部引出, 包括GPIO引出107个, 差分时钟一组, USB专用口2个, POR_B复位脚1个, 电源控制口2个



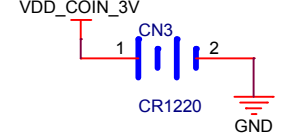
JTAG调试口



复位



RTC电池

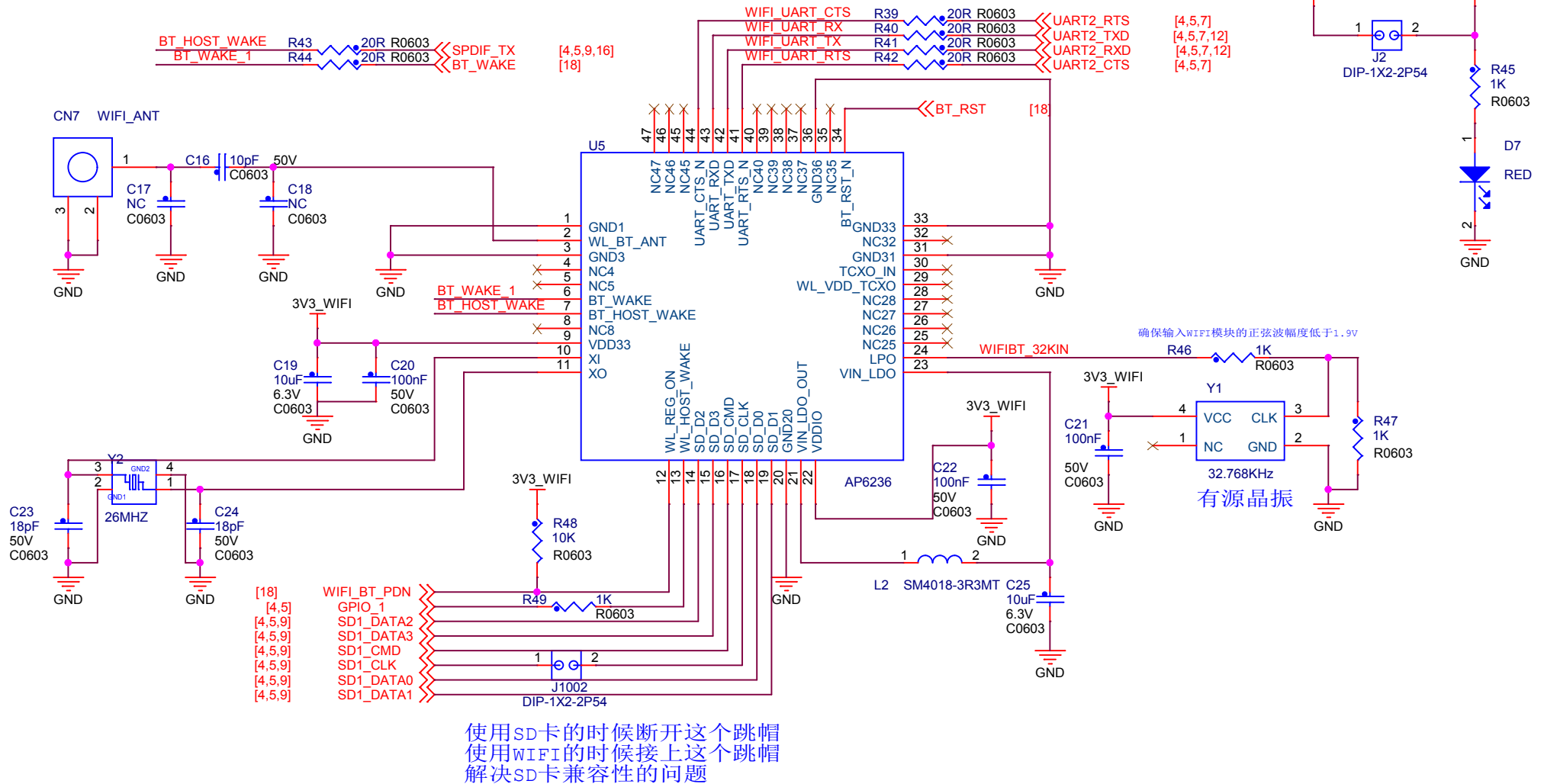


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WIFI&Bluetooth

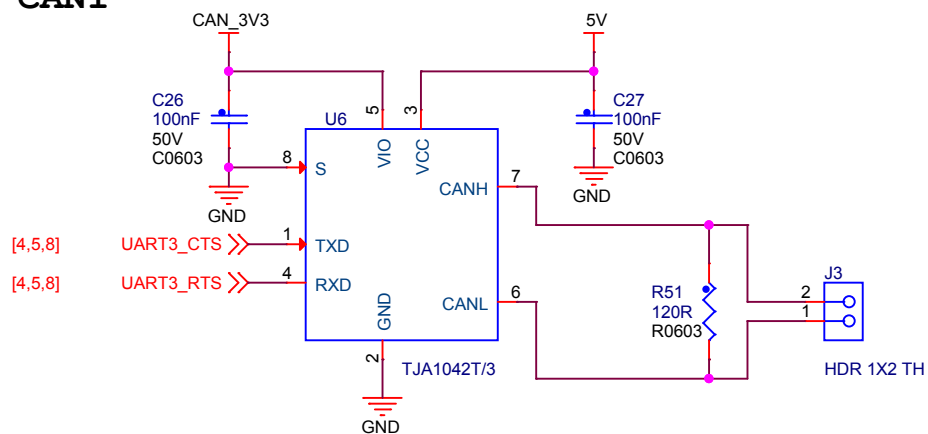
与SD卡共用SDIO接口，因此WIFI跟SD卡不能同时使用



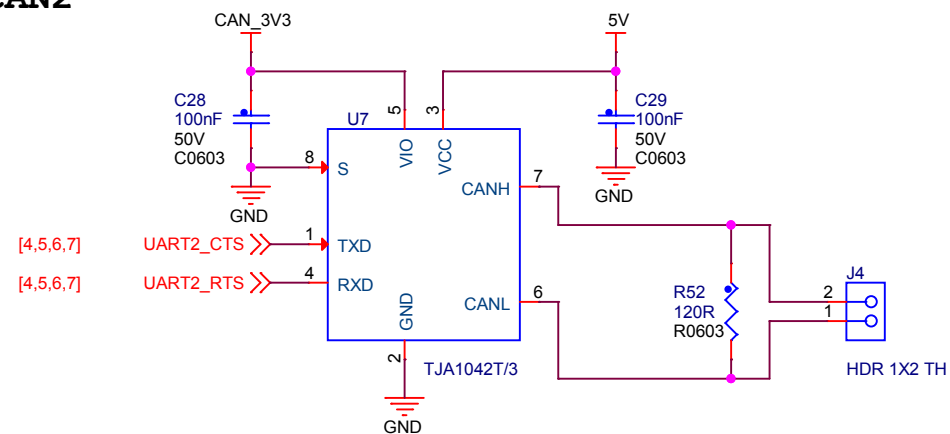
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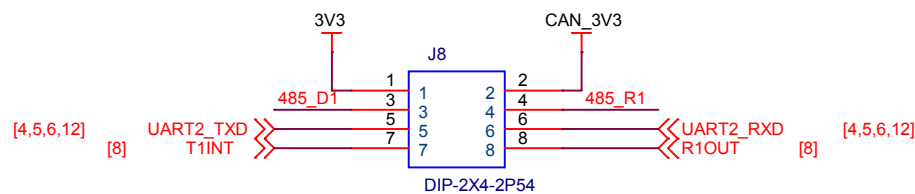
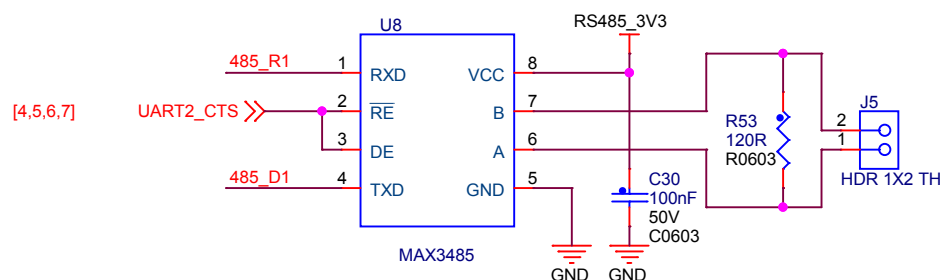
CAN1



CAN2

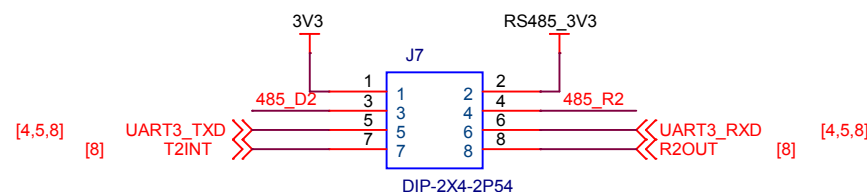
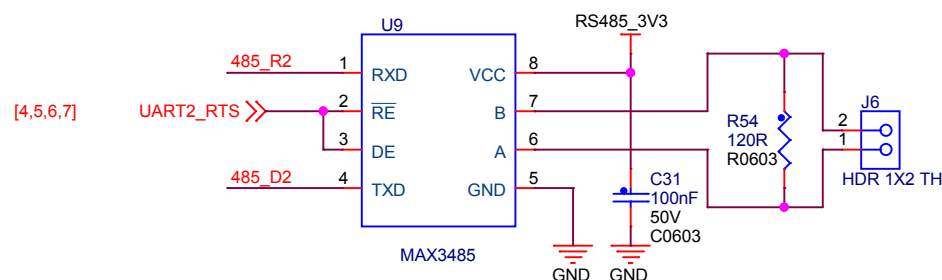


RS485-1



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

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Size
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Document Number

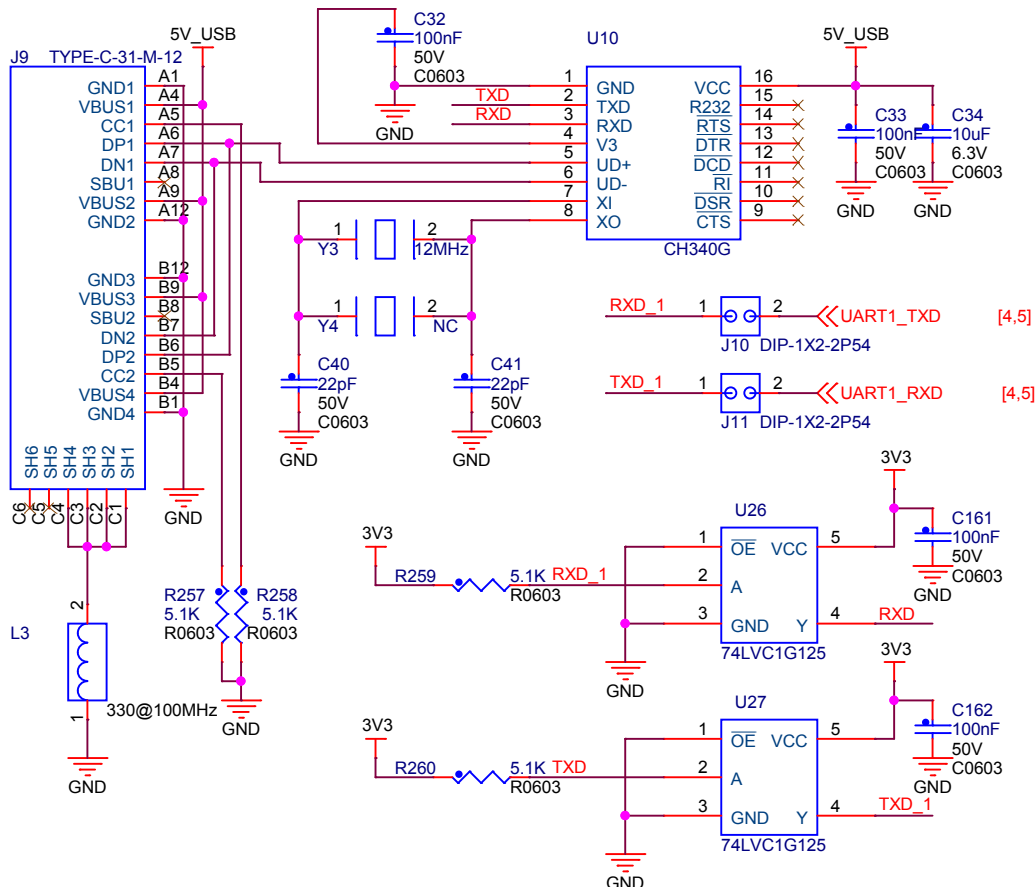
CAN/RS485

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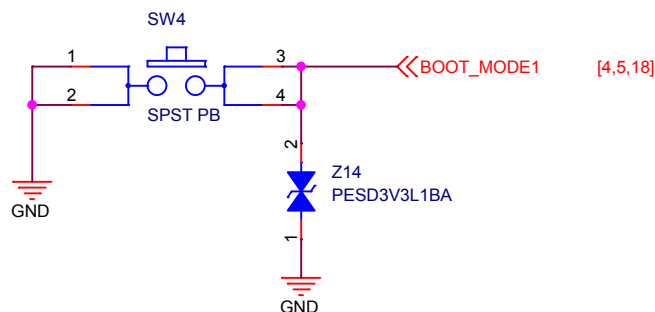
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USB转串口



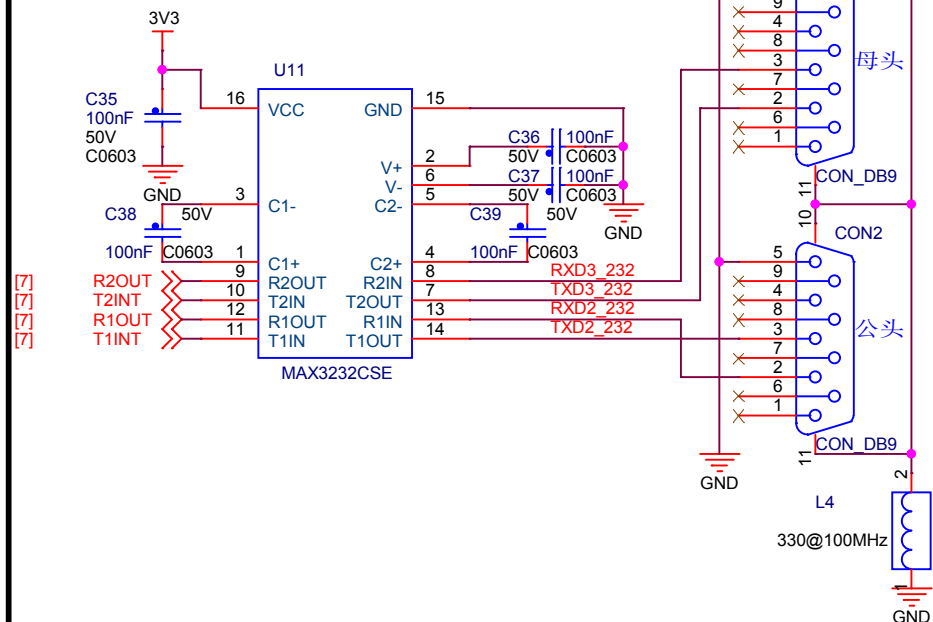
串行烧录启动切换

按下按键再复位即可进入串行烧录模式



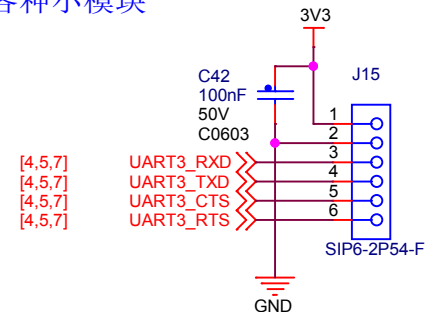
RS232串口

2路RS232串口



EBF-Module

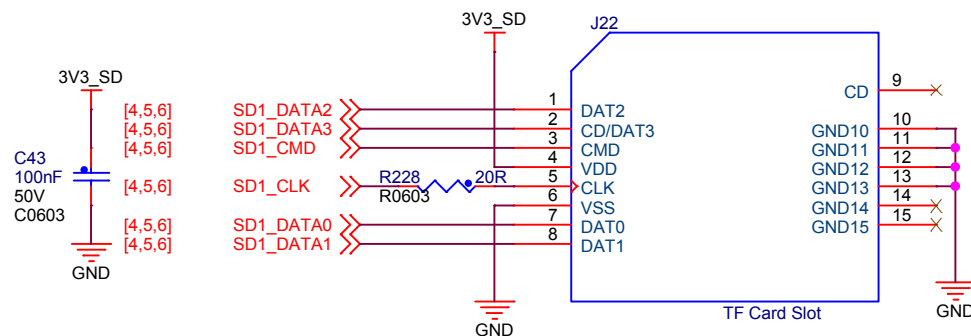
用于接野火的各种小模块



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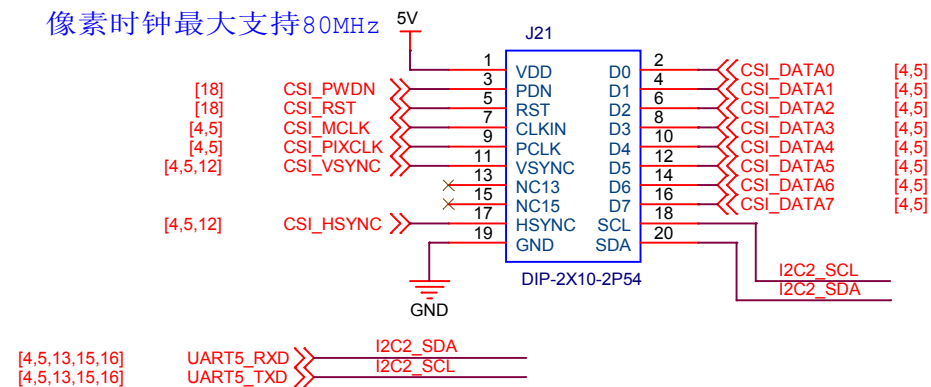
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SD卡 与WIFI复用SDIO引脚

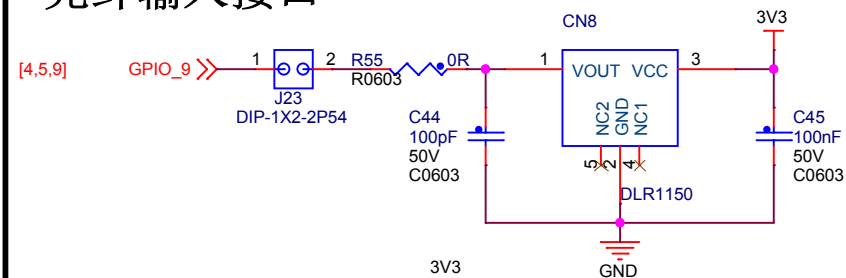


摄像头接口

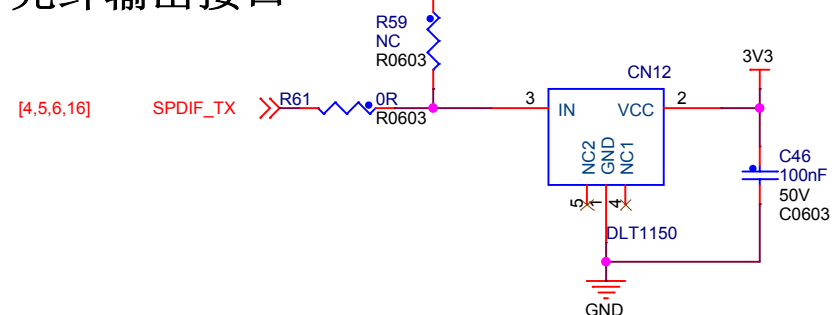
像素时钟最大支持80MHz



光纤输入接口



光纤输出接口



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Size
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Document Number

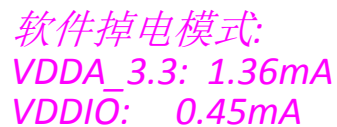
SD卡/摄像头/光纤

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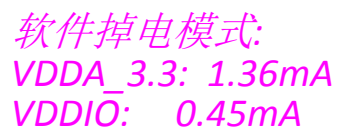
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百兆以太网PHY



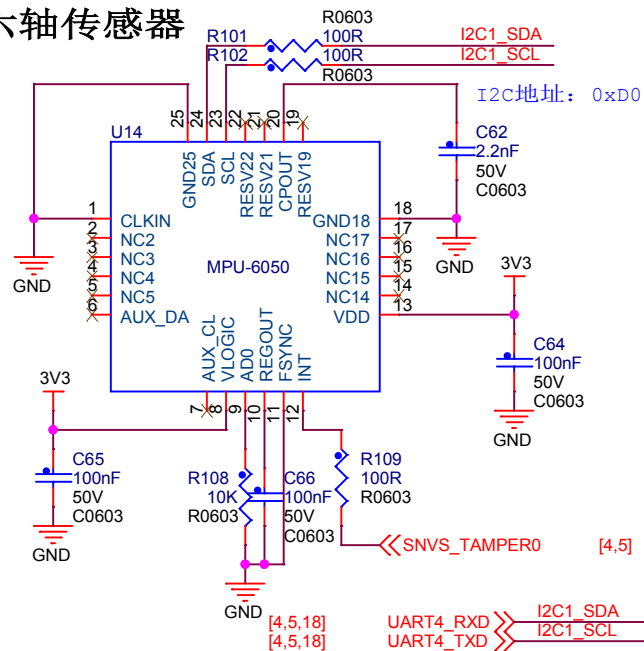
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<p>Title</p> <p>野火_EBF6ULL S1 Pro 底板</p>		
<p>Size</p> <p>A4</p>	<p>Document Number</p> <p>以太网x1</p>	<p>Rev</p> <p>V1.0</p>
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百兆以太网PHY

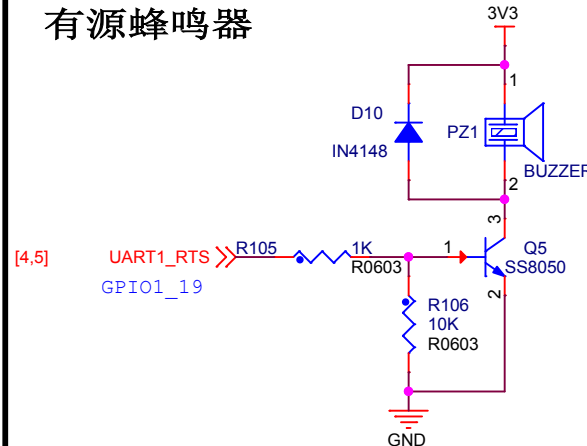


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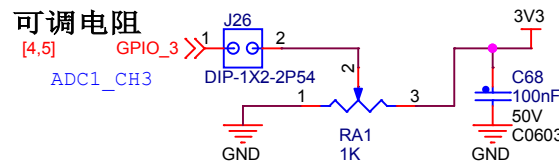
六轴传感器



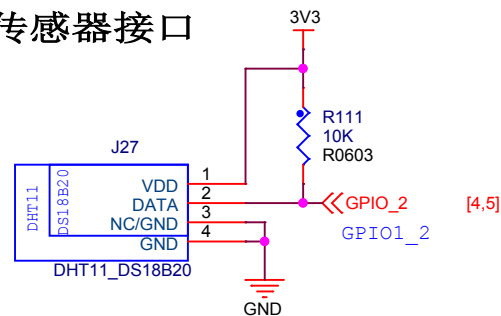
有源蜂鸣器



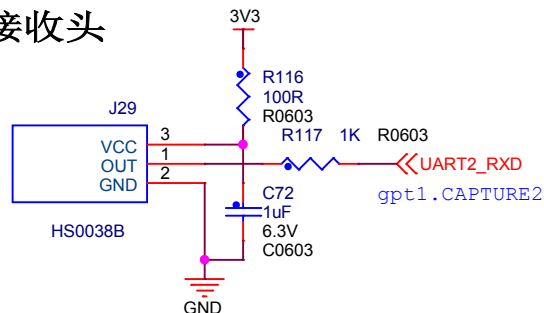
可调电阻



温湿度传感器接口

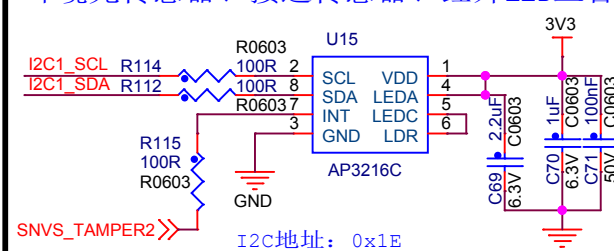


红外接收头

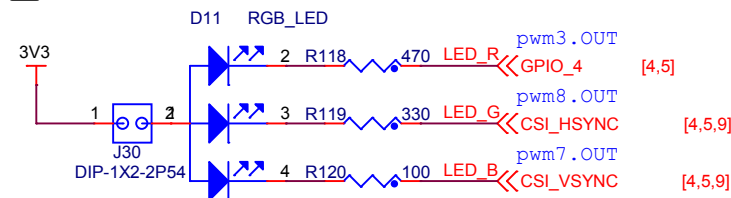


ALS+PS+IRLED (三合一)

环境光传感器、接近传感器、红外LED三合一

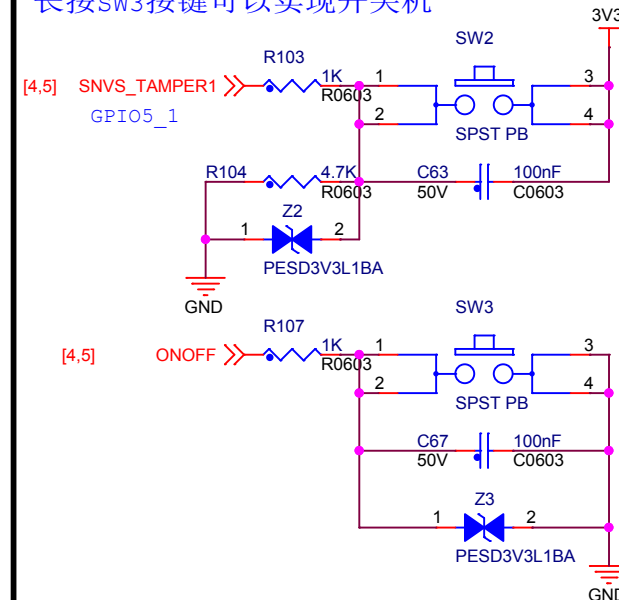


彩色LED

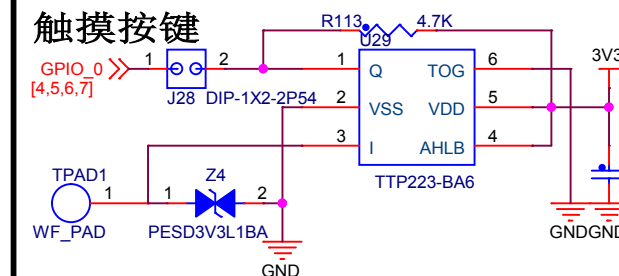


按键

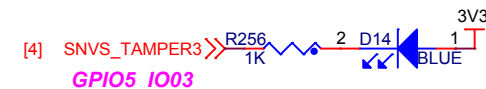
长按SW3按键可以实现开关机



触摸按键



用户LED



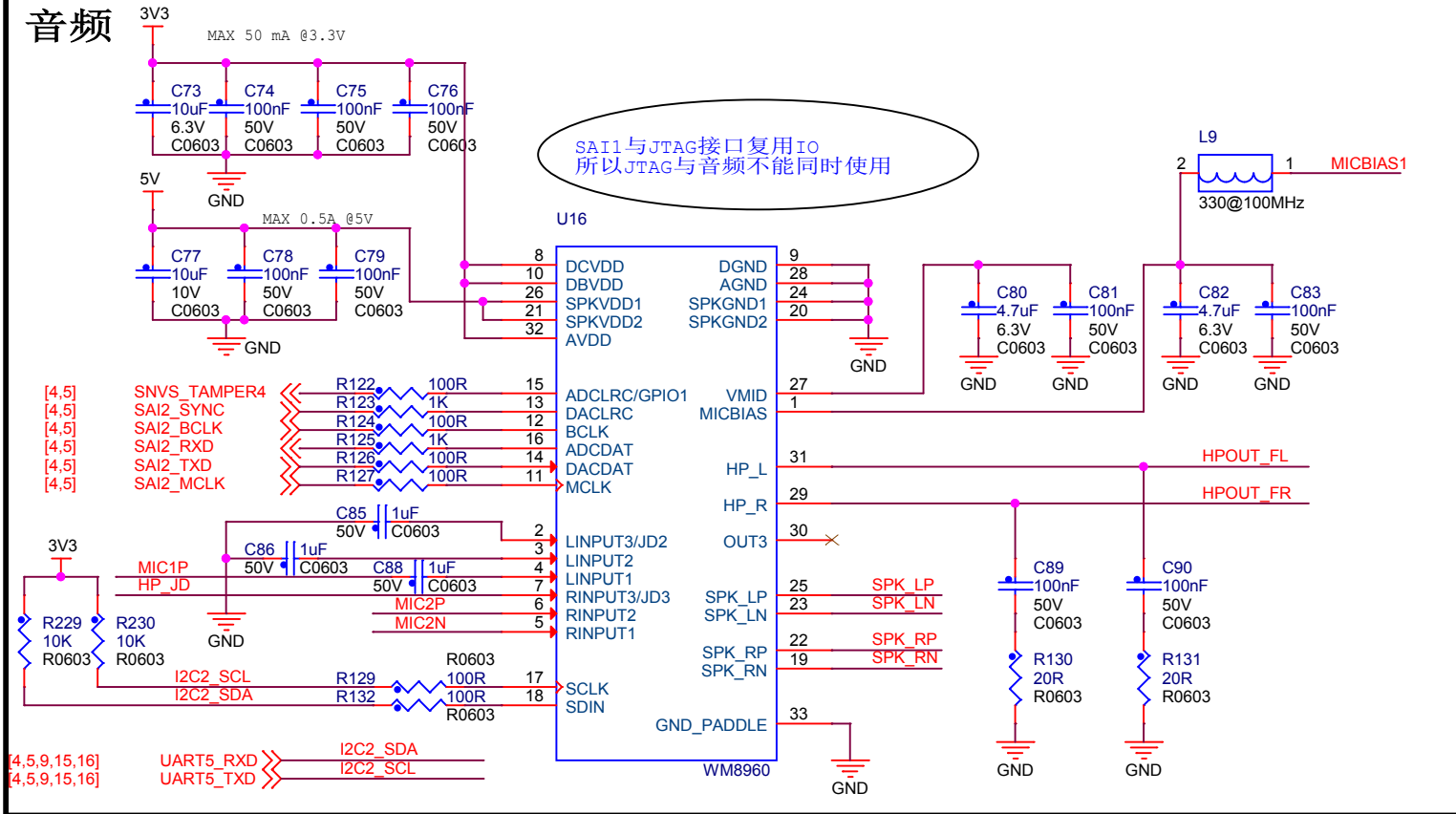
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Title	野火_EBF6ULL S1 Pro 底板
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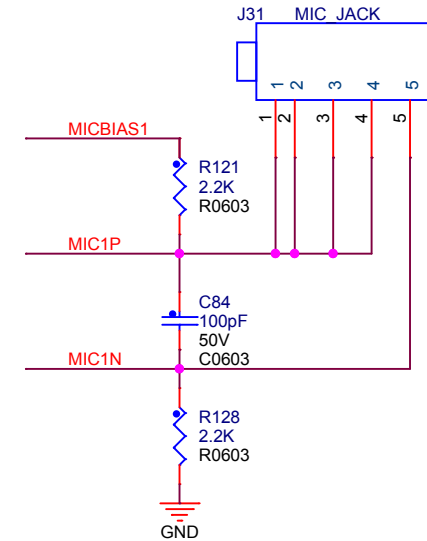
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音频

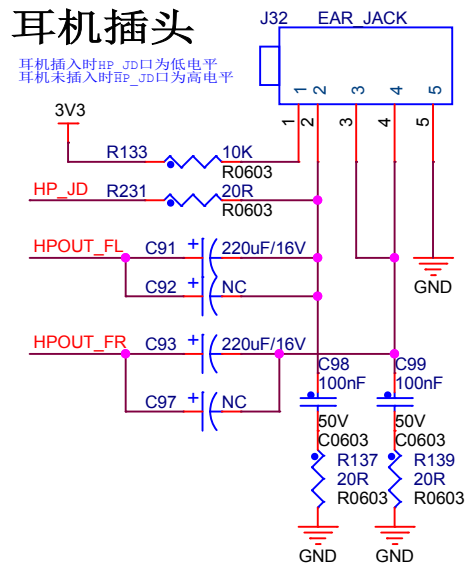


MIC插头

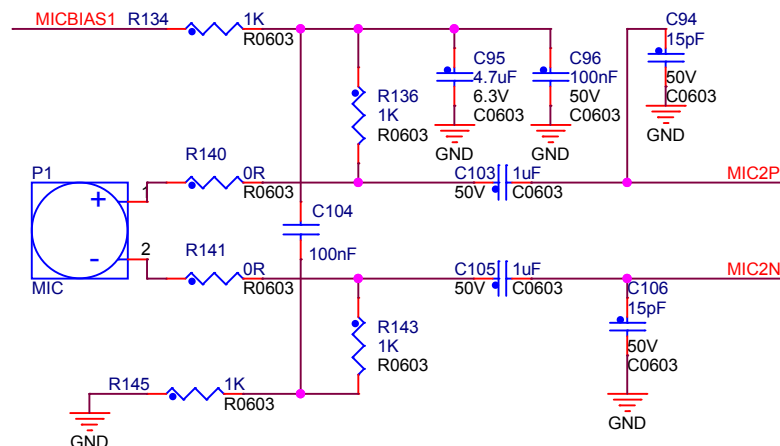


耳机插头

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

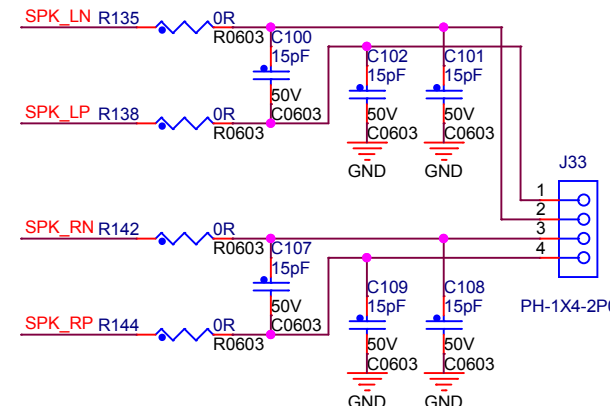


MIC



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_EBF6ULL S1 Pro 底板

Size
A4

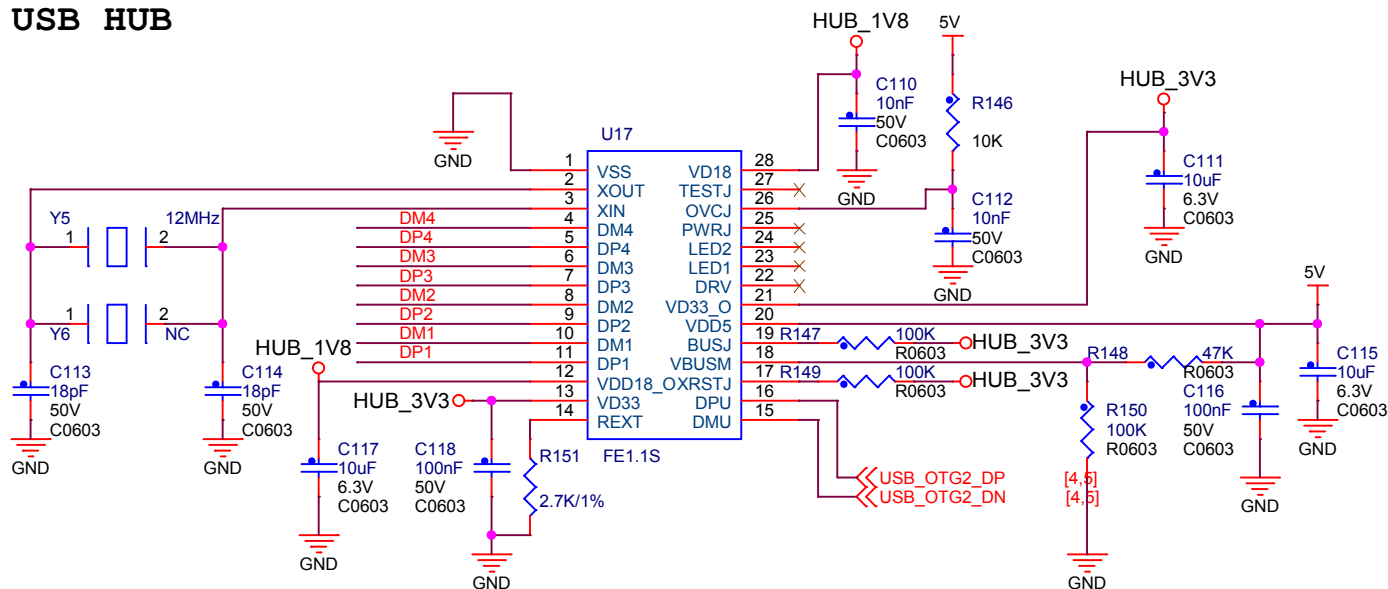
Document Number
音频

Rev
V1.0

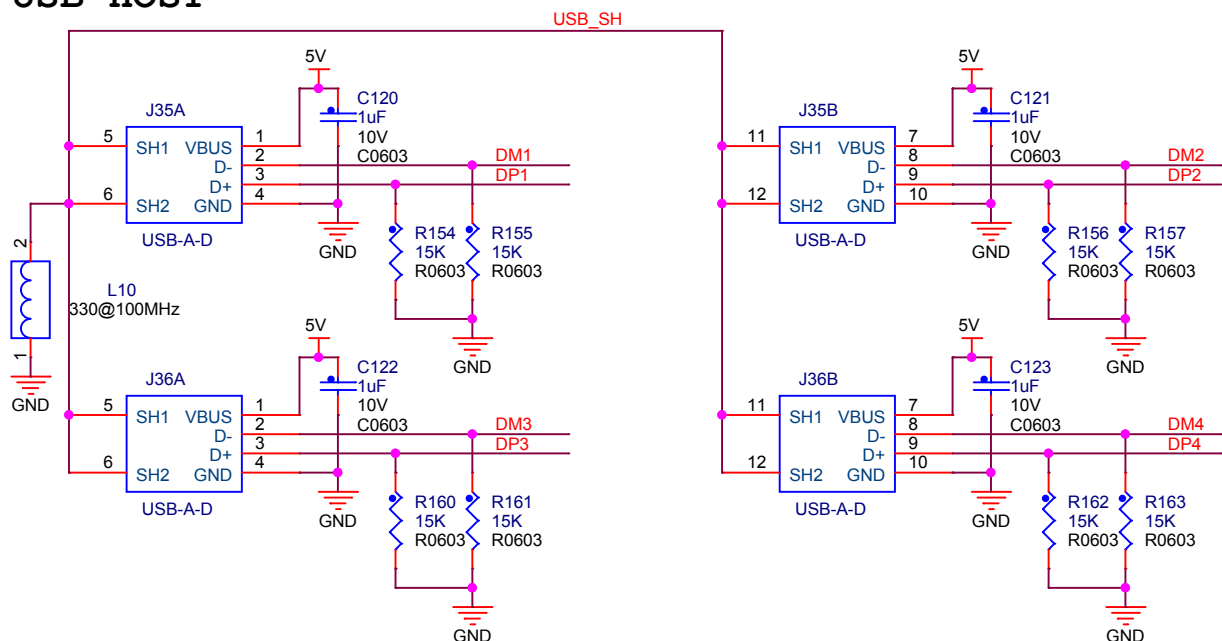
Date: Wednesday, July 29, 2020

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USB HUB

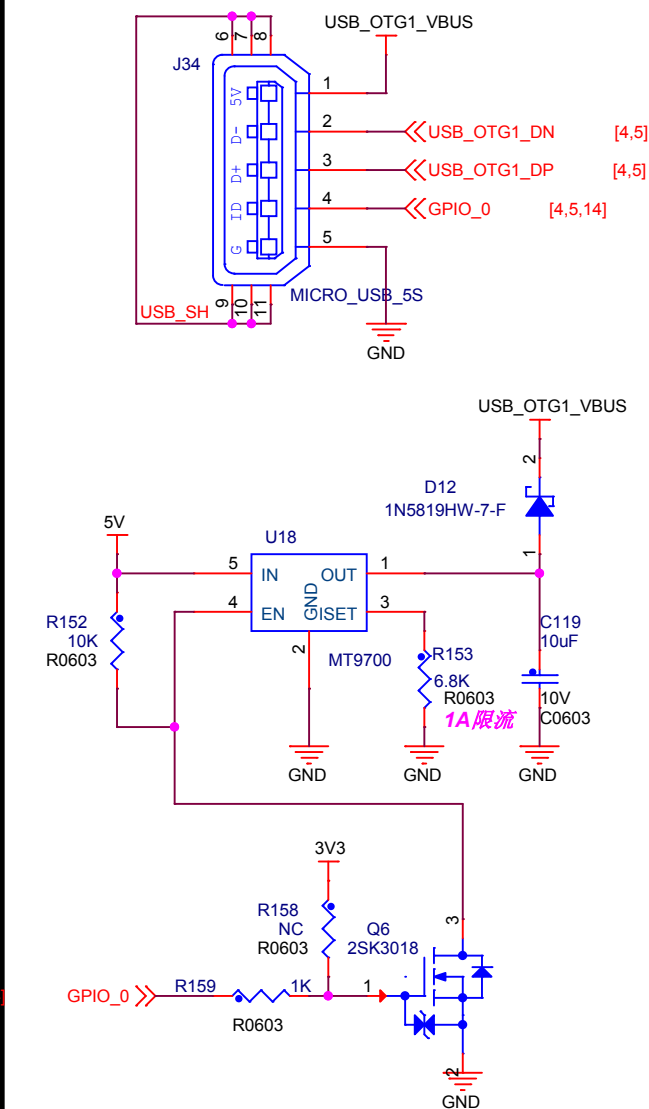


USB HOST



USB OTG

ID悬空时为Device设备，接地为HOST主机



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A

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1



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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]

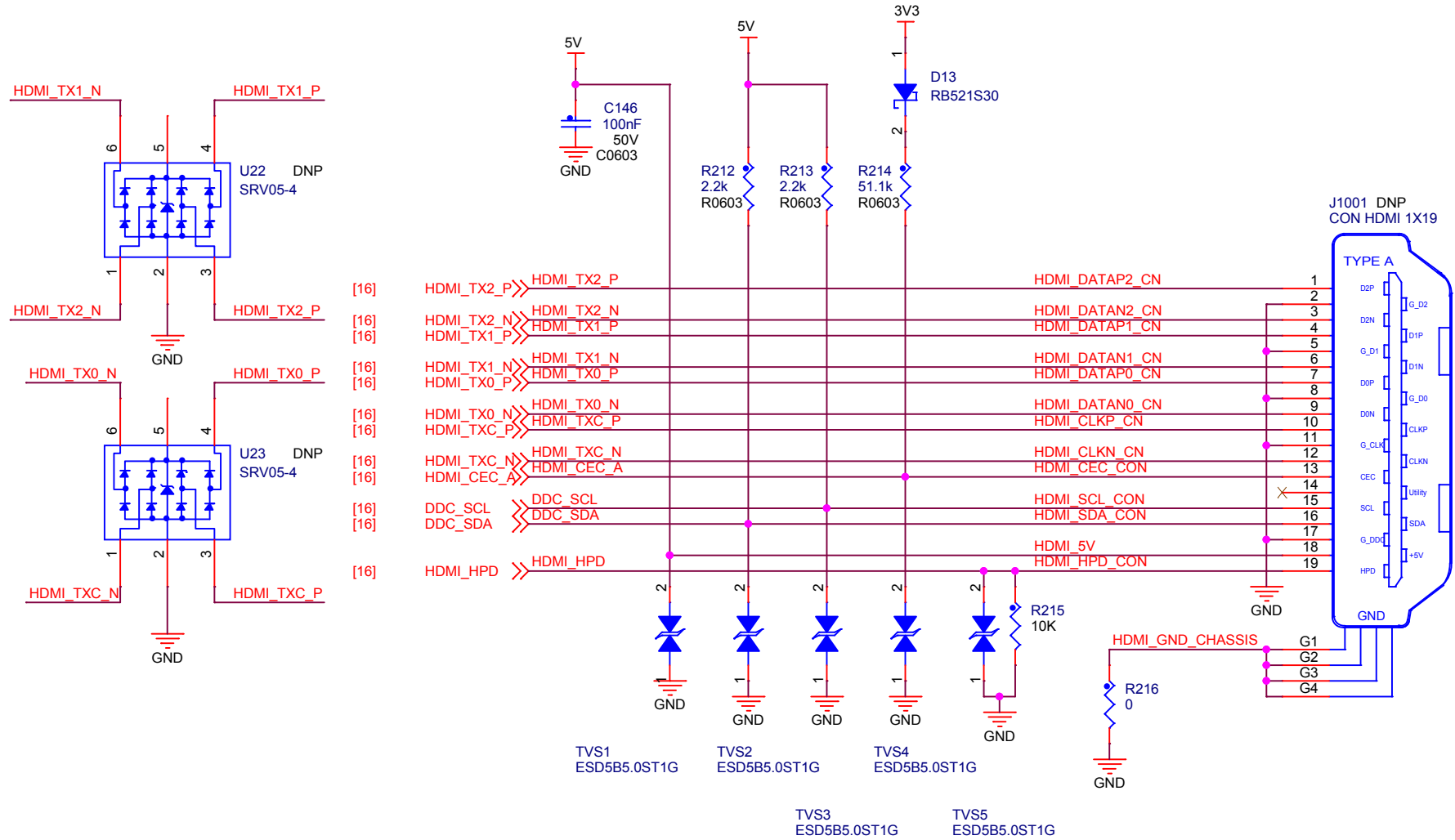
UART5_RXD
UART5_TXD

HDMI TRANSMITTER

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Title		
野火_EBF6ULL S1 Pro 底板		
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HDMI连接器

Type A型



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Title

野火_EBF6ULL S1 Pro 底板

Size
A4

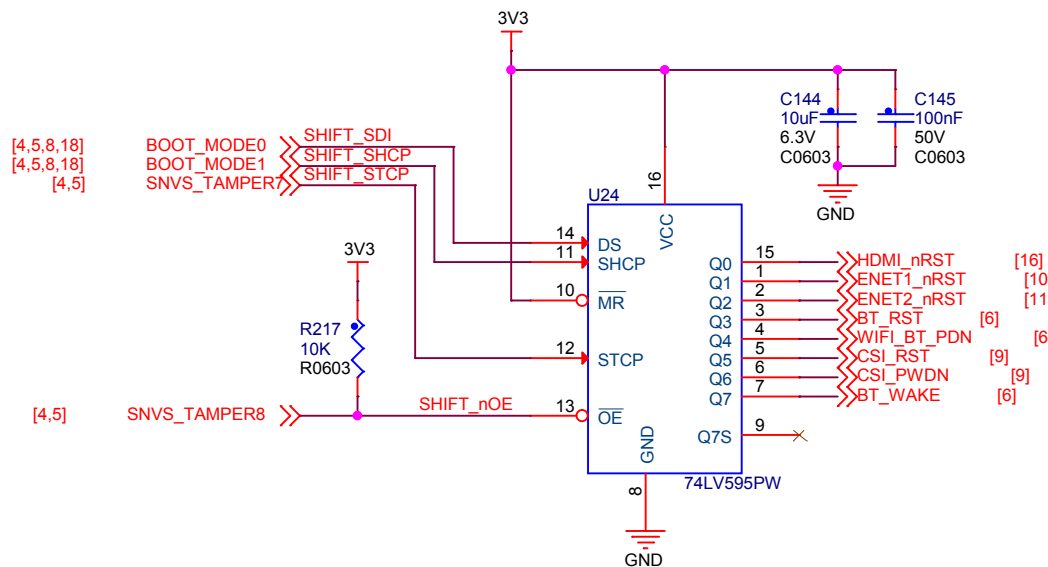
Document Number
HDMI连接器

Rev
V1.0

Date: Wednesday, July 29, 2020

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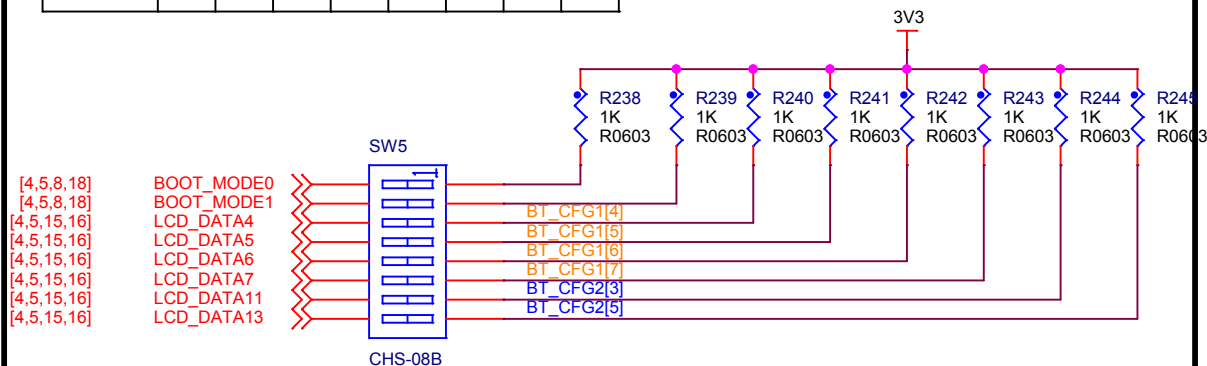
扩展IO



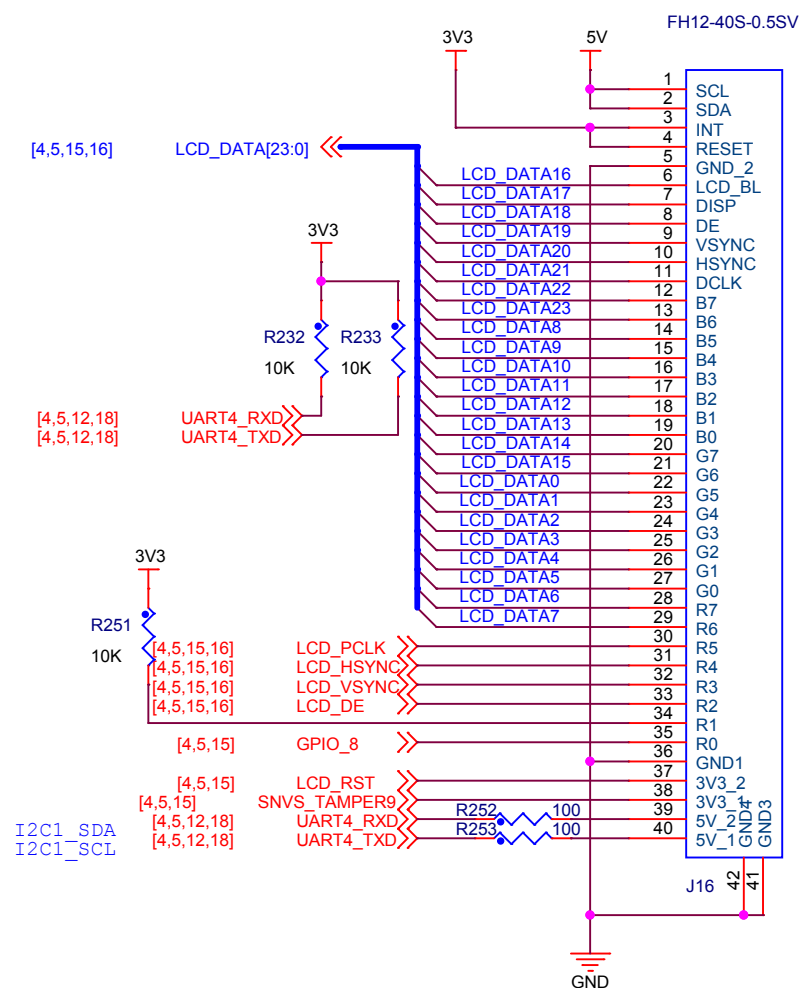
启动设置

拨码开关拨到ON位置为1，反之为0

SW5	1	2	3	4	5	6	7	8
NAND	0	1	1	0	0	1	0	0
EMMC	0	1	0	1	1	0	1	0
SD	0	1	0	0	1	0	0	1
USB	1	0	X	X	X	X	X	X



LCD-FPC接口



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Title		
野火_EBF6ULL S1 Pro 底板		
Size	Document Number	Rev
A4	扩展IO/启动切换	V1.0
Date:	Wednesday, July 29, 2020	Sheet 18 of 18