

野火_EBF6ULL S1 Pro 底板

目录

Page 1	目录
Page 2	历史版本
Page 3	电源
Page 4	板对板连接器
Page 5	引出IO
Page 6	WIFI&Bluetooth
Page 7	CAN/RS485
Page 8	串口 (RS232/TTL/USB转串口)
Page 9	SD卡/摄像头/光纤
Page 10	以太网x1
Page 11	以太网x2
Page 12	传感器/按键/LED
Page 13	音频
Page 14	USB HOST/USB OTG
Page 15	RGB转LVDS
Page 16	RGB转HDMI
Page 17	HDMI连接器
Page 18	扩展IO/启动切换

东莞野火电子科技有限公司
<https://fire-stm32.taobao.com>

Title
野火_EBF6ULL S1 Pro 底板

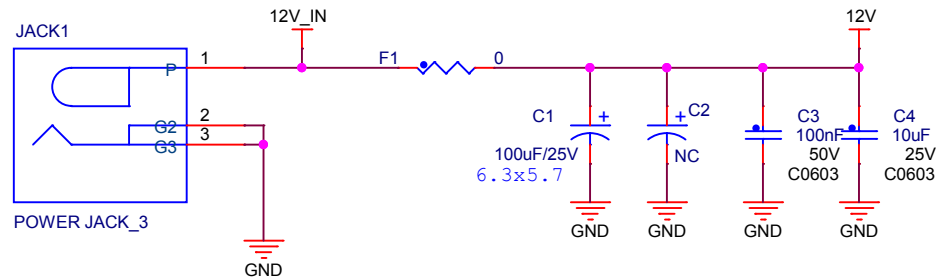
Size A4	Document Number 目录	Rev V1.0
------------	-----------------------	-------------

Date: Thursday, August 15, 2019	Sheet 1 of 18
---------------------------------	---------------

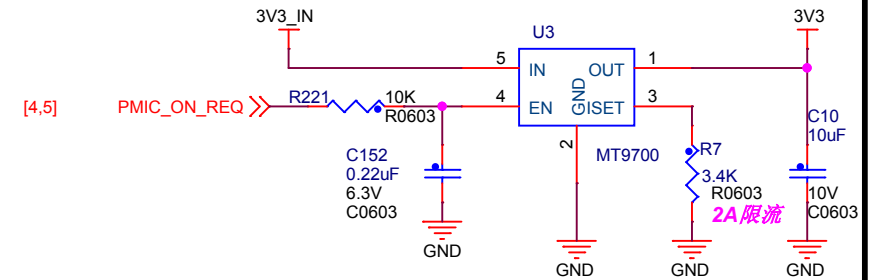
历史版本

版本号	日期	设计	描述
V1.0	2019-06-20	cancore	初始版本，开发阶段
V1.0	2019-08-15	cancore	整理对外发布，稳定版

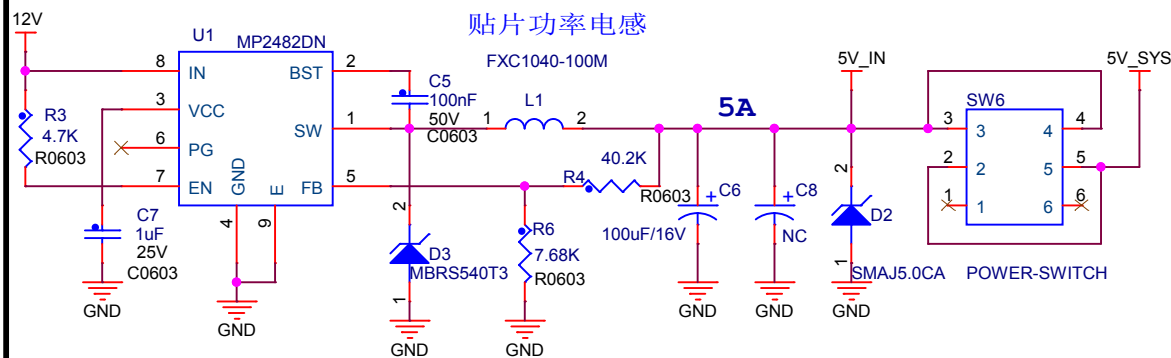
DC IN : 12V



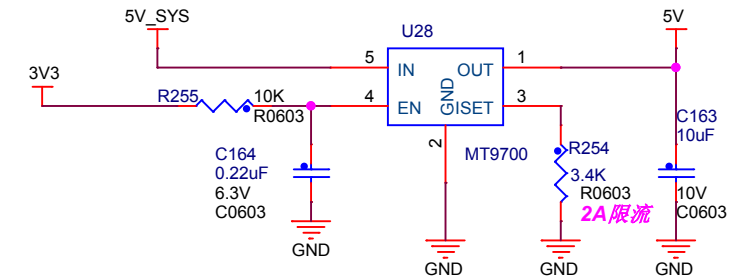
3.3V 输出控制及过流保护



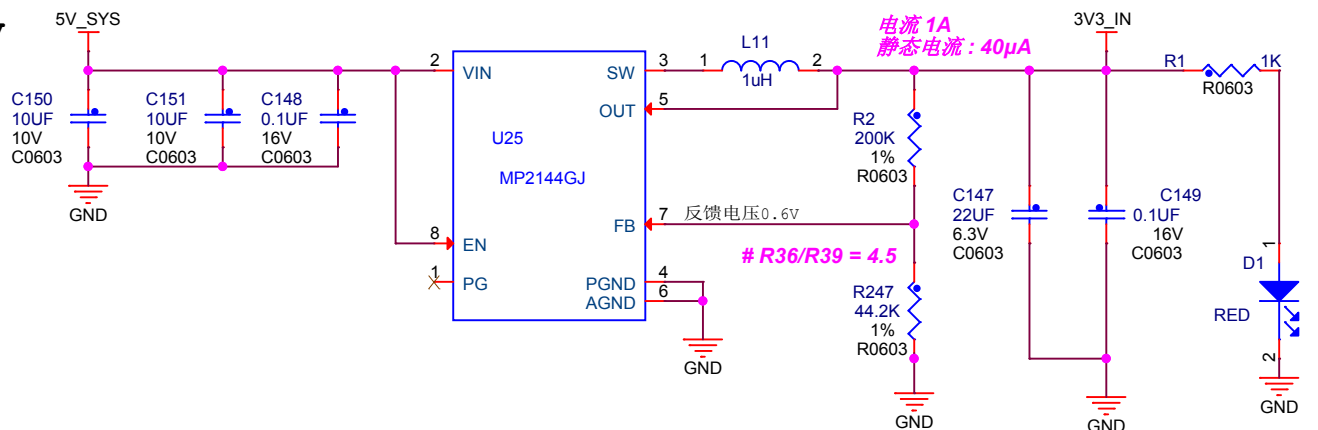
DC/DC 5V



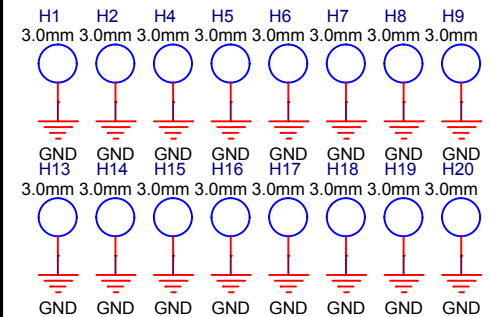
5V输出控制及过流保护



5V转3.3V



定位孔



东莞野火电子有限公司
https://fire-stm32.taobao.com

Title

野火_EBF6ULL S1 Pro 底板

Size

Document Number

电源

Rev

V1.0

Date:

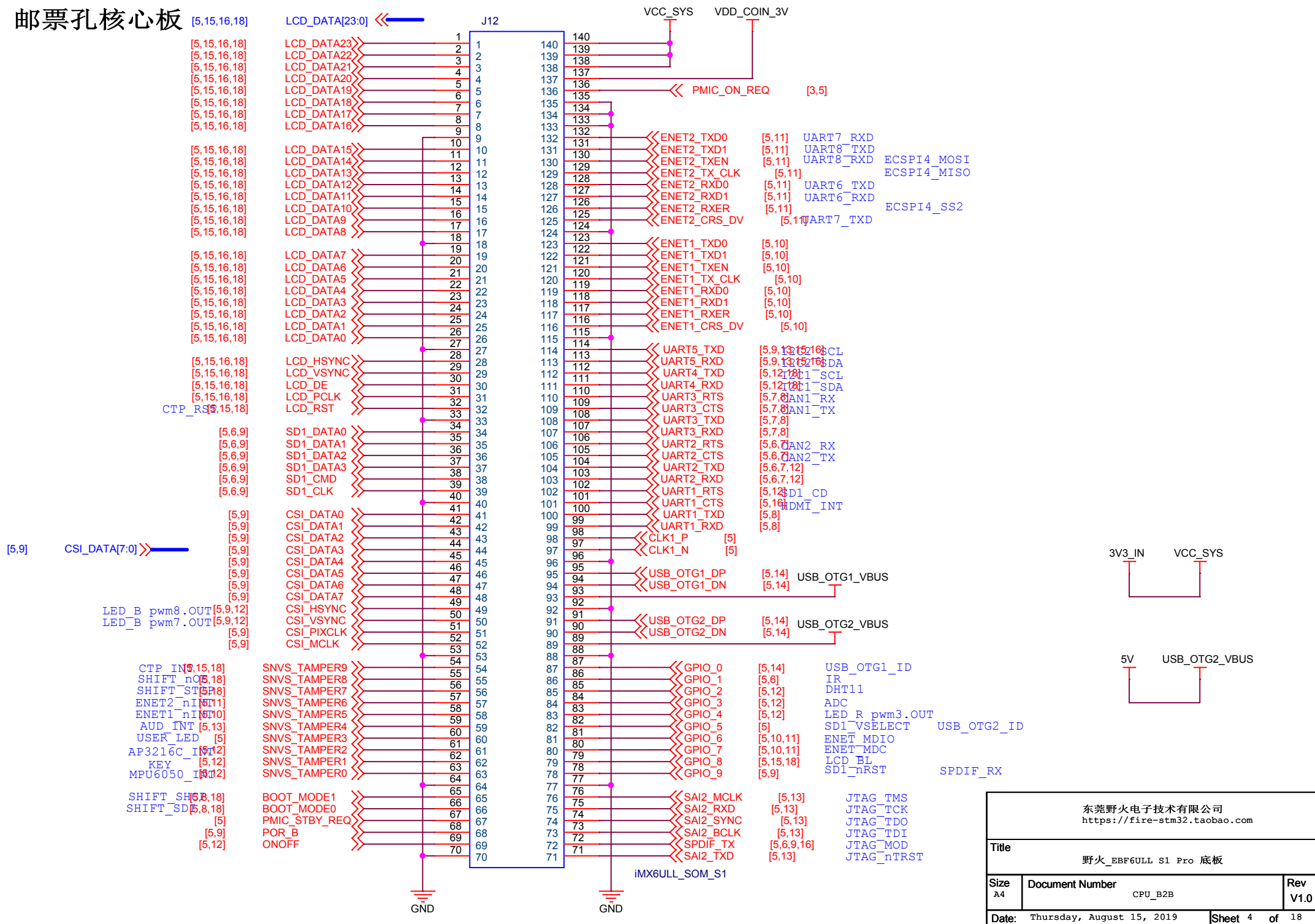
Thursday, August 15, 2019

Sheet

3

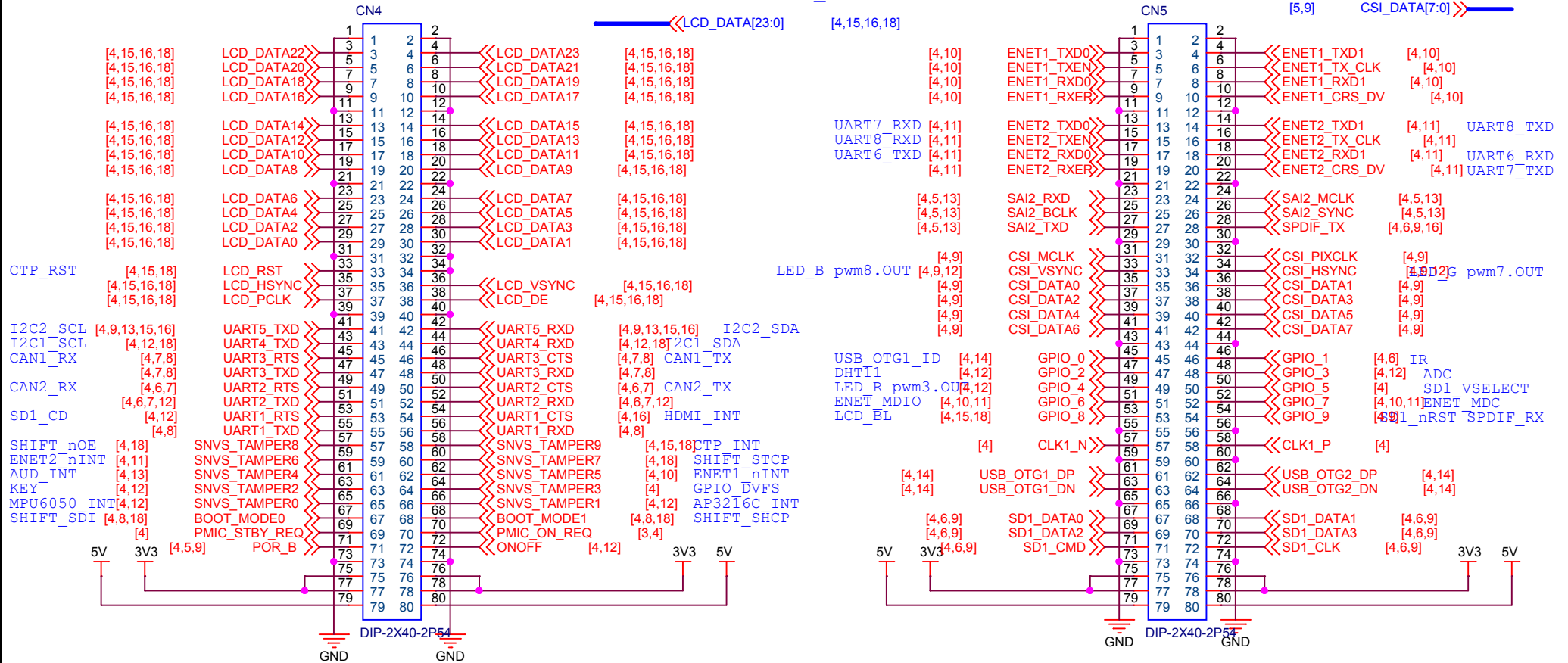
of 18

邮票孔核心板 [5,15,16,18]

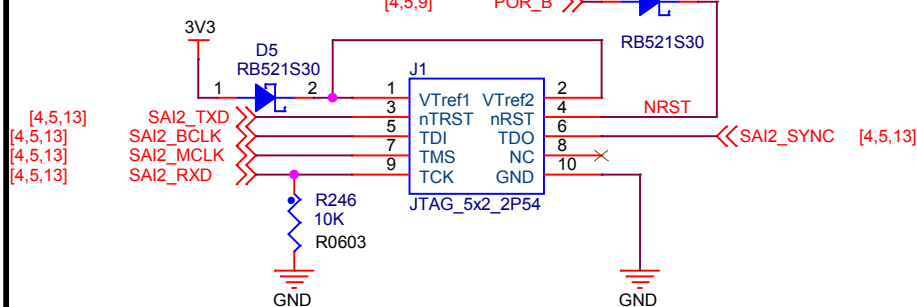


引出IO口(排针)

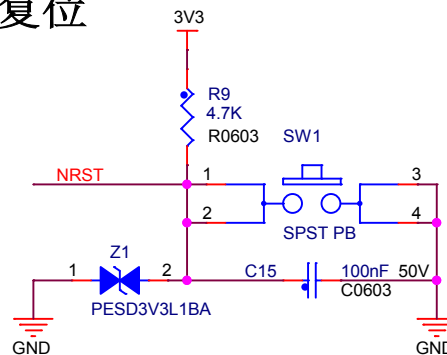
所有IO全部引出, 包括GPIO引出107个, 差分时钟一组, USB专用口2个, POR_B复位脚1个, 电源控制口2个



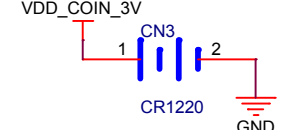
JTAG调试口



复位



RTC电池

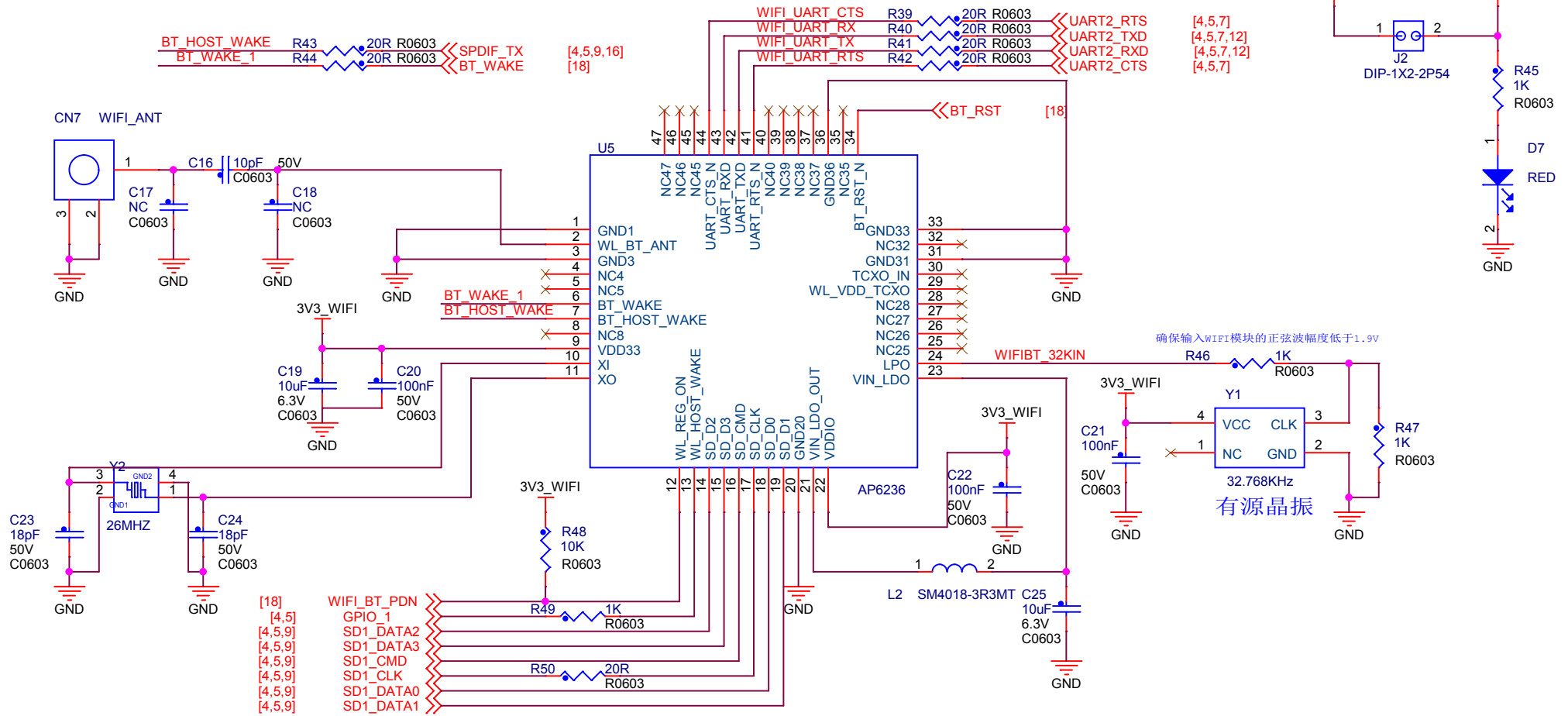


东莞野火电子技术有限公司
<https://fire-stm32.taobao.com>

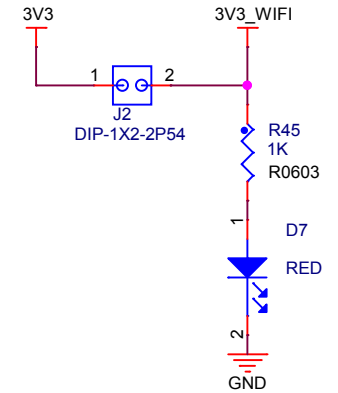
Title		
野火_EBF6ULL S1 Pro 底板		
Size	Document Number	Rev
A4	引出IO	V1.0
Date: Thursday, August 15, 2019		Sheet 5 of 18

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



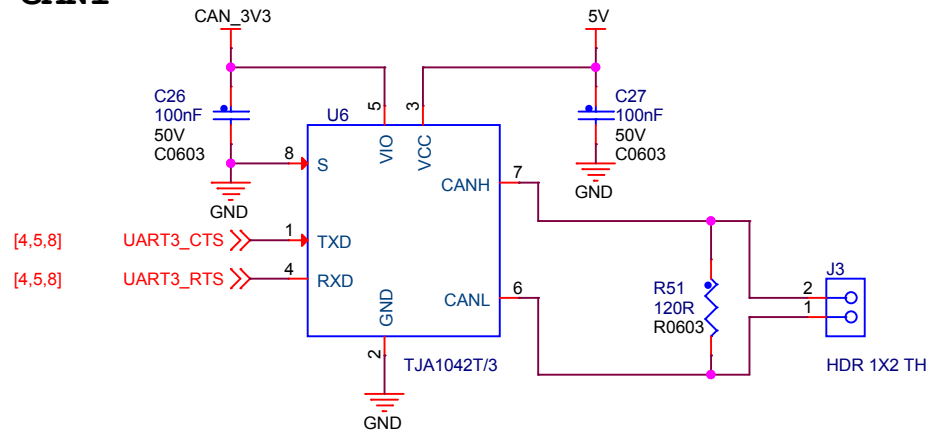
确保输入WIFI模块的正弦波幅度低于1.9V

有源晶振

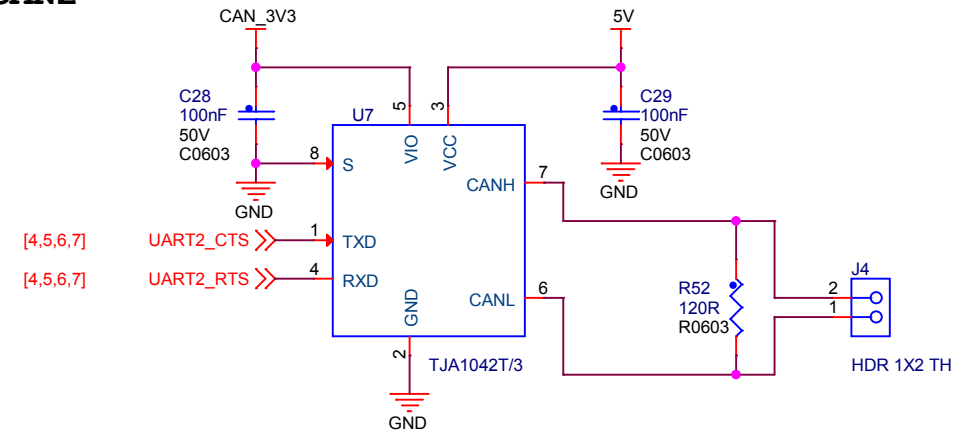
东莞野火电子技术有限公司
<https://fire-stm32.taobao.com>

Title		
野火_EBF6ULL S1 Pro 底板		
Size A4	Document Number WIFI&Bluetooth	Rev V1.0
Date: Thursday, August 15, 2019	Sheet 6	of 18

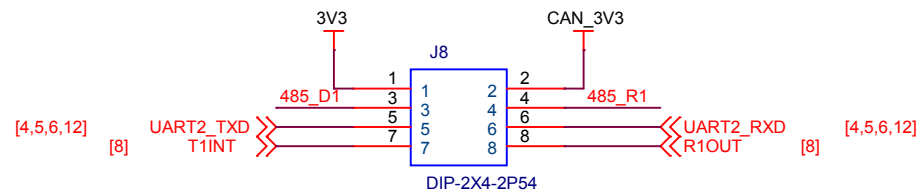
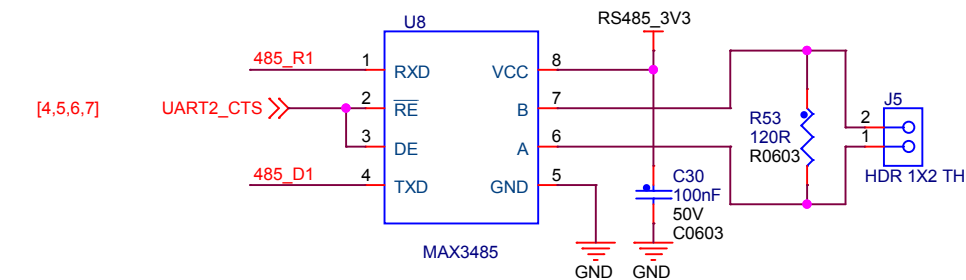
CAN1



CAN2

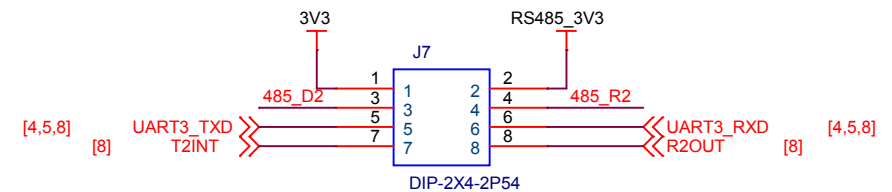
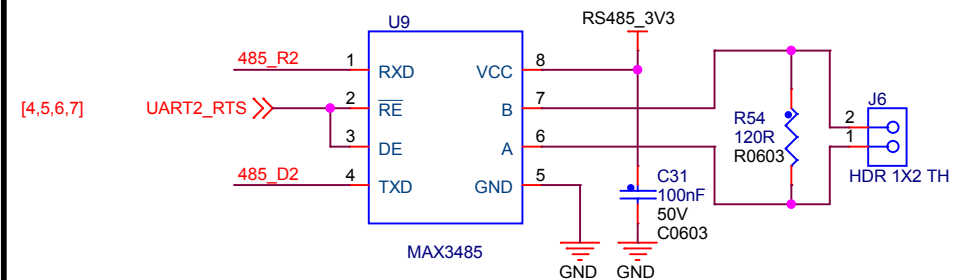


RS485-1



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

东莞野火电子有限公司
https://fire-stm32.taobao.com

Title

野火_EBF6ULL S1 Pro 底板

Size
A4

Document Number

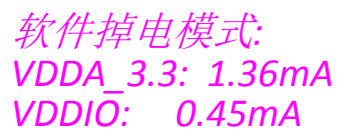
CAN/RS485

Rev
V1.0

Date: Thursday, August 15, 2019

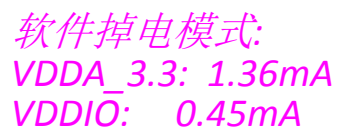
Sheet 7 of 18

百兆以太网PHY



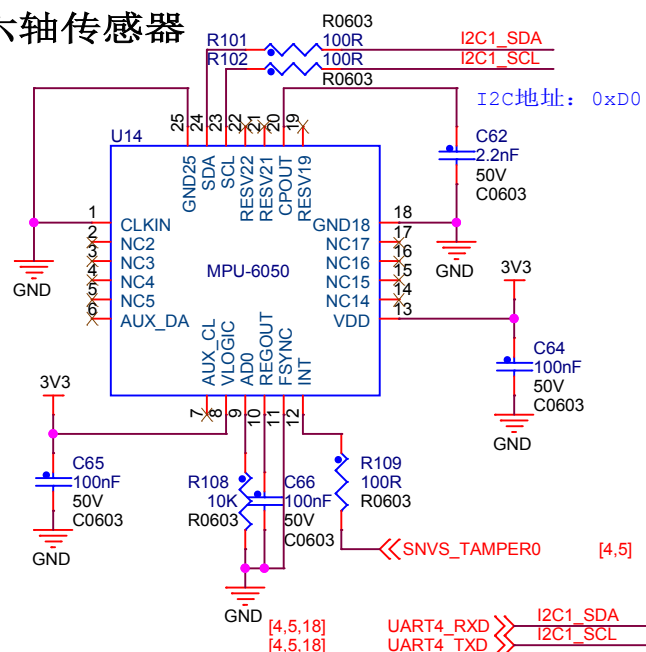
东莞野火电子技术有限公司 https://fire-stm32.taobao.com		
Title 野火_EBF6ULL S1 Pro 底板		
Size A4	Document Number 以太网x1	Rev V1.0
Date:	Thursday, August 15, 2019	Sheet 10 of 18

百兆以太网PHY

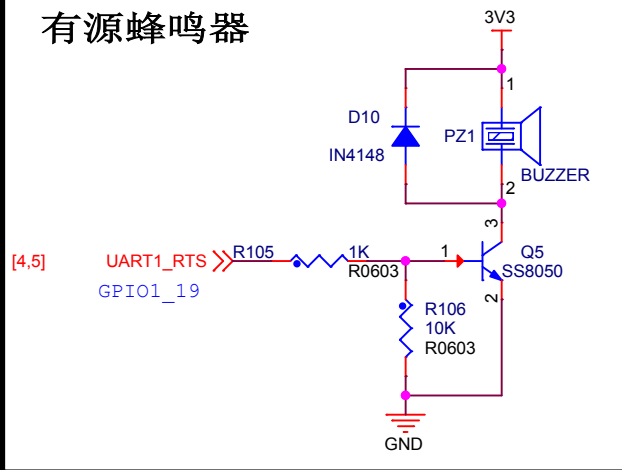


东莞野火电子技术有限公司 https://fire-stm32.taobao.com		
Title 野火_EBF6ULL S1 Pro 底板		
Size A4	Document Number 以太网x2	Rev V1.0
Date:	Thursday, August 15, 2019	Sheet 11 of 18

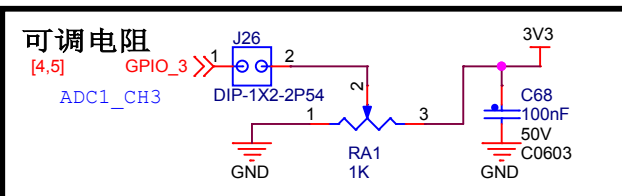
六轴传感器



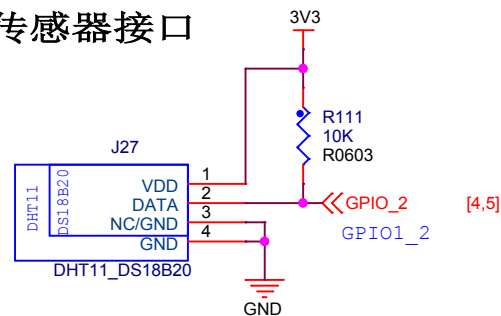
有源蜂鸣器



可调电阻

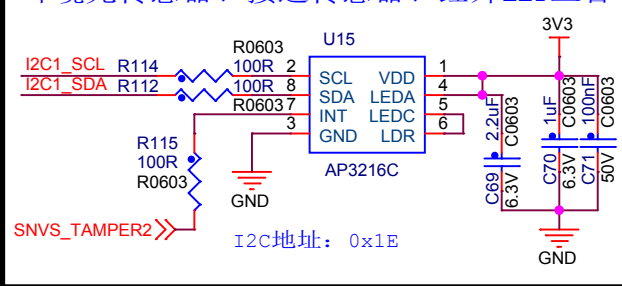


温湿度传感器接口

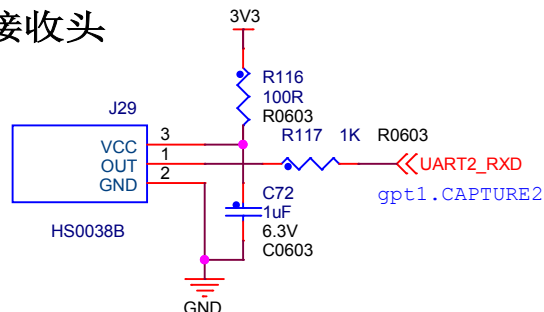


ALS+PS+IRLED (三合一)

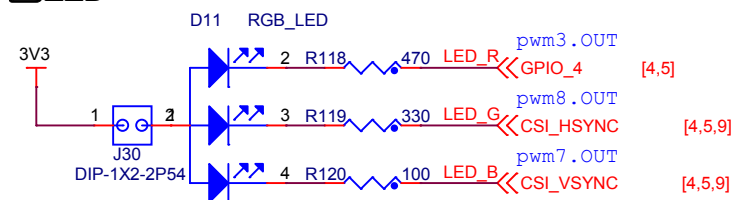
环境光传感器、接近传感器、红外LED三合一



红外接收头

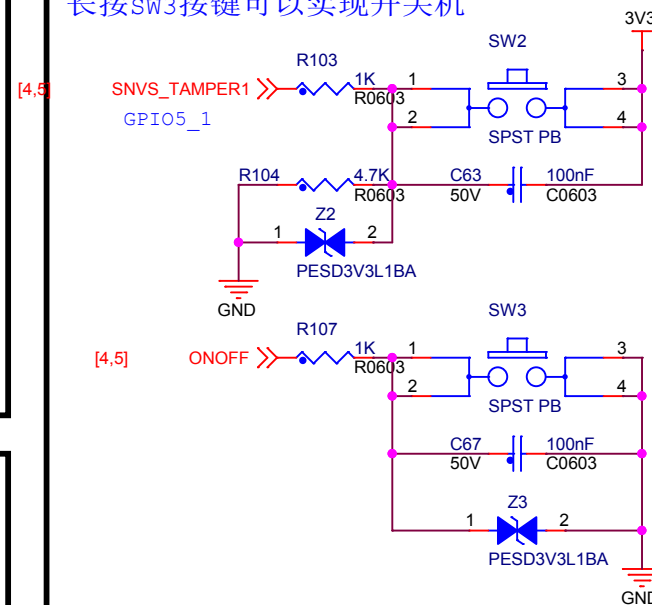


彩色LED

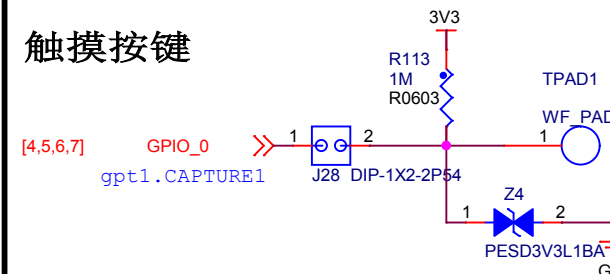


按键

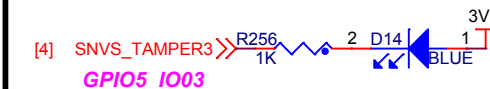
长按SW3按键可以实现开关机



触摸按键



用户LED



东莞野火电子技术有限公司
<https://fire-stm32.taobao.com>

Title

野火 EBF6ULL S1 Pro 底板

Size
A4

Document Number

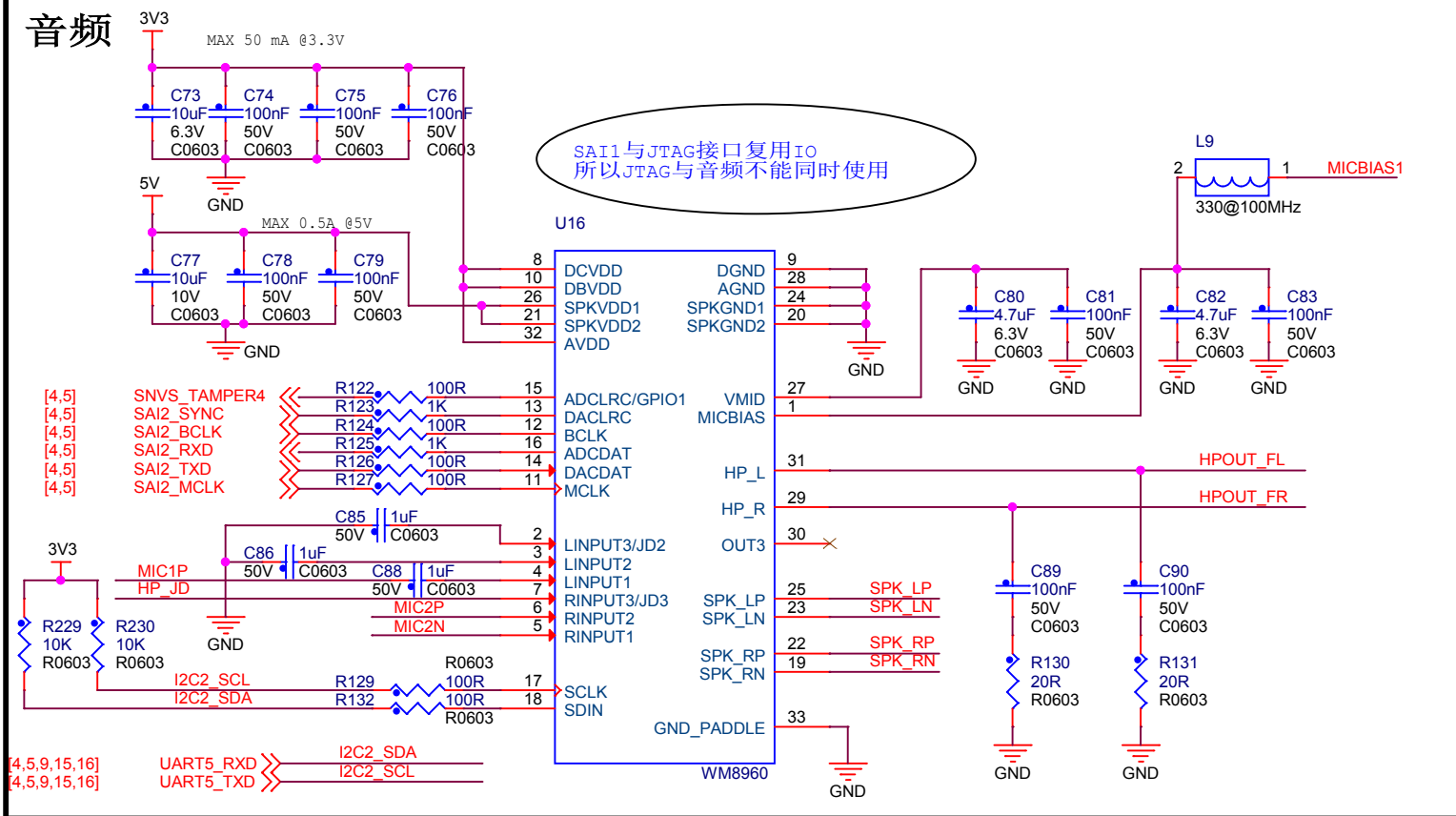
传感器/按键/LED

Rev
V1.0

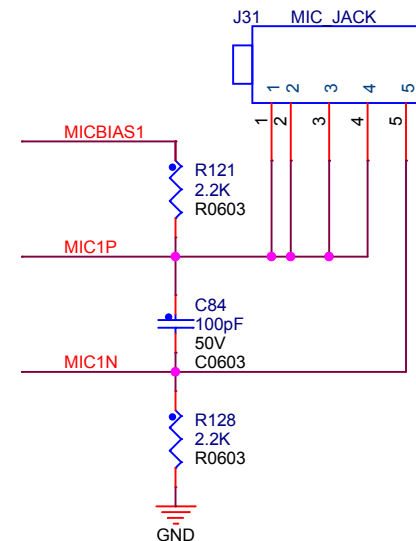
Date: Thursday, August 15, 2019

Sheet 12 of 18

音频

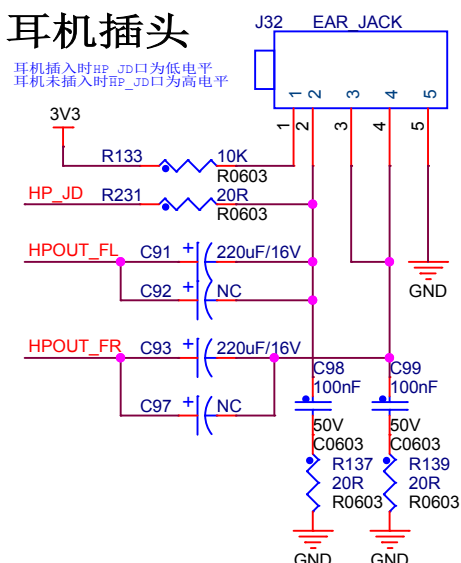


MIC插头

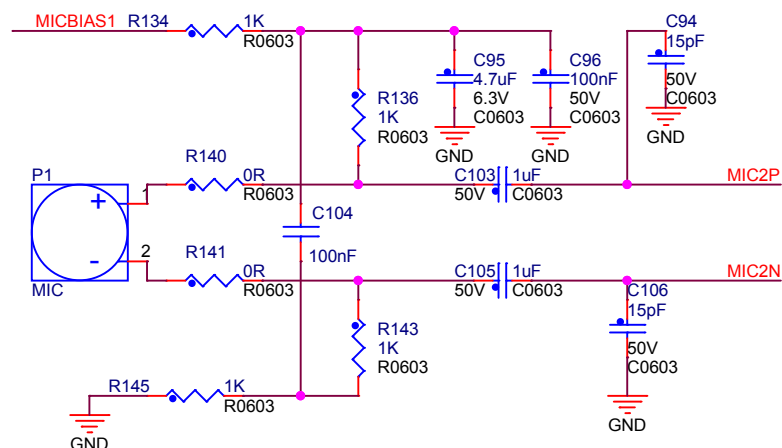


耳机插头

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

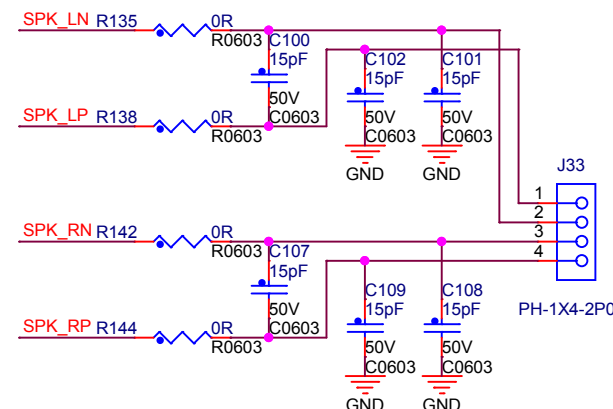


MIC



喇叭插座

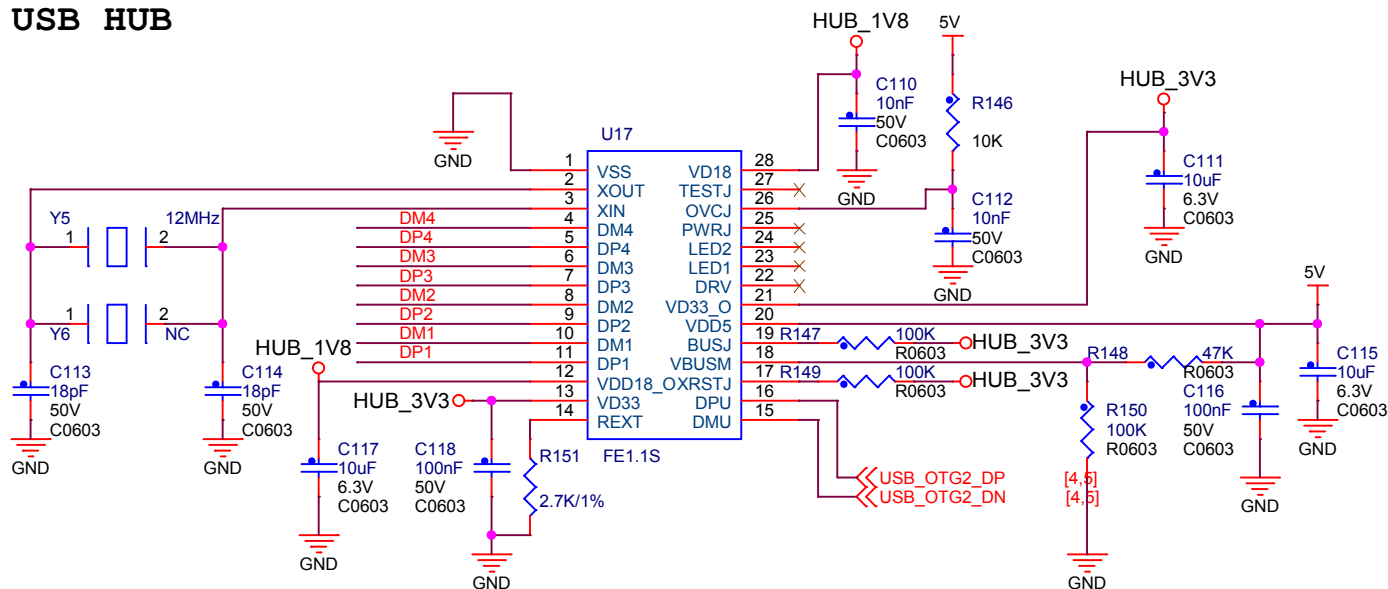
可以驱动2个8Ω 1W的喇叭 (BTL方式)



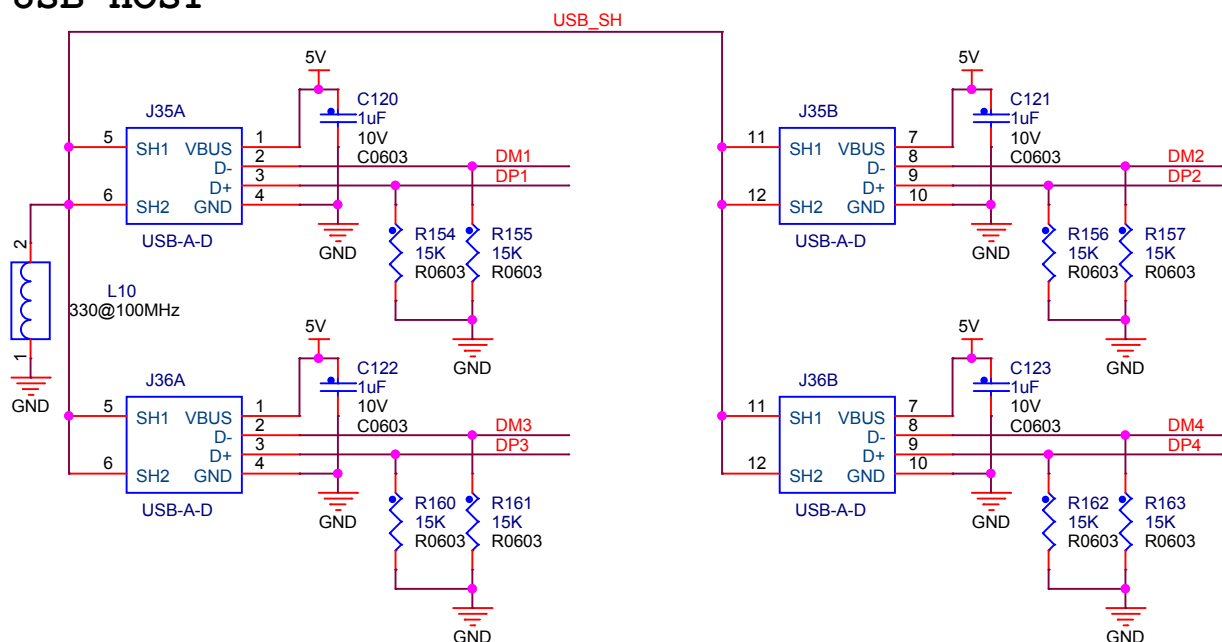
东莞野火电子有限公司
https://fire-stm32.taobao.com

Title		
野火_EBF6ULL S1 Pro 底板		
Size	Document Number	Rev
A4	音频	V1.0
Date:	Thursday, August 15, 2019	Sheet 13 of 18

USB HUB

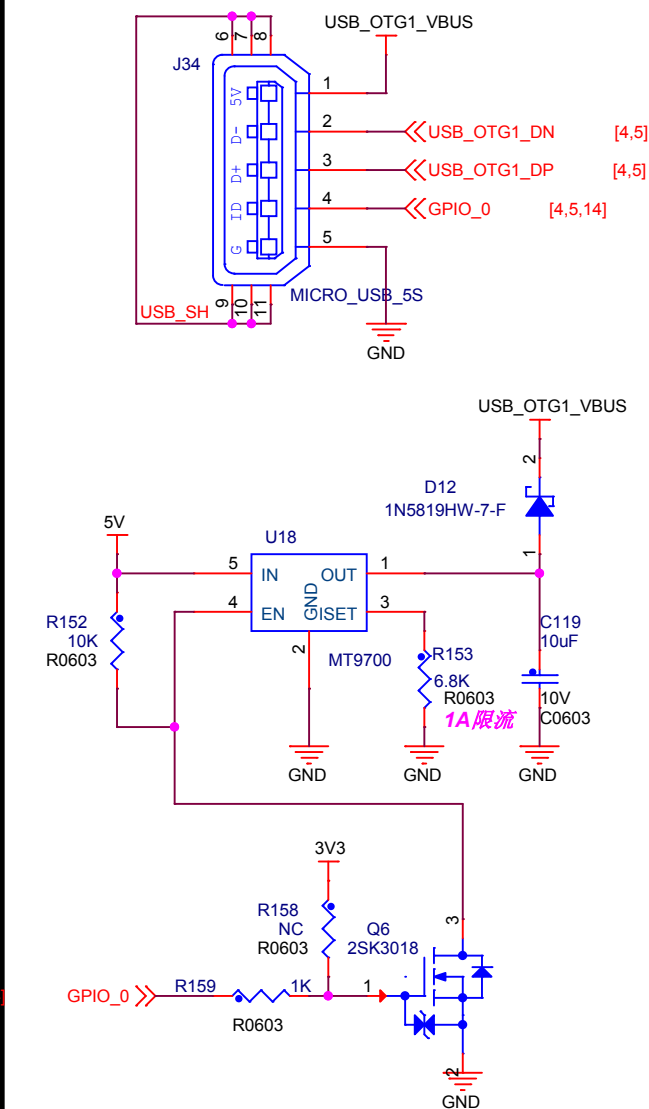


USB HOST



USB OTG

ID悬空时为Device设备，接地为HOST主机



东莞野火电子技术有限公司
https://fire-stm32.taobao.com

Title

野火_EBF6ULL S1 Pro 底板

Size
A4

Document Number

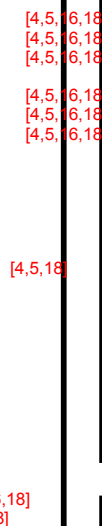
USB HOST/USB OTG

Rev
V1.0

Date: Thursday, August 15, 2019

Sheet 14 of 18

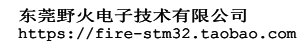
A

[illegible]

根据液晶屏的要求
选择正确的驱屏电压



[4,5,15,18]



Title			
野火_EBF6ULL S1 Pro 底板			
Size A4	Document Number RGB转LVDS		Rev V1.0
Date:	Thursday, August 15, 2019	Sheet 15 of	18

RGB转HDMI

待机功耗: 150 uW

[4,5,15,18]

LCD_DATA[23:0]

LCD_DATA0
LCD_DATA1
LCD_DATA2
LCD_DATA3
LCD_DATA4
LCD_DATA5
LCD_DATA6
LCD_DATA7
LCD_DATA8
LCD_DATA9
LCD_DATA10
LCD_DATA11
LCD_DATA12
LCD_DATA13
LCD_DATA14
LCD_DATA15
LCD_DATA16
LCD_DATA17
LCD_DATA18
LCD_DATA19
LCD_DATA20
LCD_DATA21
LCD_DATA22
LCD_DATA23

[18]

HDMI_nRST

[4,5,6,9]

SPDIF_TX

[4,5,9,13,15]
[4,5,9,13,15]

UART5_RXD
UART5_TXD

HDMI TRANSMITTER

EPAD
VDDQ
RSVDL

CGND
SiI9022A

TXC+
TXC-
TX0+
TX0-
TX1+
TX1-
TX2+
TX2-
EXT_SWING
AVCC12_1
AVCC12_2
IOGND
AGND
IO_SEL
IOVCC18_1
IOVCC18_2
IOVCC18_3
CVCC12_1
CVCC12_2
CVCC12_3
CVCC12_4
CVCC12_5
CVCC12_6

EXT_SWING

AVCC12_1
AVCC12_2

IOGND
AGND

IO_SEL

IOVCC18_1
IOVCC18_2
IOVCC18_3

CVCC12_1
CVCC12_2
CVCC12_3
CVCC12_4
CVCC12_5
CVCC12_6

CGND

SiI9022A

EPAD
VDDQ
RSVDL

CGND

SiI9022A

EPAD
VDDQ
RSVDL

CGND

SiI9022A

EPAD
VDDQ
RSVDL

CGND

SiI9022A

东莞野火电子技术有限公司
https://fire-stm32.taobao.com

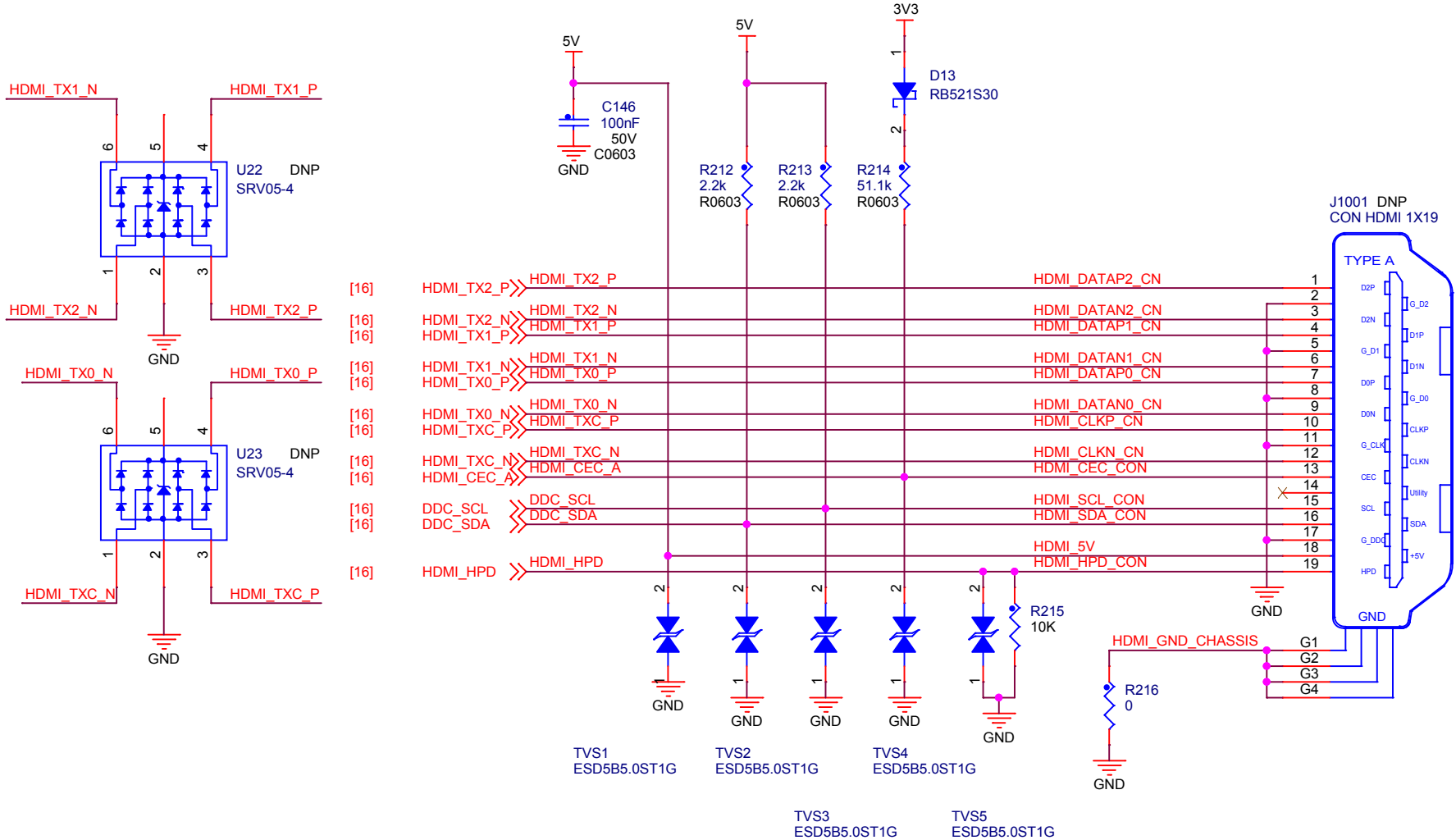
Title
野火_EBF6ULL S1 Pro 底板

Size A4 Document Number RGB转HDMI Rev V1.0

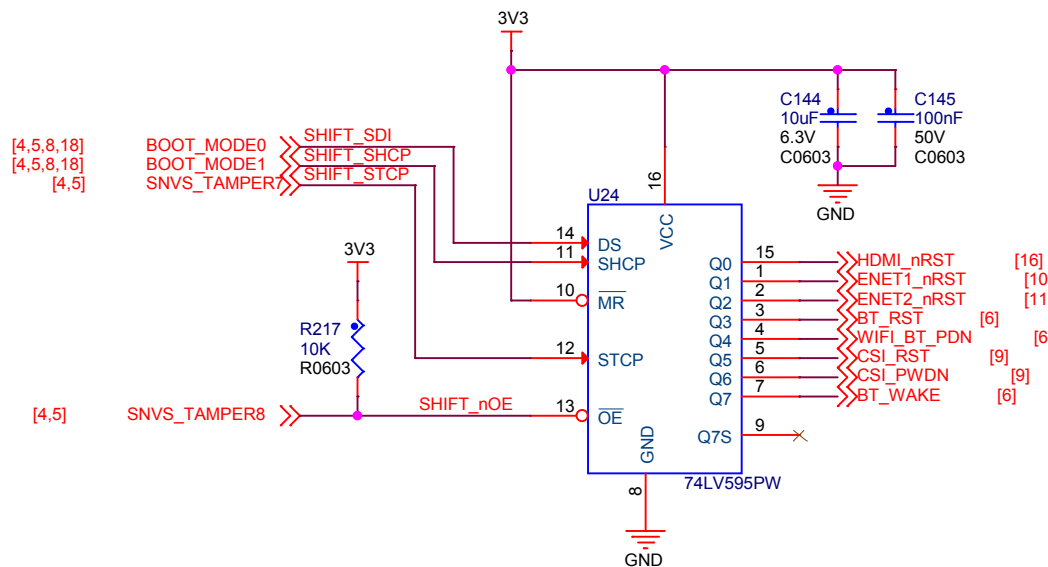
Date: Thursday, August 15, 2019 Sheet 16 of 18

HDMI连接器

Type A型



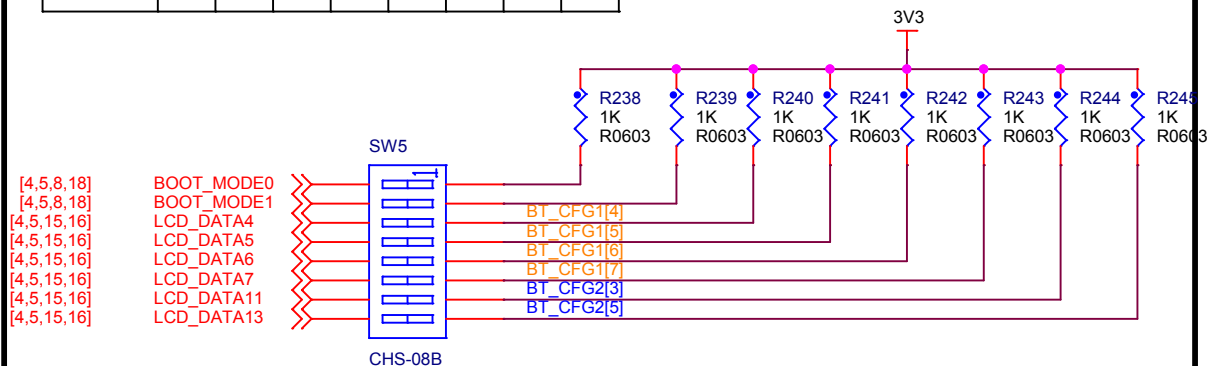
扩展IO



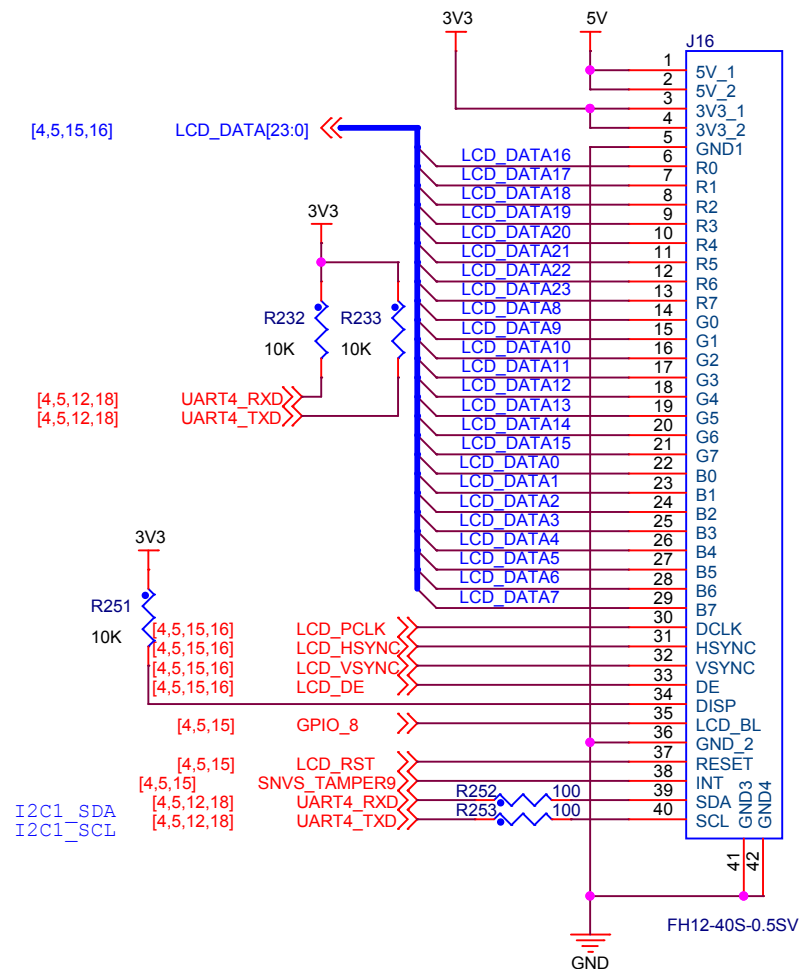
启动设置

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



东莞野火电子技术有限公司
https://fire-stm32.taobao.com

Title 野火_EBF6ULL S1 Pro 底板		
Size A4	Document Number 扩展IO/启动切换	Rev V1.0
Date: Friday, May 22, 2020	Sheet 18 of 18	