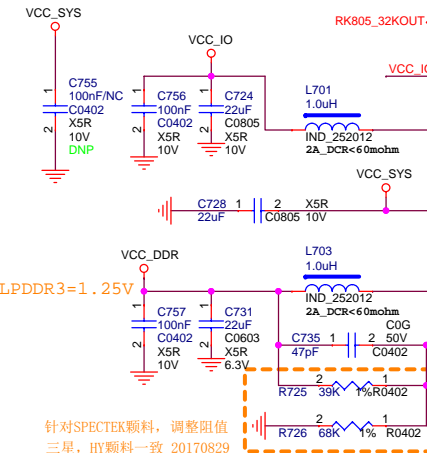
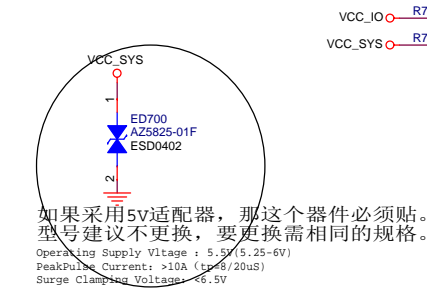


DC5V

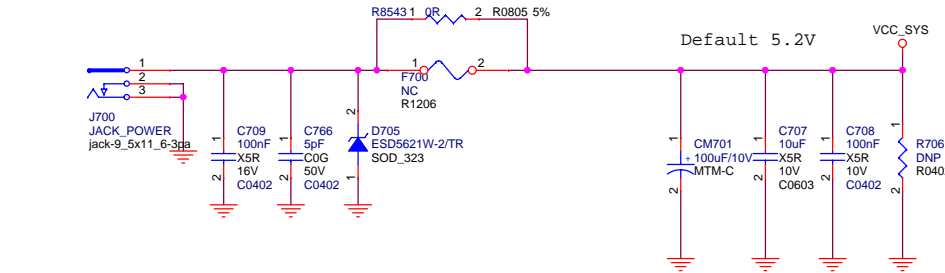


VCC_DDR

Default:DDR3=1.5V

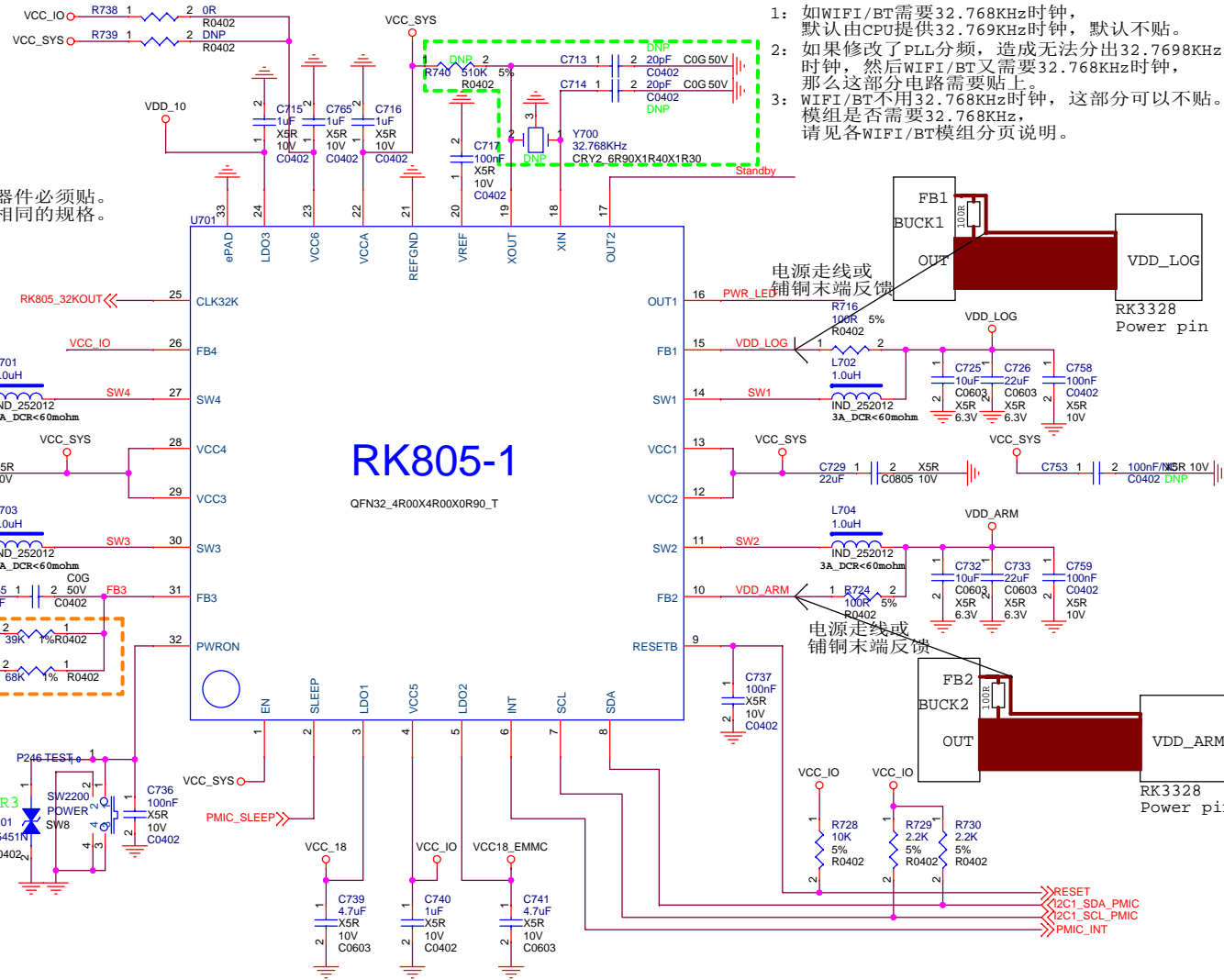
	DDR3	DDR3L	DDR4/LPDDR3
VCC_DDR	1.527V	1.353V	1.2V
R725	100K 1%	47K 1%	39K 1%
R726	110K 1%	68K 1%	68K 1%

请根据实际选用的DDR颗粒
对应调整电压值。

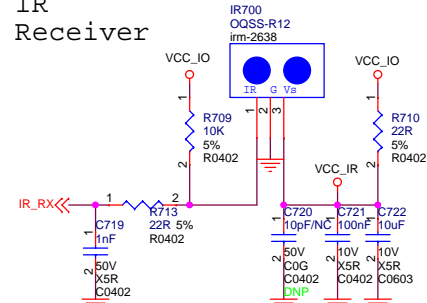


VCC_SYS

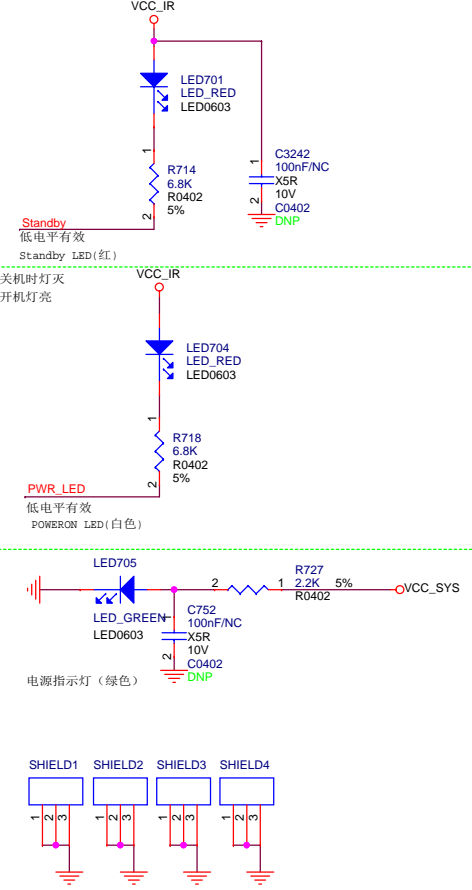
- 1: 如WIFI/BT需要32.768KHz时钟，默认由CPU提供32.769KHz时钟，默认不贴。
- 2: 如果修改了PLL分频，造成无法分出32.768KHz时钟，那么这部分电路需要贴上。
- 3: WIFI/BT不用32.768KHz时钟，这部分可以不贴。模组是否需要32.768KHz，请见各WIFI/BT模组分页说明。



IR Receiver



LED DISPLAY



ROCK64

PINE64

File

ROCK64_RK3328

Size

Document Number

Rev

V2.0

Date

Tuesday, October 17, 2017

Sheet

2

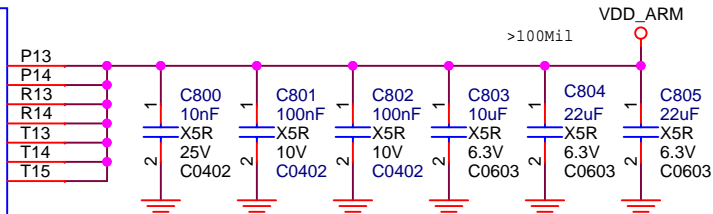
of

19

U800N

ARM

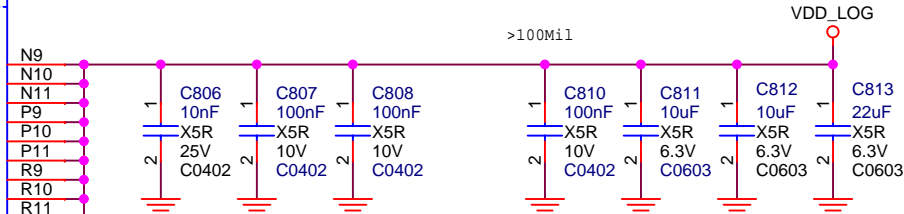
VDD_CORE
VDD_CORE
VDD_CORE
VDD_CORE
VDD_CORE
VDD_CORE
VDD_CORE



PCB LAYOUT注意: 电容都要靠近主控, 其中一个22uF电容需要放在管脚正下方。

GPU/Logic

VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC
VDD_LOGIC

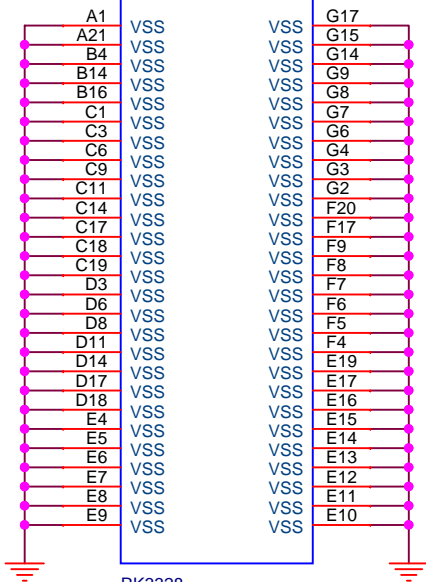


PCB LAYOUT注意: 电容都要靠近主控, 其中一个22uF电容需要放在管脚正下方。

RK3328

BGA395_14R00X14R00X1R24

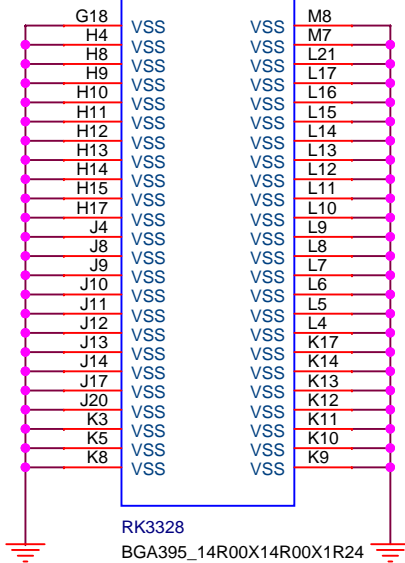
U800O



RK3328

BGA395_14R00X14R00X1R24

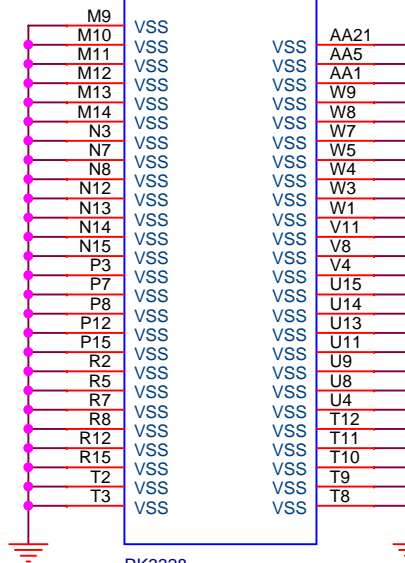
U800P



RK3328

BGA395_14R00X14R00X1R24

U800Q



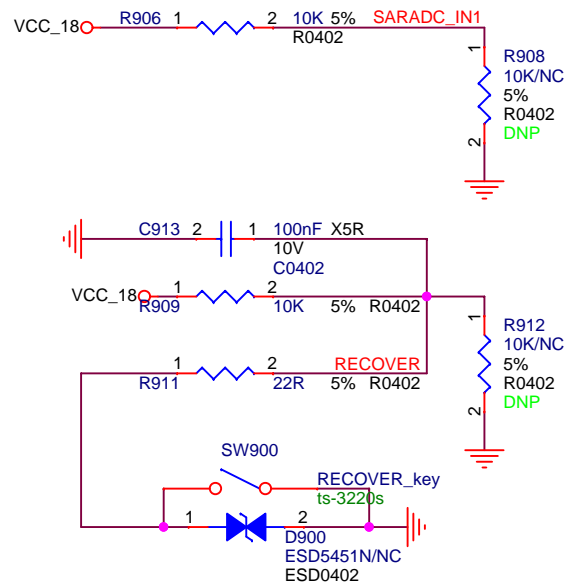
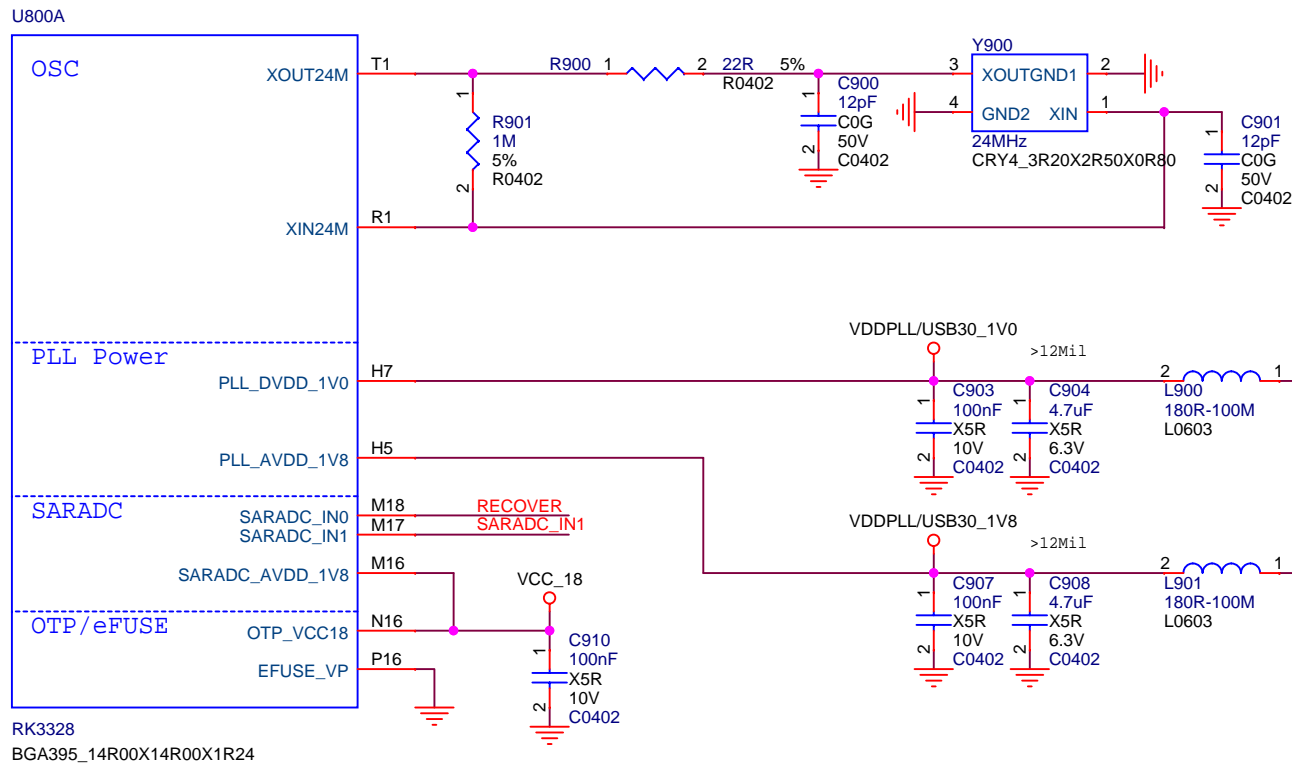
RK3328

BGA395_14R00X14R00X1R24



PINE64

Title ROCK64_RK3328		
Size A4	Document Number RK3328 Power	Rev V2.0
Date: Tuesday, October 17, 2017	Sheet 3	of 19

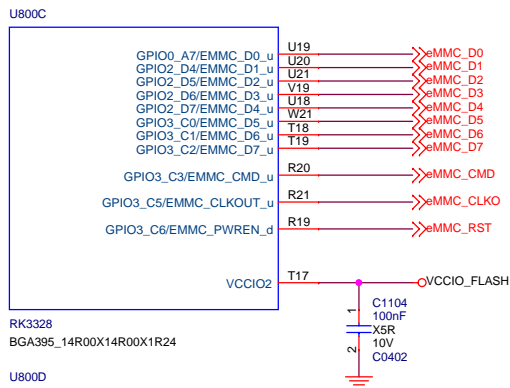


SARADC_IN0 BOM版本	SARADC_IN1 PCB版本	Up阻值	Down阻值	
Recover		DNP	10K	
BOM1		110K	10K	
BOM2		100K	20K	
BOM3		100K	33K	
BOM4		36K	18K	
BOM5		51K	36K	
BOM6		51K	51K	
BOM7		36K	51K	
BOM8		18K	36K	
BOM9		33K	100K	
BOM10		20K	100K	
BOM11		10K	110K	
BOM12		10K	DNP	

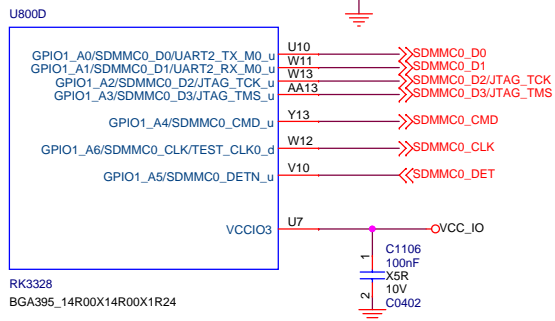


PINE64

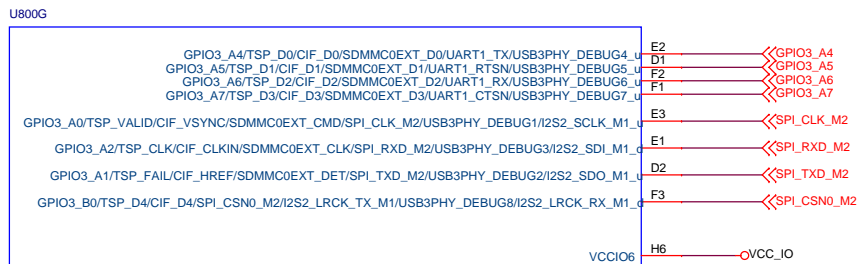
Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	ROCK64_OSC/PLL/OTP/SARADC	V2.0
Date:	Tuesday, October 17, 2017	Sheet 4 of 19



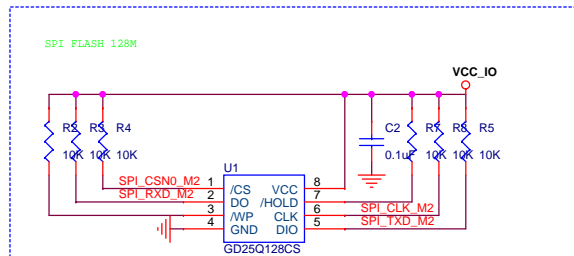
RK3328
BGA395_14R00X14R00X1R24

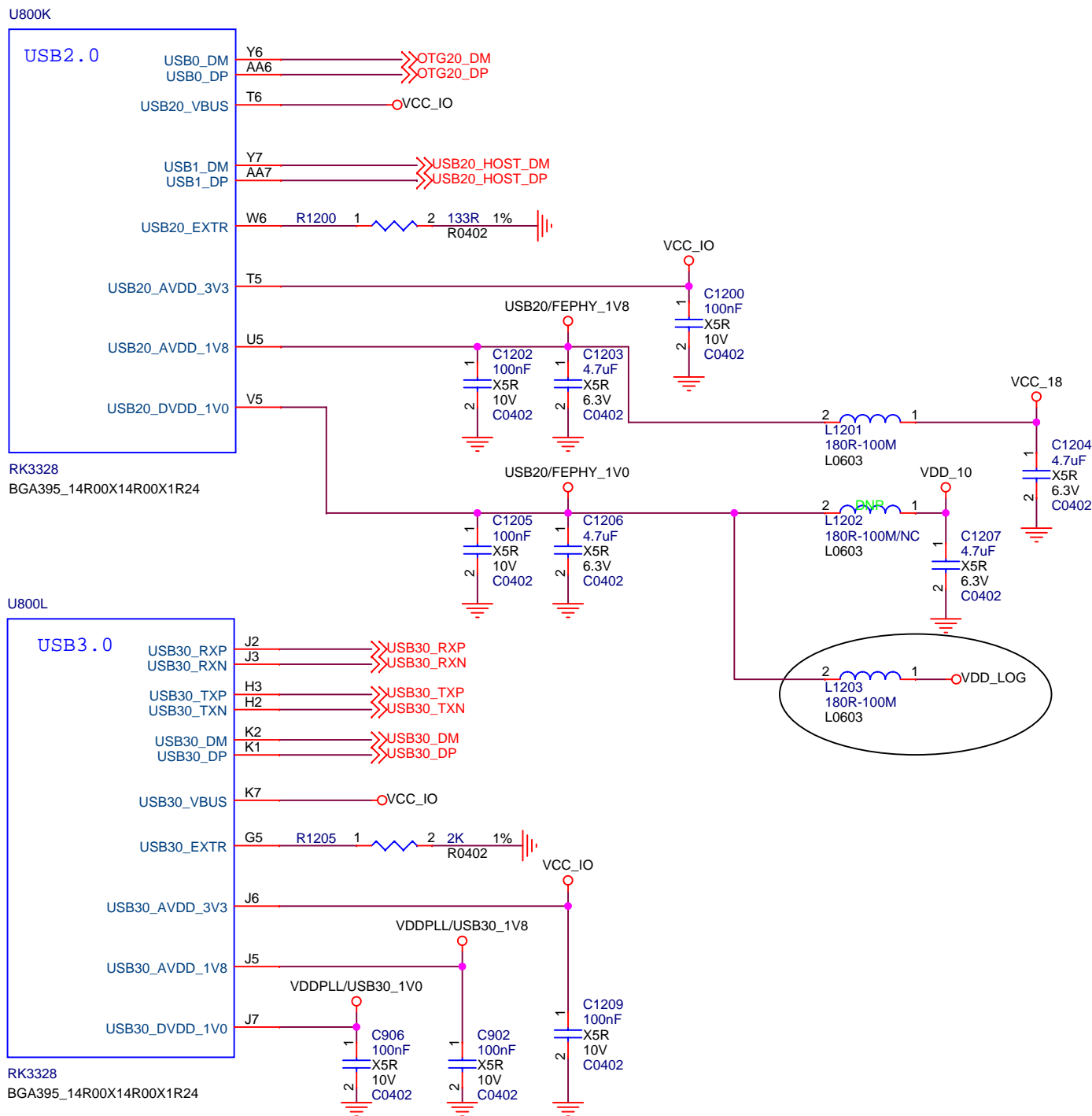


RK3328
BGA395_14R00X14R00X1R24



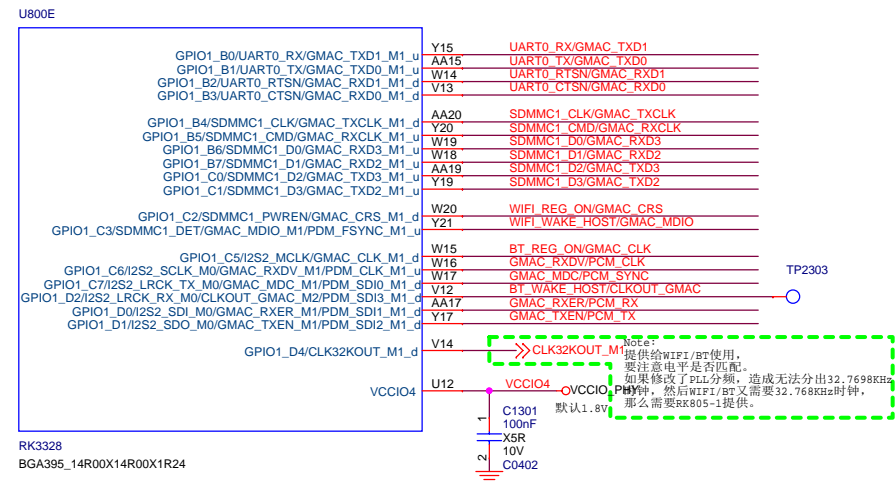
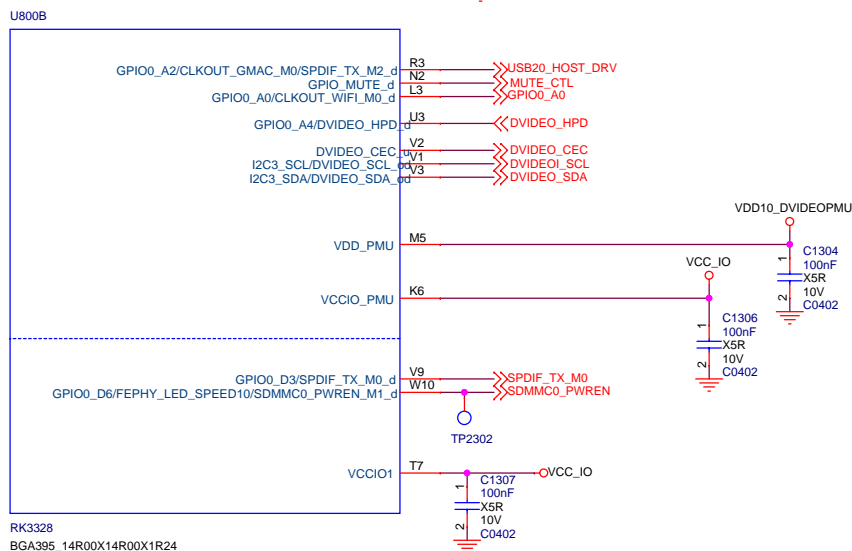
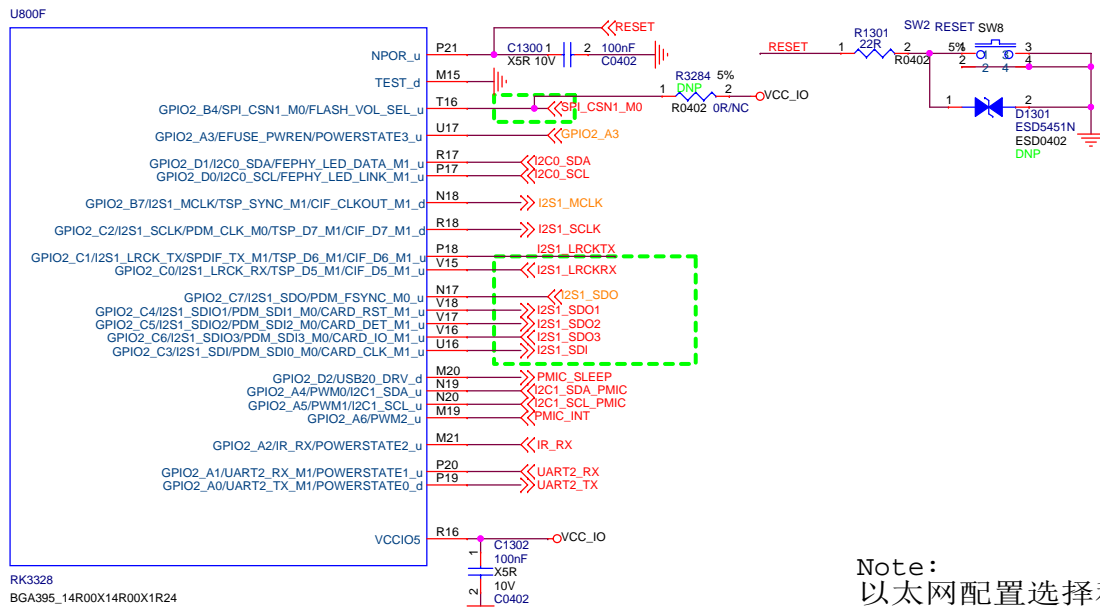
RK3328
BGA395_14R00X14R00X1R24





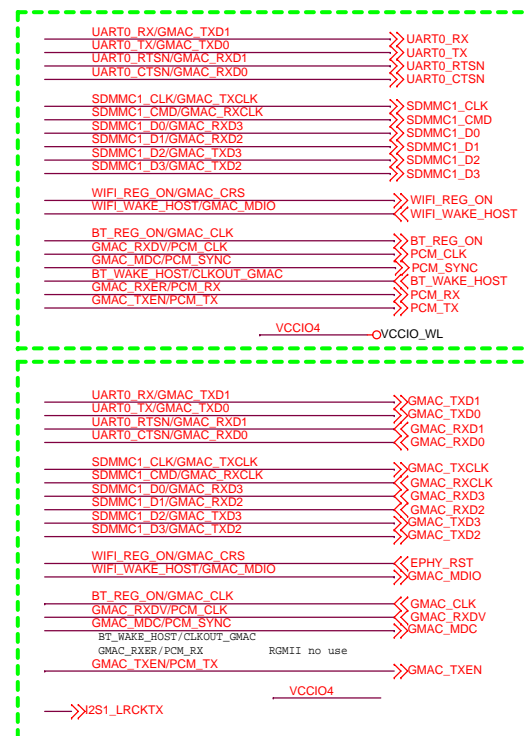
PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	ROCK64_RK3328 USB2 PHY/USB3 PHY	V2.0
Date:	Tuesday, October 17, 2017	Sheet 7 of 19

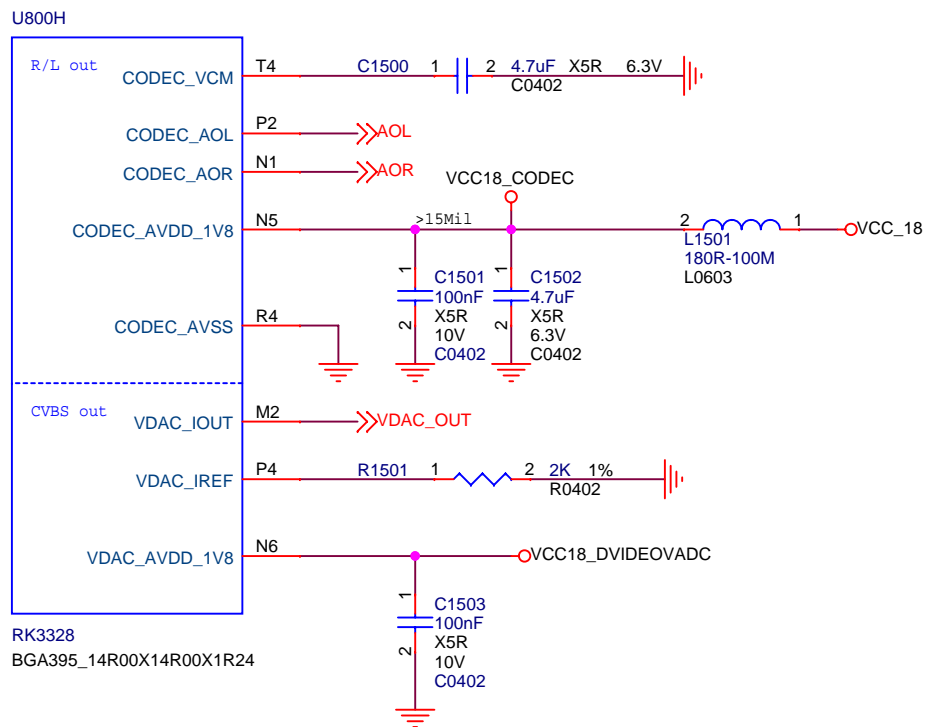


Note:
以太网配置选择和WIFI,BT配置选择

2:需要1000M以太网时, 需外接1000M PHY
WIFI,BT可以选择
USB WIFI和USB BT.
或SDMMC0EXT WIFI和USB BT
这个配置下, 可以支持双网口,
内置的100M以太网也可以同时用。



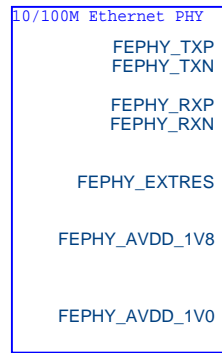
Note:
SDIO1+UART0和GMAC的IO是复用的.
二选一



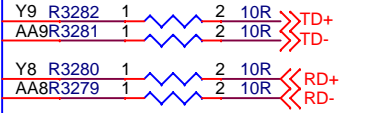
PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 AV Interface	V2.0
Date:	Tuesday, October 17, 2017	Sheet 10 of 19

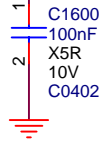
U800J



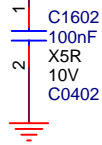
RK3328
BGA395_14R00X14R00X1R24



USB20/FEPHY_1V8



USB20/FEPHY_1V0



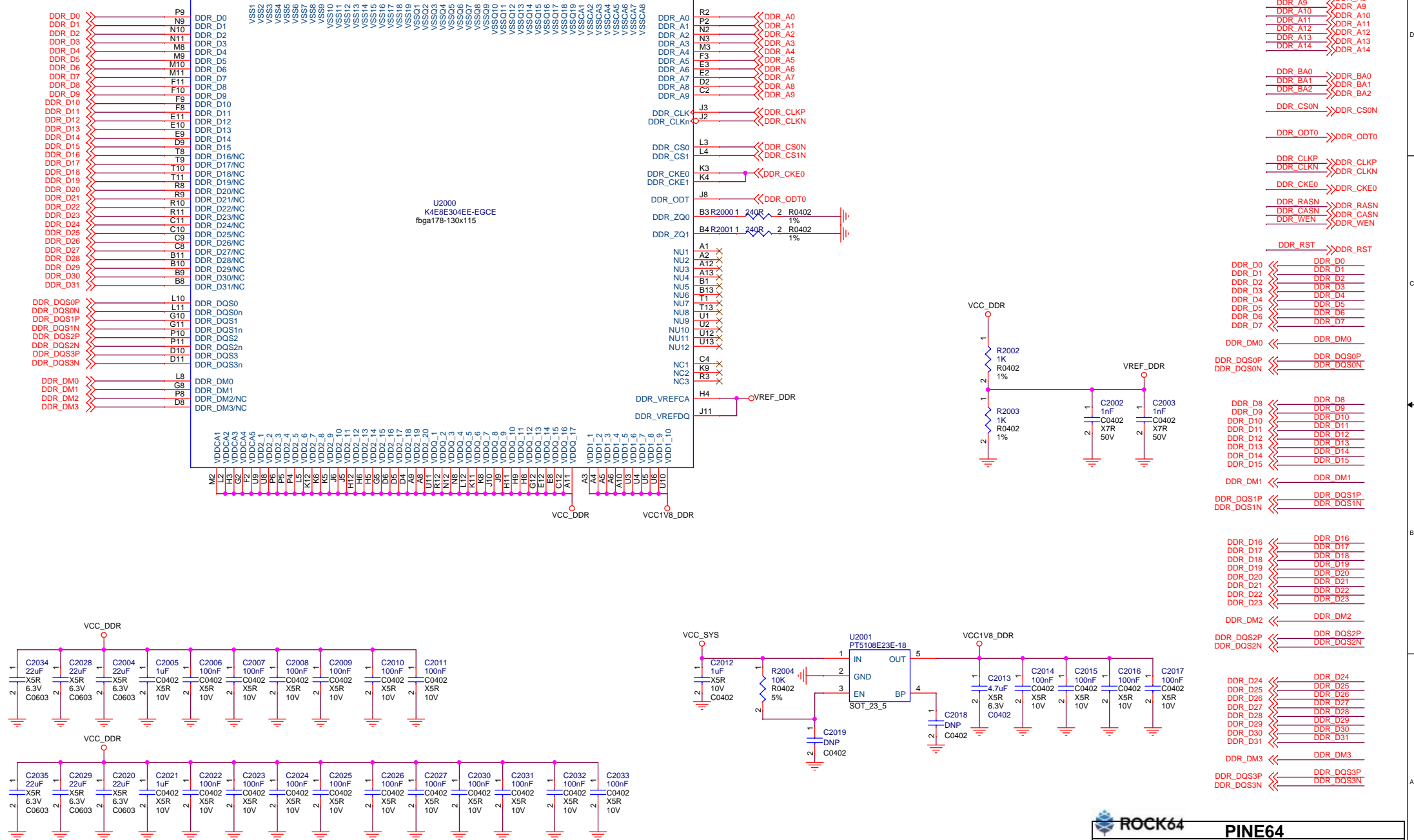
Embed FEPHY



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 FEPHY	V2.0
Date:	Tuesday, October 17, 2017	Sheet 11 of 19

LPDDR3 >=1866Mbps



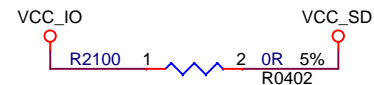
>>SDMMC0_D0
>>SDMMC0_D1
>>SDMMC0_D2/JTAG_TCK
>>SDMMC0_D3/JTAG_TMS

>>SDMMC0_CMD

>>SDMMC0_CLK

<<SDMMC0_DET

>>SDMMC0_PWREN



VCC_SD

SDMMC0_D2/JTAG_TCK 1 2 R2106 22R 5% R0402

SDMMC0_D3/JTAG_TMS 1 2 R2104 22R 5% R0402

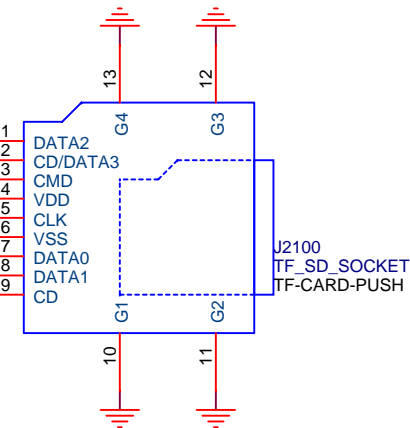
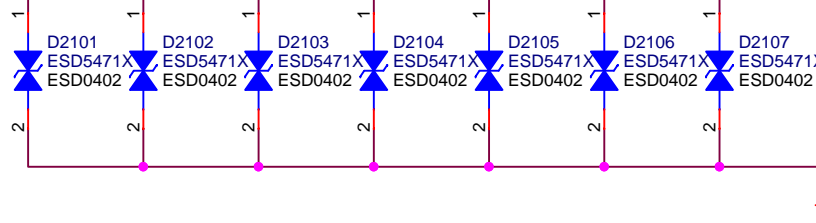
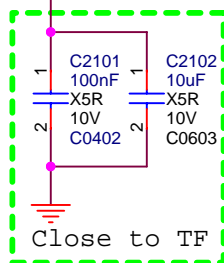
SDMMC0_CMD 1 2 R2105 22R 5% R0402

SDMMC0_CLK 1 2 R2107 22R 5% R0402

SDMMC0_D0 1 2 R2108 22R 5% R0402

SDMMC0_D1 1 2 R2109 22R 5% R0402

SDMMC0_DET 1 2 R2110 22R 5% R0402



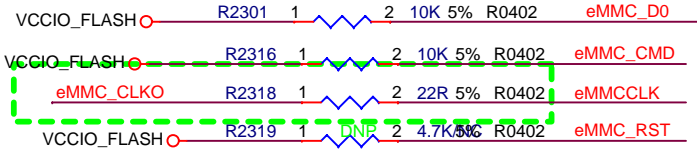
TF Card



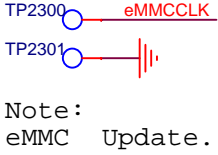
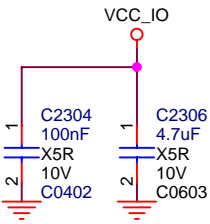
PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	TF/SD Card	V2.0
Date:	Tuesday, October 17, 2017	Sheet 13 of 19

Note:
EMMC SOCKET

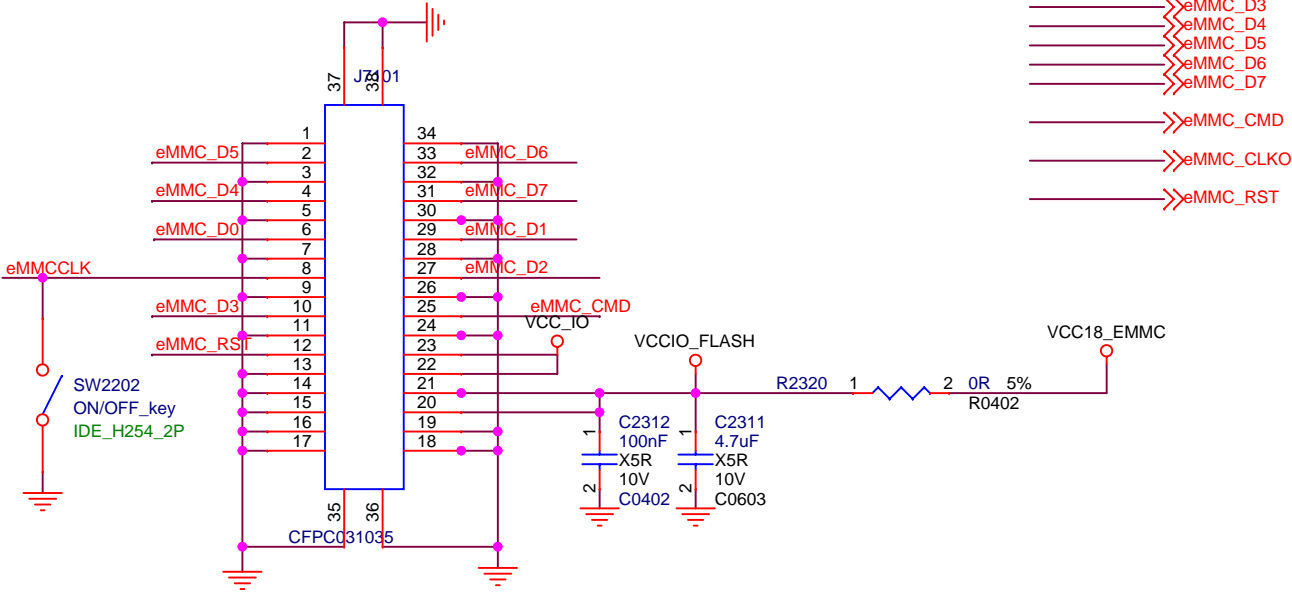


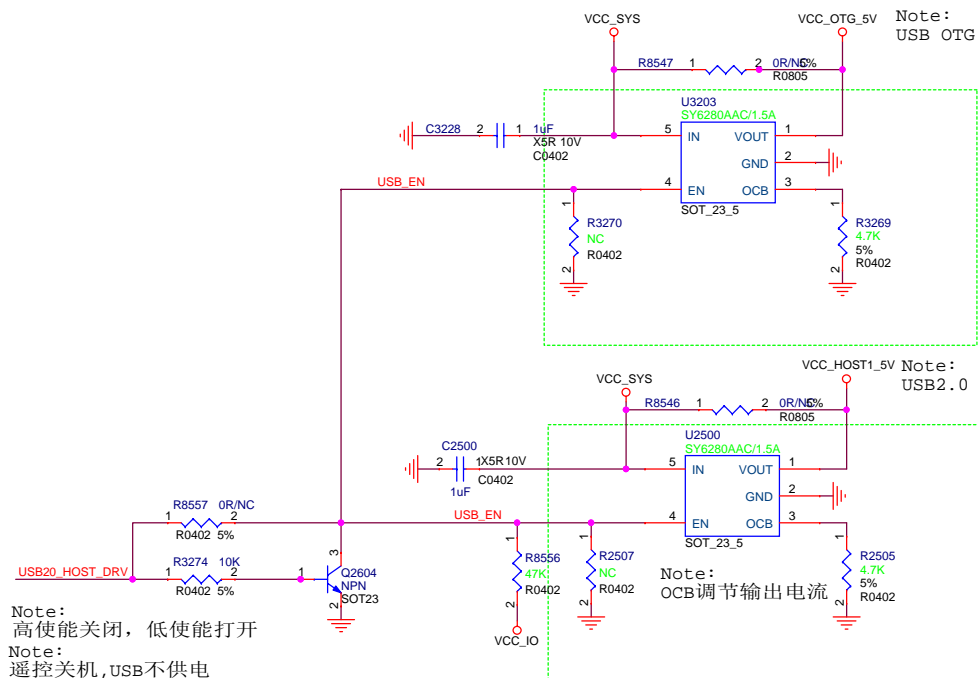
Note:
22R电阻必须靠近CPU放置



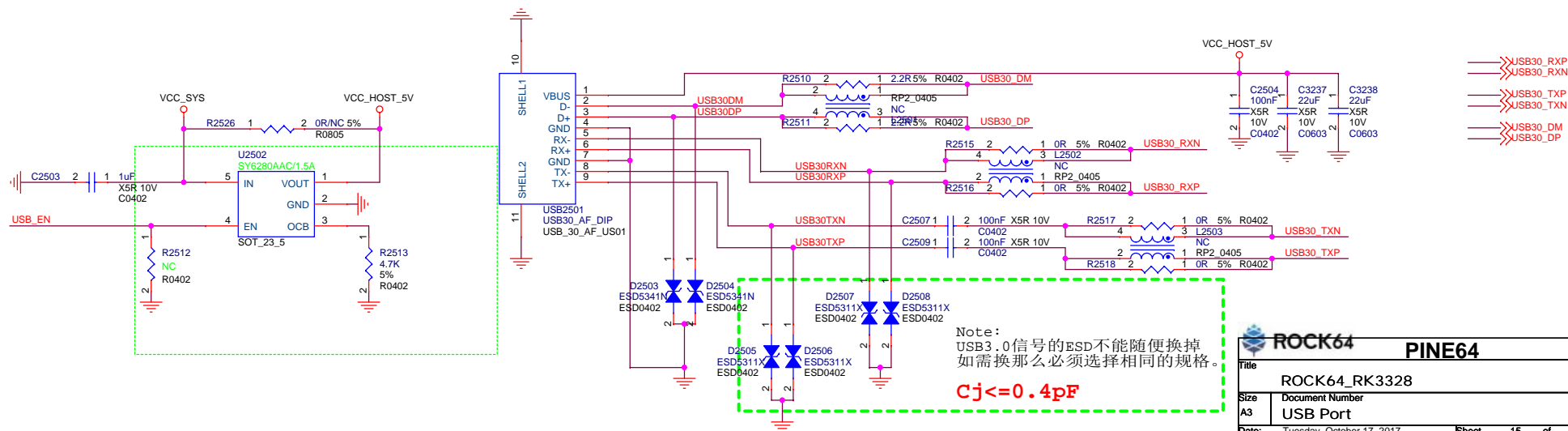
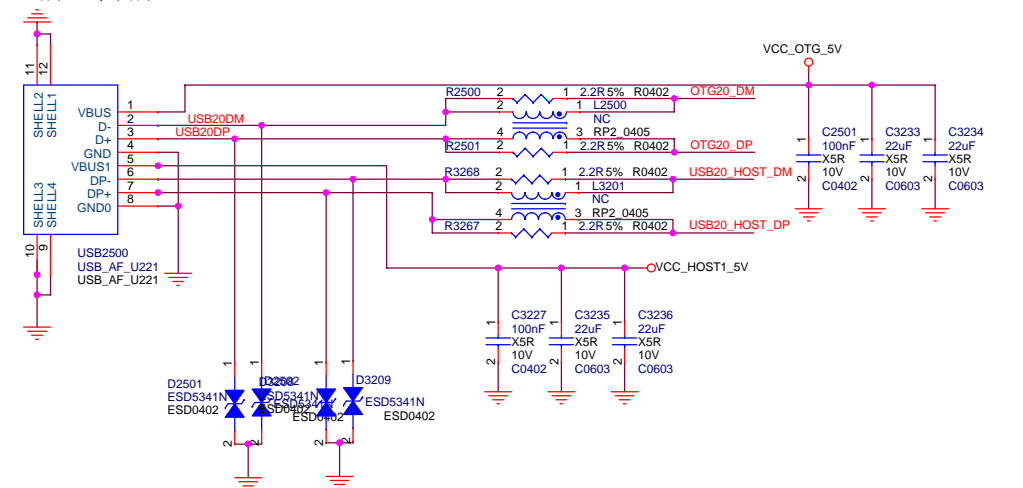
Note:
eMMC Update.

Note:
跳针使能



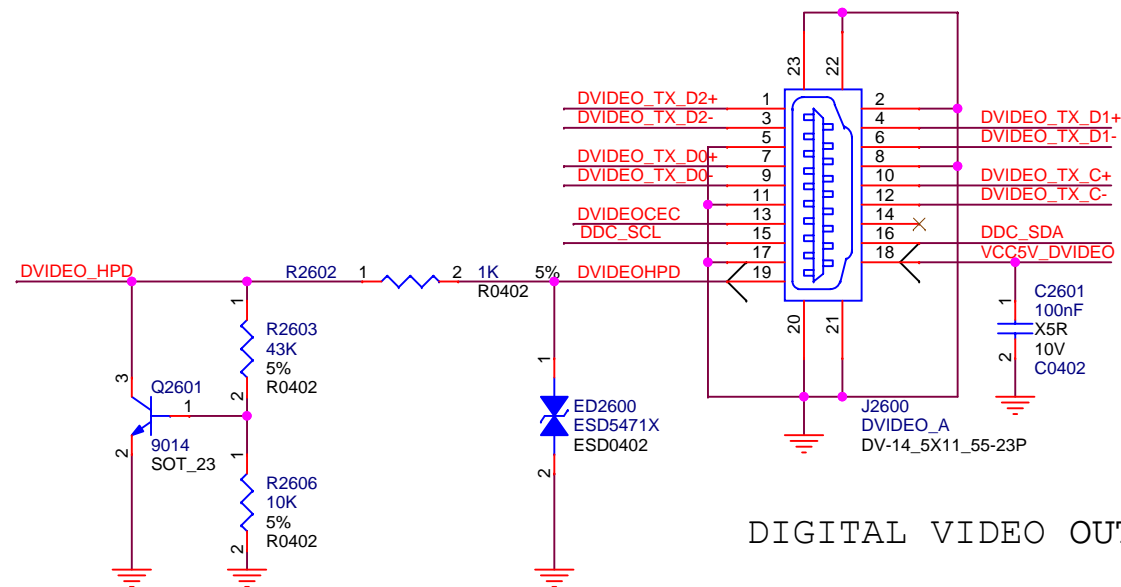
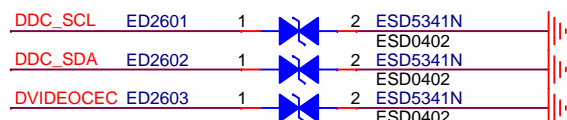
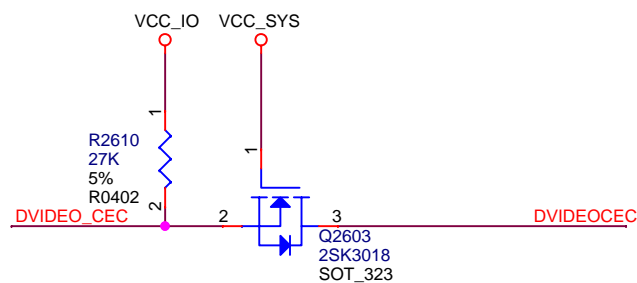
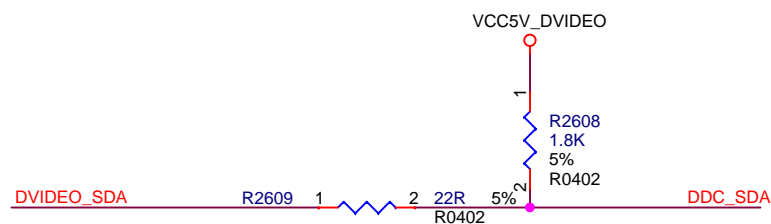
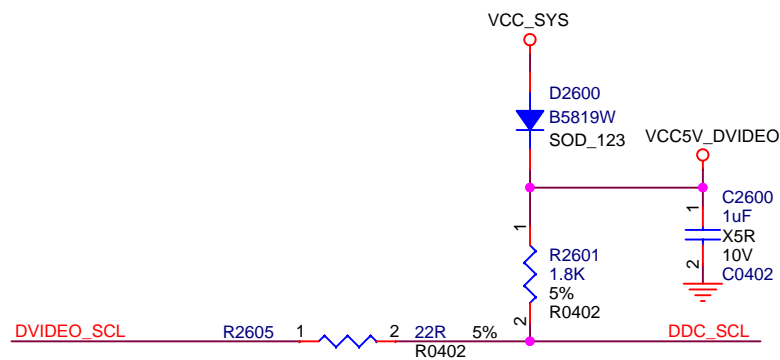


Note:
上层OTG, 下层USB HOST

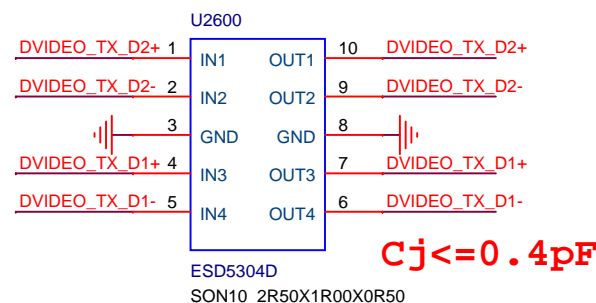


PINE64

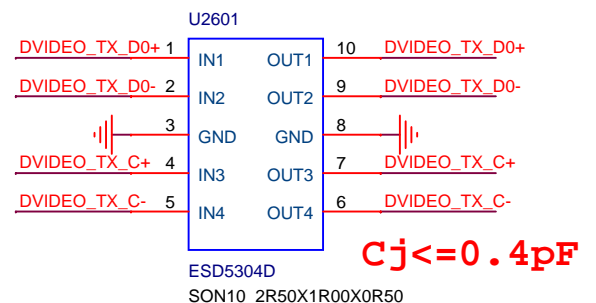
Title			ROCK64_RK3328
Size	Document Number	Rev	
A3	USB Port	V2.0	
Date:	Tuesday, October 17, 2017	Sheet	15 of 19



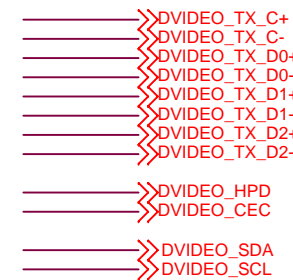
DIGITAL VIDEO OUT



$C_j \leq 0.4 \text{ pF}$



$C_j \leq 0.4 \text{ pF}$



ROCK64

PINE64

Title
 ROCK64_RK3328

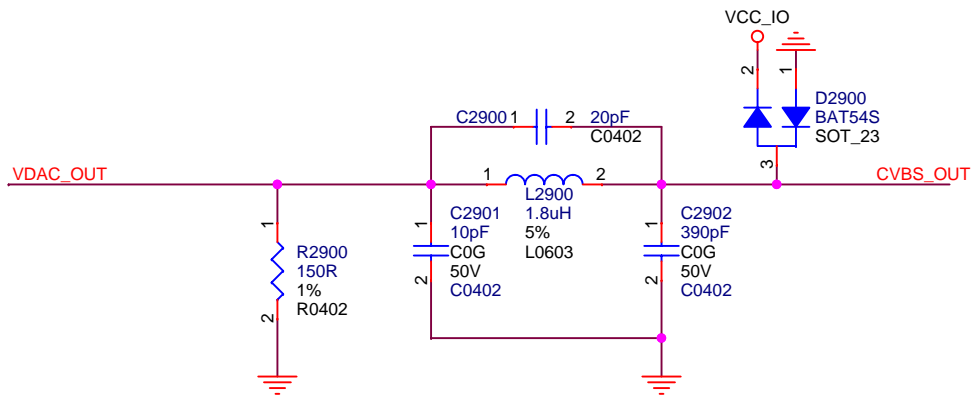
Size
 A4

Digital Video Out

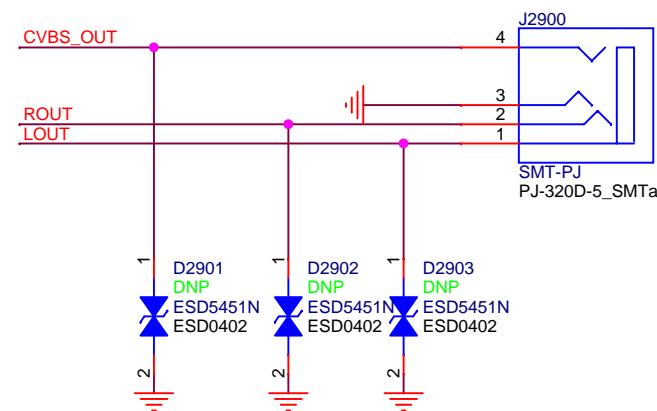
Rev
 V2.0

Date: Tuesday, October 17, 2017

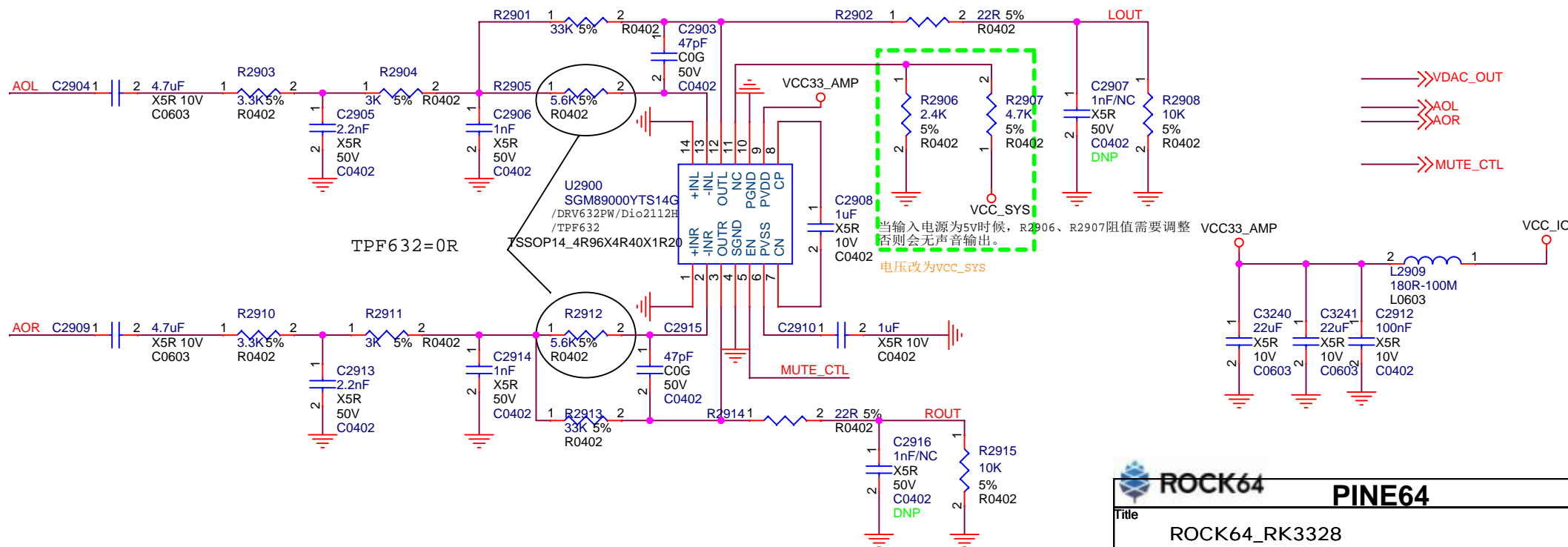
Sheet 16 of 19



省成本方案: C2900贴0R电阻, R2900贴330R, L2900,C2901,C2902不贴



AV OUT



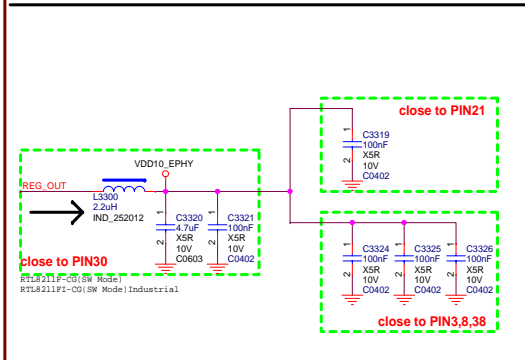
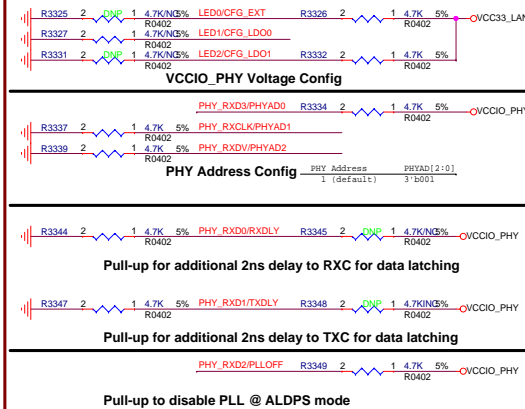
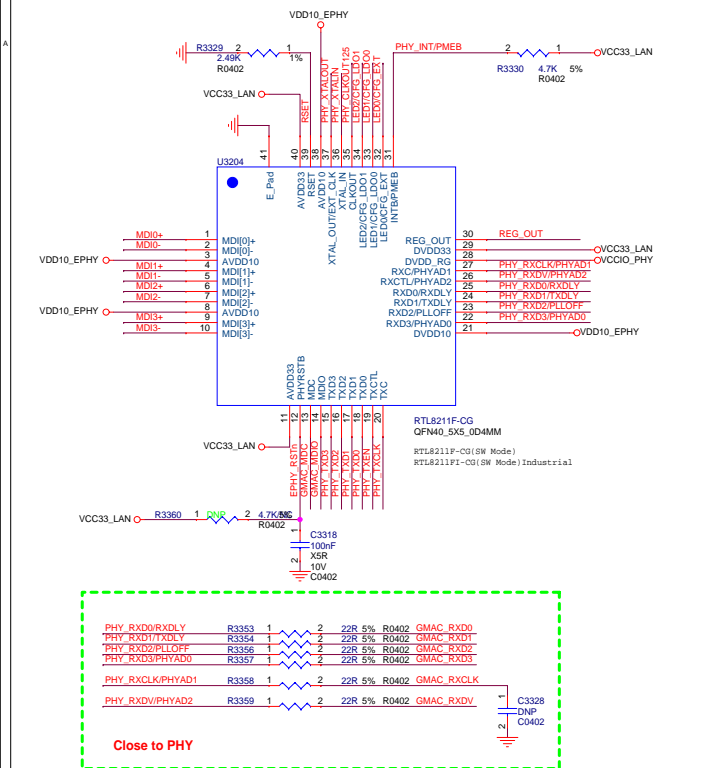
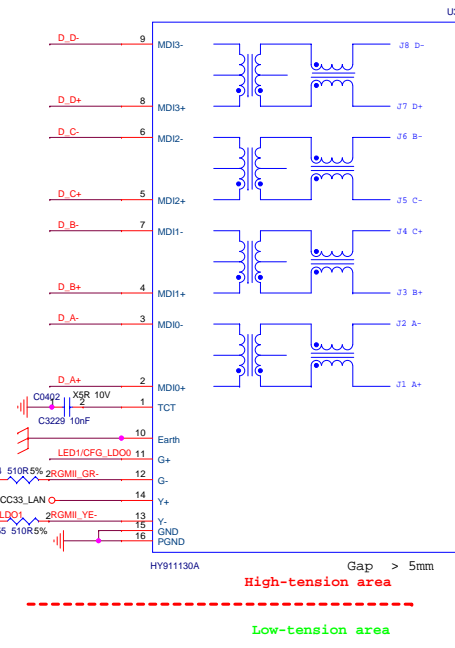
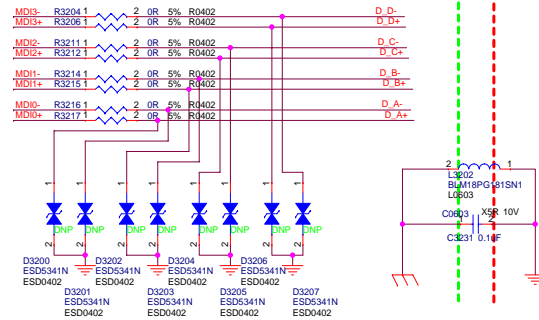
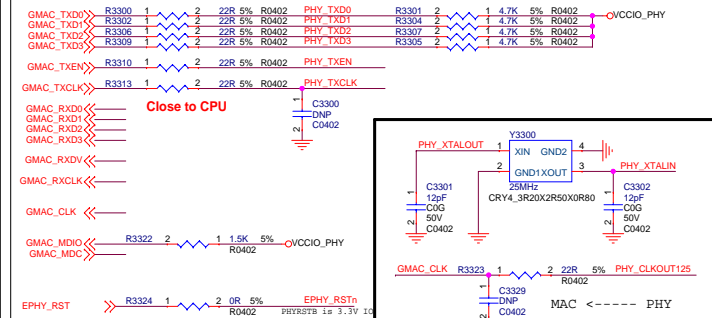
2-Vrms Audio Line Driver



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	AV OUT Port	V2.0
Date:	Tuesday, October 17, 2017	Sheet 17 of 19

RJ45 & Transformer



RGMII Power Source	CFG_EXT	CFG_LDO[1:0]	
External 3.3V	1'b1	2'b00	
External 1.8V (default)	1'b1	2'b10	
Internal 1.8V	1'b0	2'b10	

