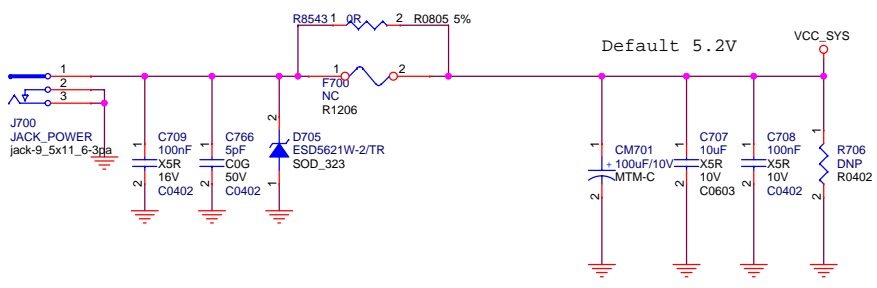


Power Timing

TYPE	VOLT	STEP	PowerName
BUCK1	1.1V		VDD_LOG
BUCK2	1.1V		VDD_ARM
BUCK3	FB=0.8V		VCC_DDR
BUCK4	3.3V		VCC_IO
LDO1	1.8V		VCC_18
LDO2	1.8V		VCC18_eMMC
LDO3	1.0V		VDD_10

IO电源域电压	IO电压 = 3.3V	IO电压 = 1.8V
VCCIO_PMU	3.3V	不支持
VCCIO1	3.3V	不支持
VCCIO2		1.8V (默认) eMMC
VCCIO3	3.3V (默认)	
VCCIO4	3.3V (默认) WIFI:RTL8723BS	
VCCIO5	3.3V (默认)	
VCCIO6	3.3V (默认)	

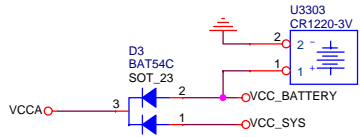


DC5V VCC_SYS

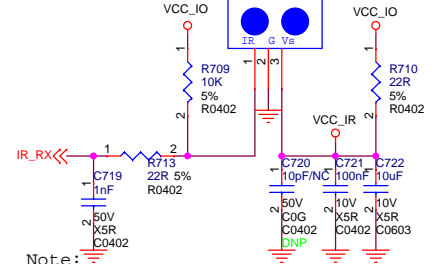
ADD: 20171225

RTC

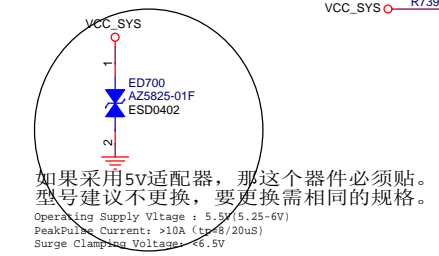
关机可保持系统时间:



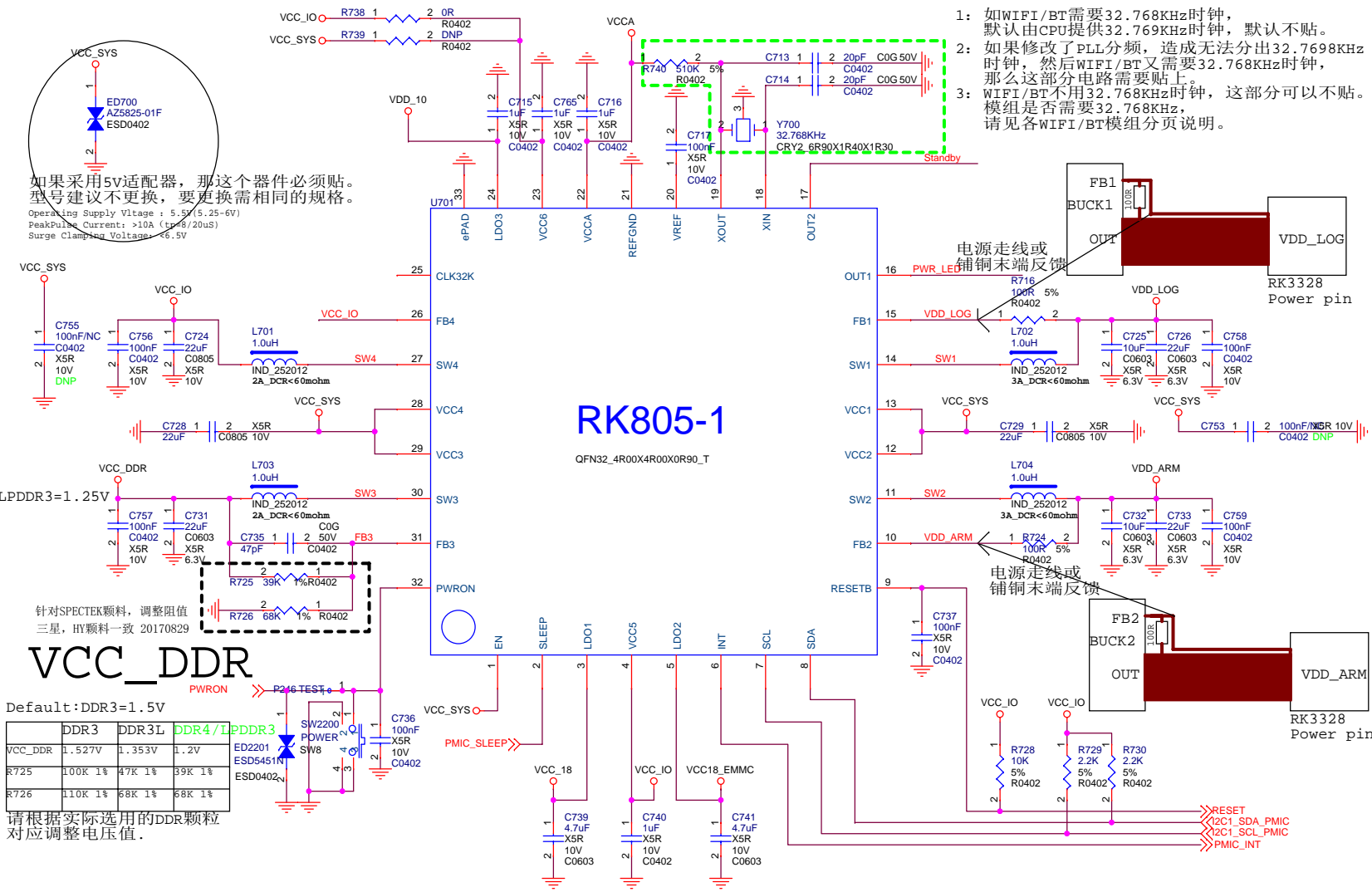
IR Receiver



Note:
WIFI天线不能太靠近IR接收头,
WIFI会干扰IR接收头。
发光二极管也有可能影响红外接收。



如果采用5v适配器, 那么这个器件必须贴。
型号建议不更换, 要更换需相同的规格。
Operating Supply Voltage : 5.5V(5.25-6V)
Peak Pulse Current: >10A (tr=8/20uS)
Surge Clamping Voltage: <6.5V



VCC_DDR

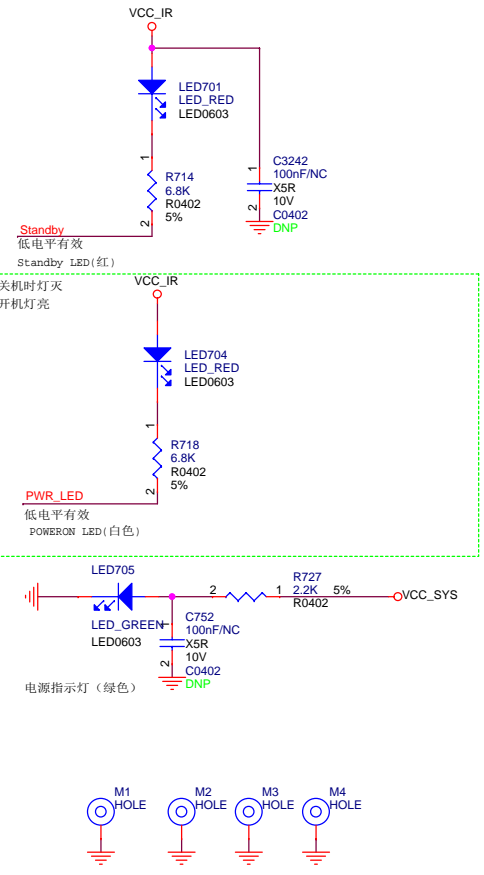
Default: DDR3=1.5V

	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。

- 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32.769KHz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。

LED DISPLAY

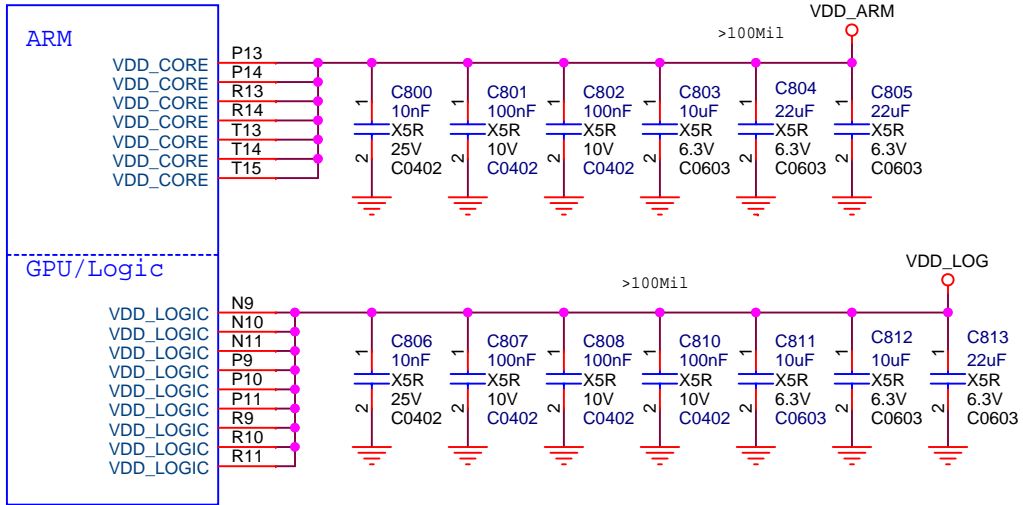


ROCK64 PINE64

File: **ROCK64_RK3328**

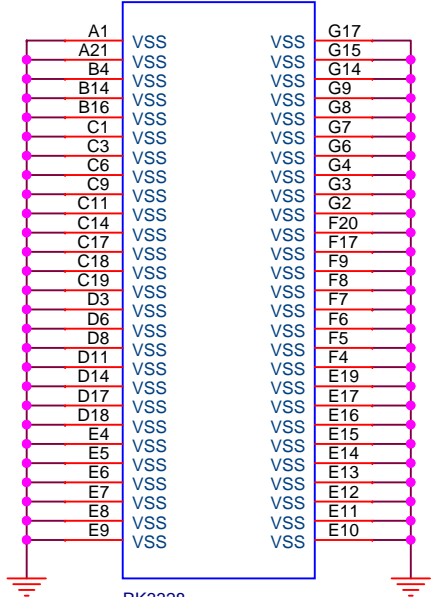
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Date: Tuesday, October 17, 2017	Sheet: 2	of 20

U800N



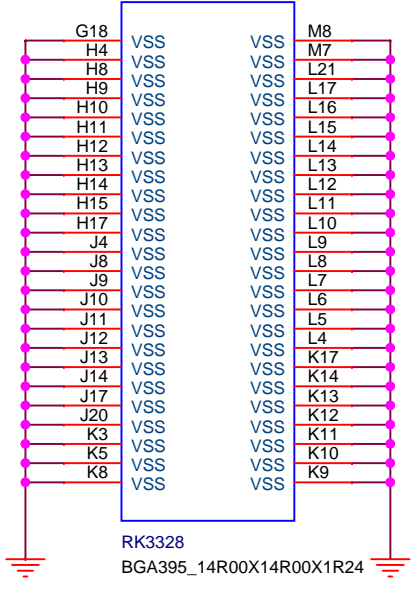
RK3328
BGA395_14R00X14R00X1R24

U800O



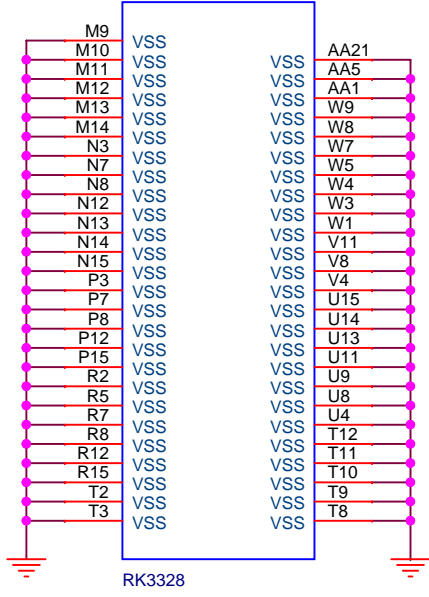
RK3328
BGA395_14R00X14R00X1R24

U800P



RK3328
BGA395_14R00X14R00X1R24

U800Q

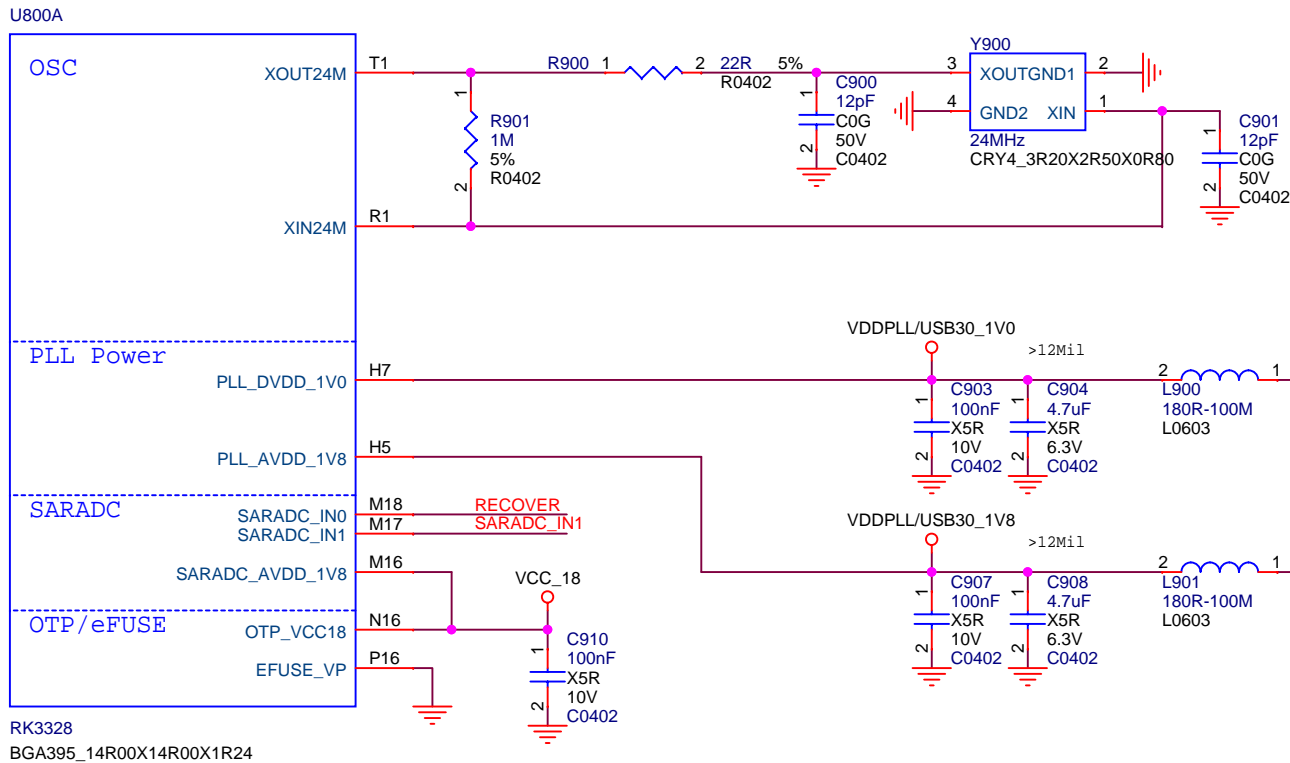


RK3328
BGA395_14R00X14R00X1R24

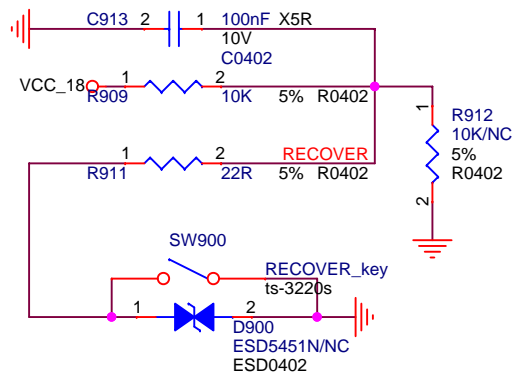
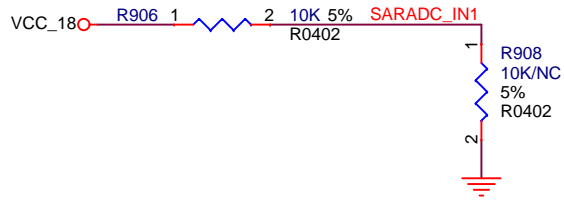


PINE64

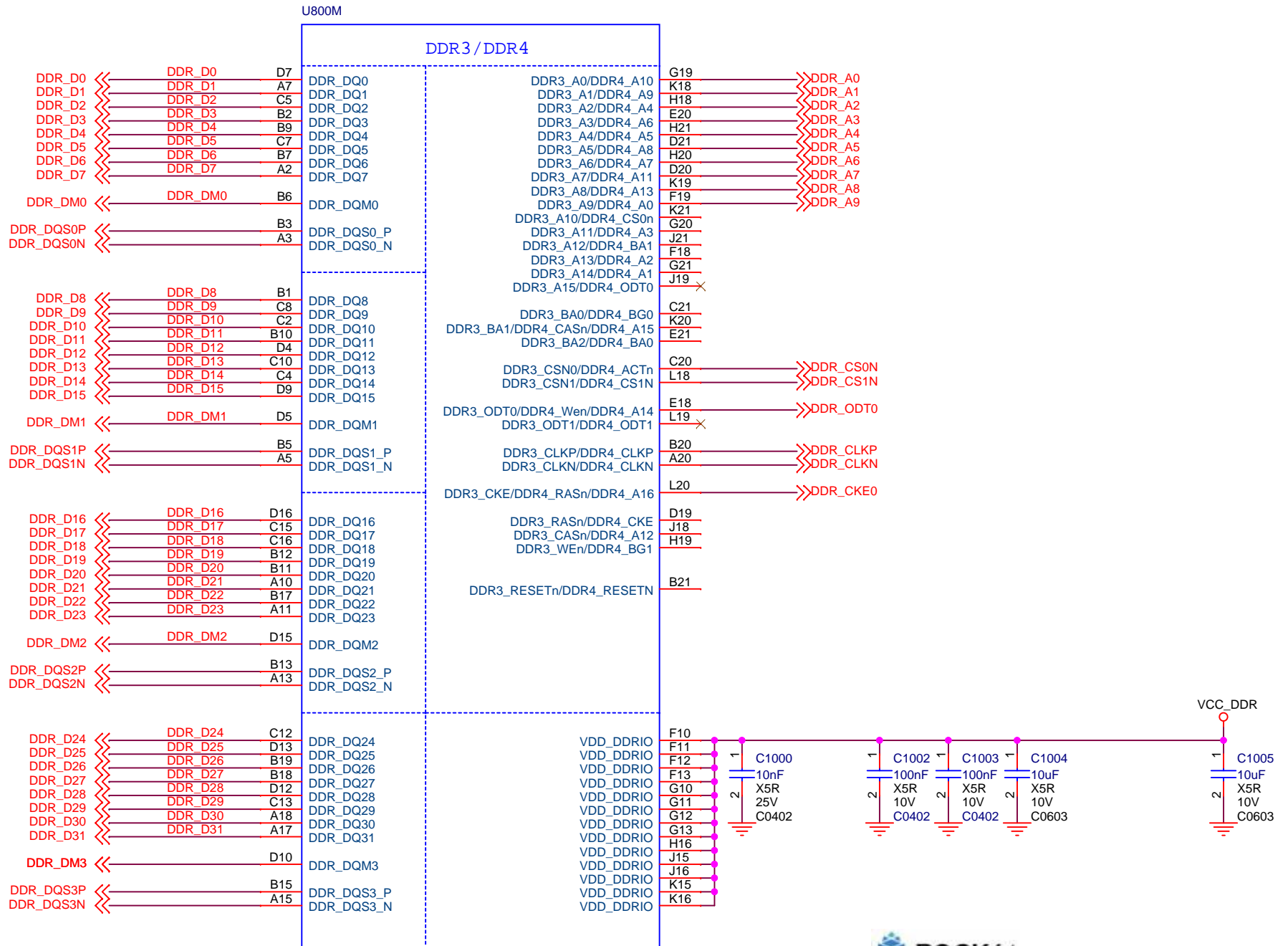
Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 Power	V3.0
Date:	Tuesday, October 17, 2017	Sheet 3 of 20



RK3328
BGA395_14R00X14R00X1R24



		PINE64	
		Title ROCK64_RK3328	
Size A4	Document Number RK3328 OSC/PLL/OTP/SARADC	Rev V3.0	
Date: Tuesday, October 17, 2017	Sheet 4	of	20



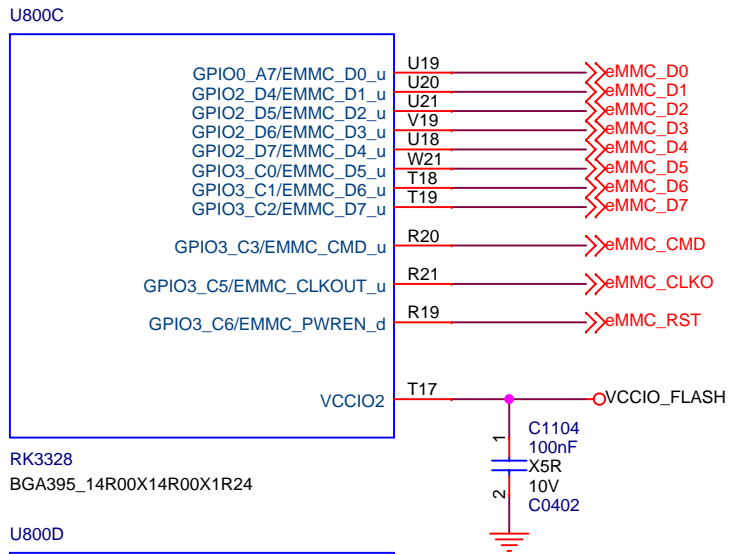
U800M
 RK3328
 BGA395_14R00X14R00X1R24

ROCK64 PINE64

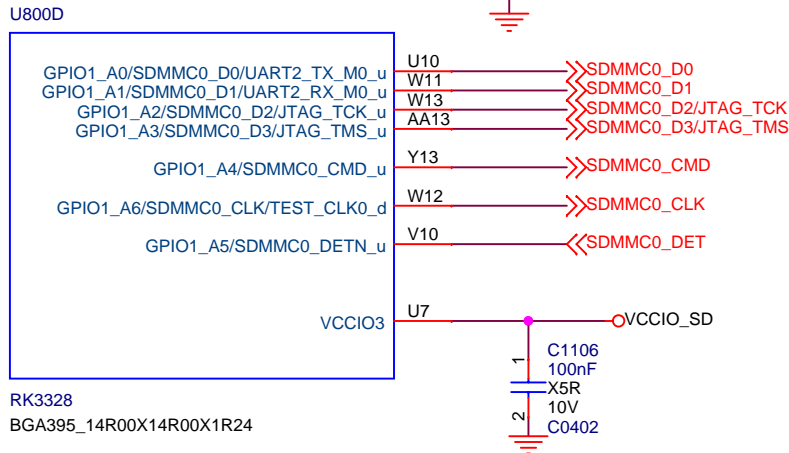
Title: ROCK64_RK3328

Size: A4	Document Number: RK3328 DDR Controller	Rev: V3.0
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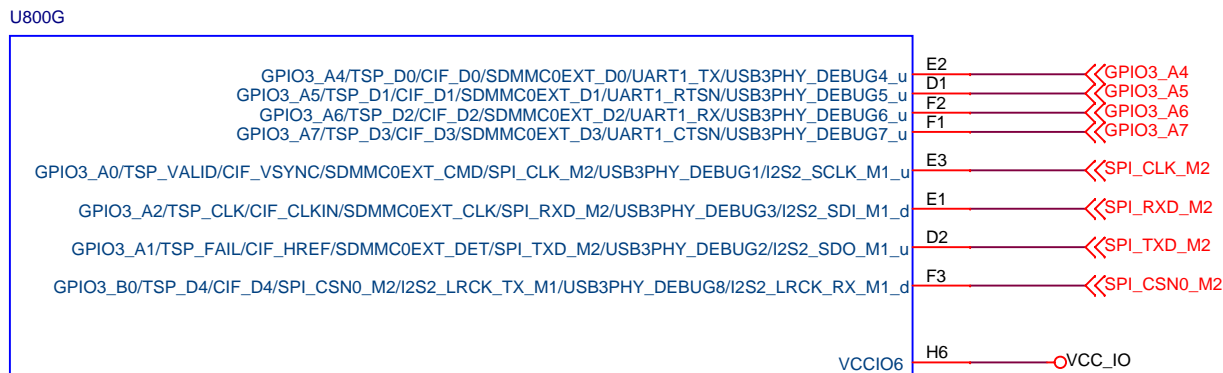
Date: Tuesday, October 17, 2017 Sheet 5 of 20



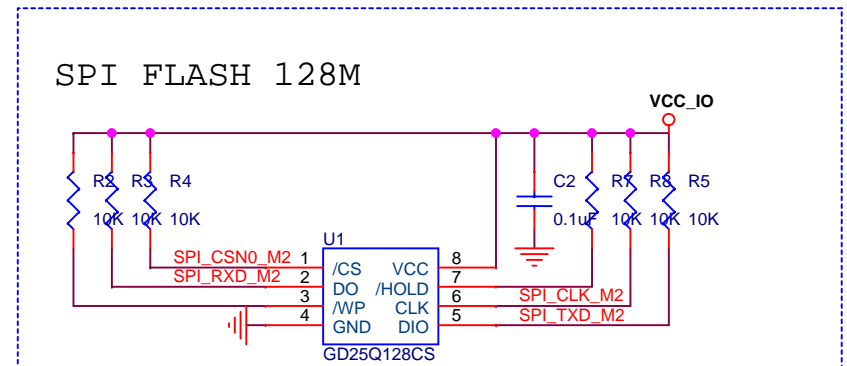
RK3328
BGA395_14R00X14R00X1R24



RK3328
BGA395_14R00X14R00X1R24

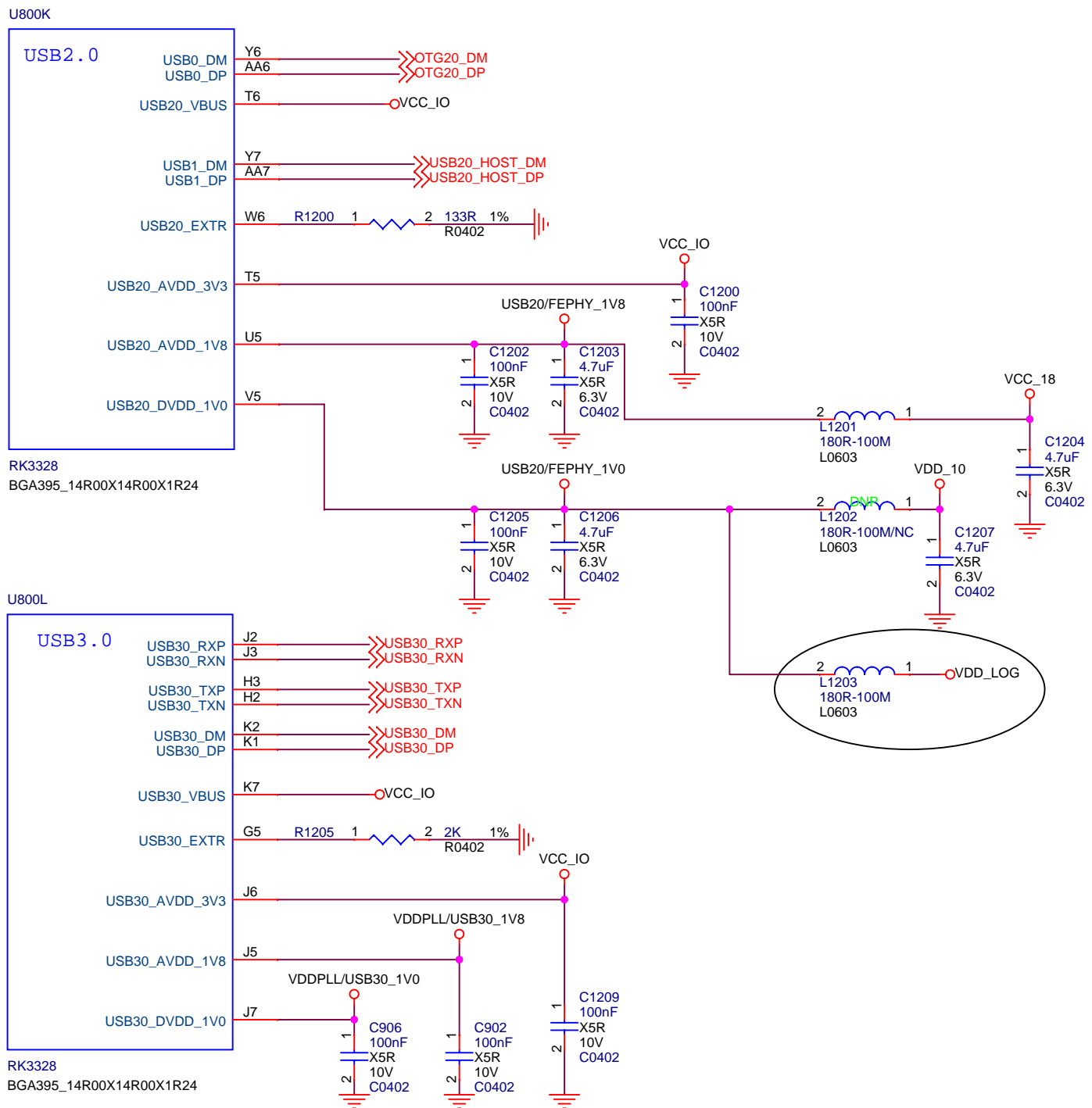


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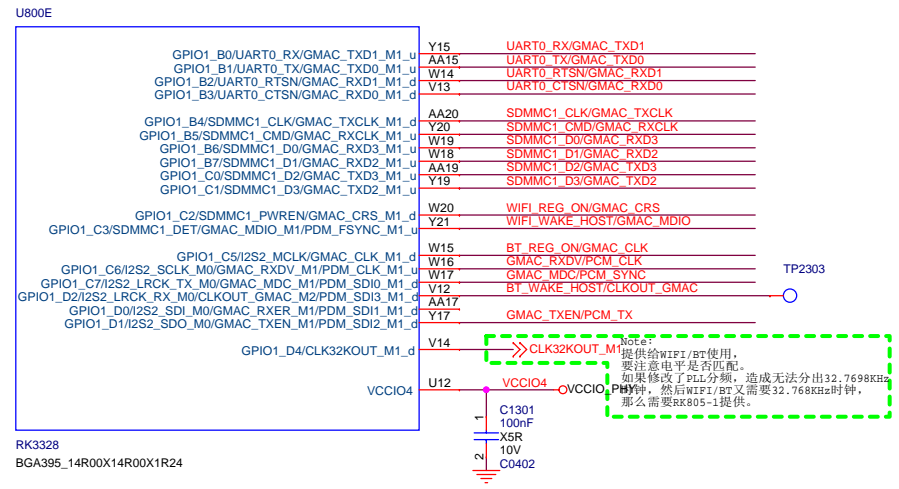
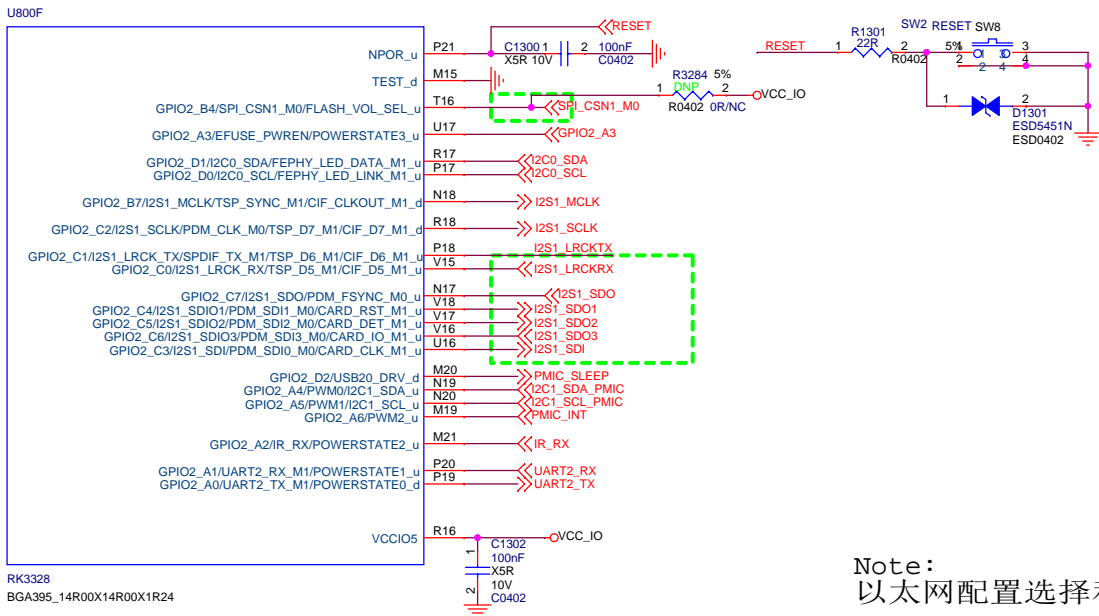
PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 eMMC Controller/TF	V3.0
Date:	Tuesday, October 17, 2017	Sheet 6 of 20



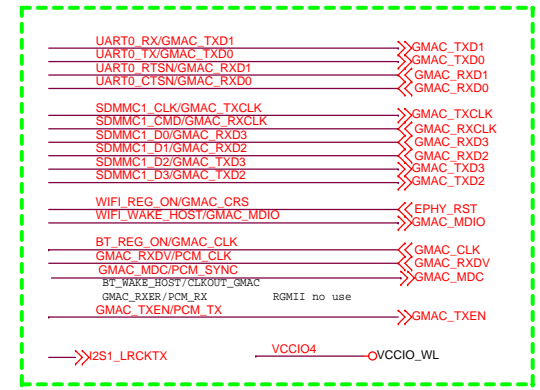
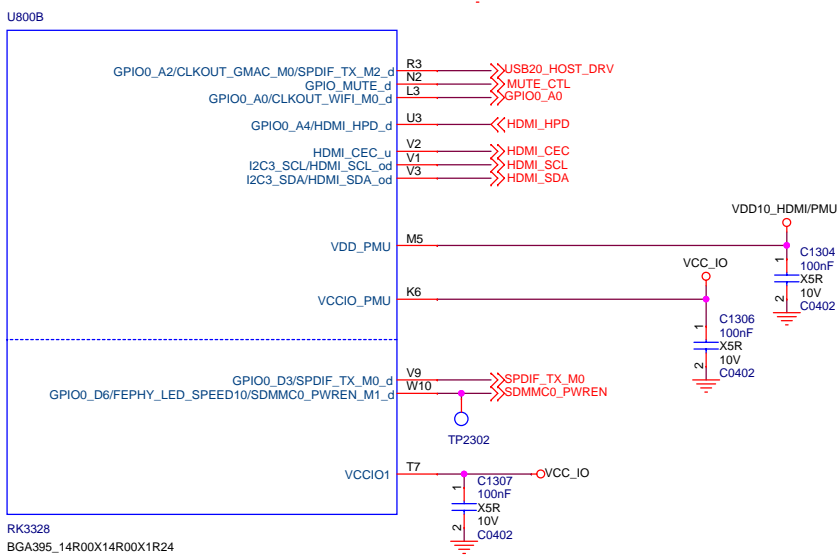
PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 USB2 PHY/USB3 PHY	V3.0
Date:	Tuesday, October 17, 2017	Sheet 7 of 20

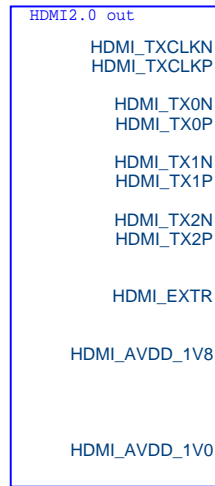


Note:
以太网配置选择和WIFI, BT配置选择

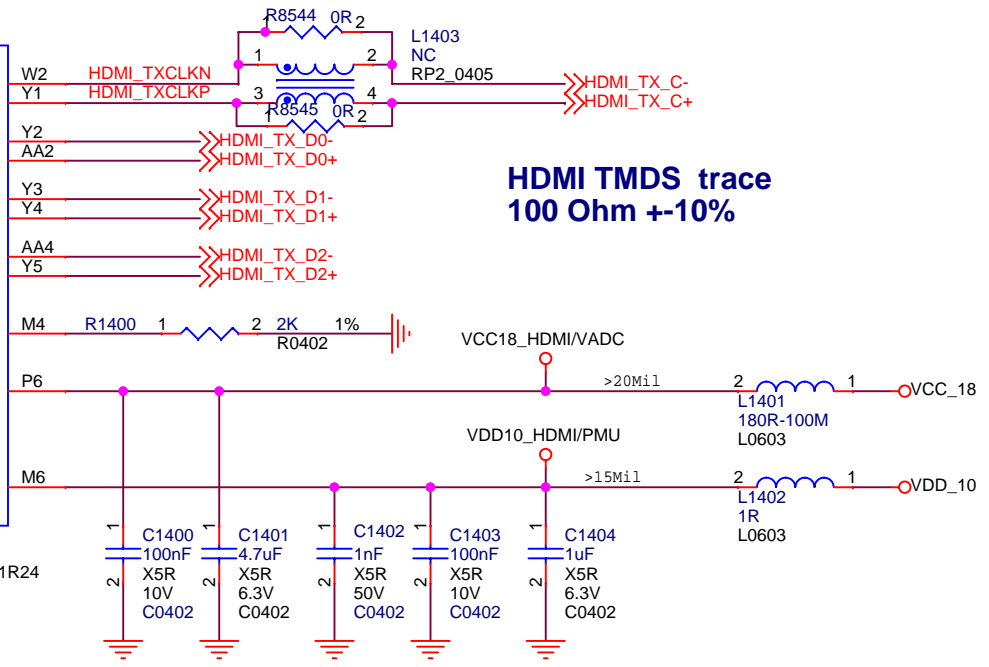
2: 需要100M以太网时，需外接100M PHY
WIFI, BT可以选择
USB WIFI和USB BT。
或SDMMC0EXT WIFI和USB BT
这个配置下，可以支持双网口，
内置的100M以太网也可以同时用。



U8001



RK3328
BGA395_14R00X14R00X1R24

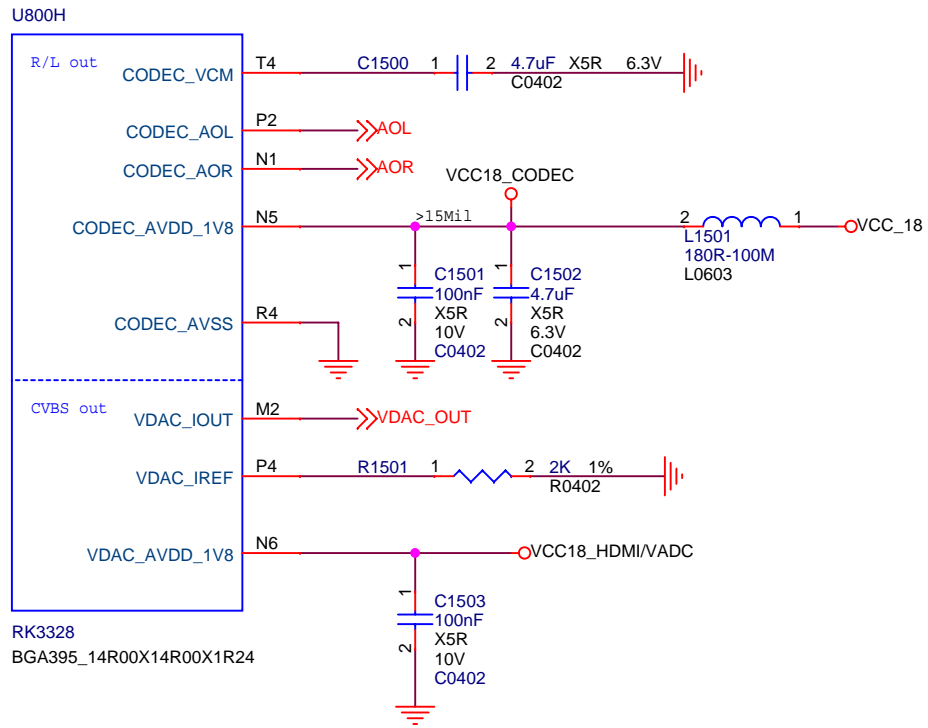


**HDMI TMSD trace
100 Ohm +-10%**



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 HDMI PHY	V3.0
Date:	Tuesday, October 17, 2017	Sheet 9 of 20



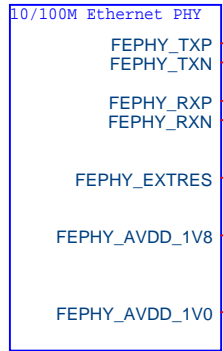
RK3328
BGA395_14R00X14R00X1R24



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 AV Interface	V3.0
Date:	Tuesday, October 17, 2017	Sheet 10 of 20

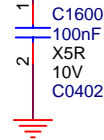
U800J



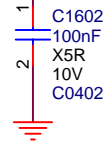
RK3328
BGA395_14R00X14R00X1R24

Embed FEPHY

USB20/FEPHY_1V8



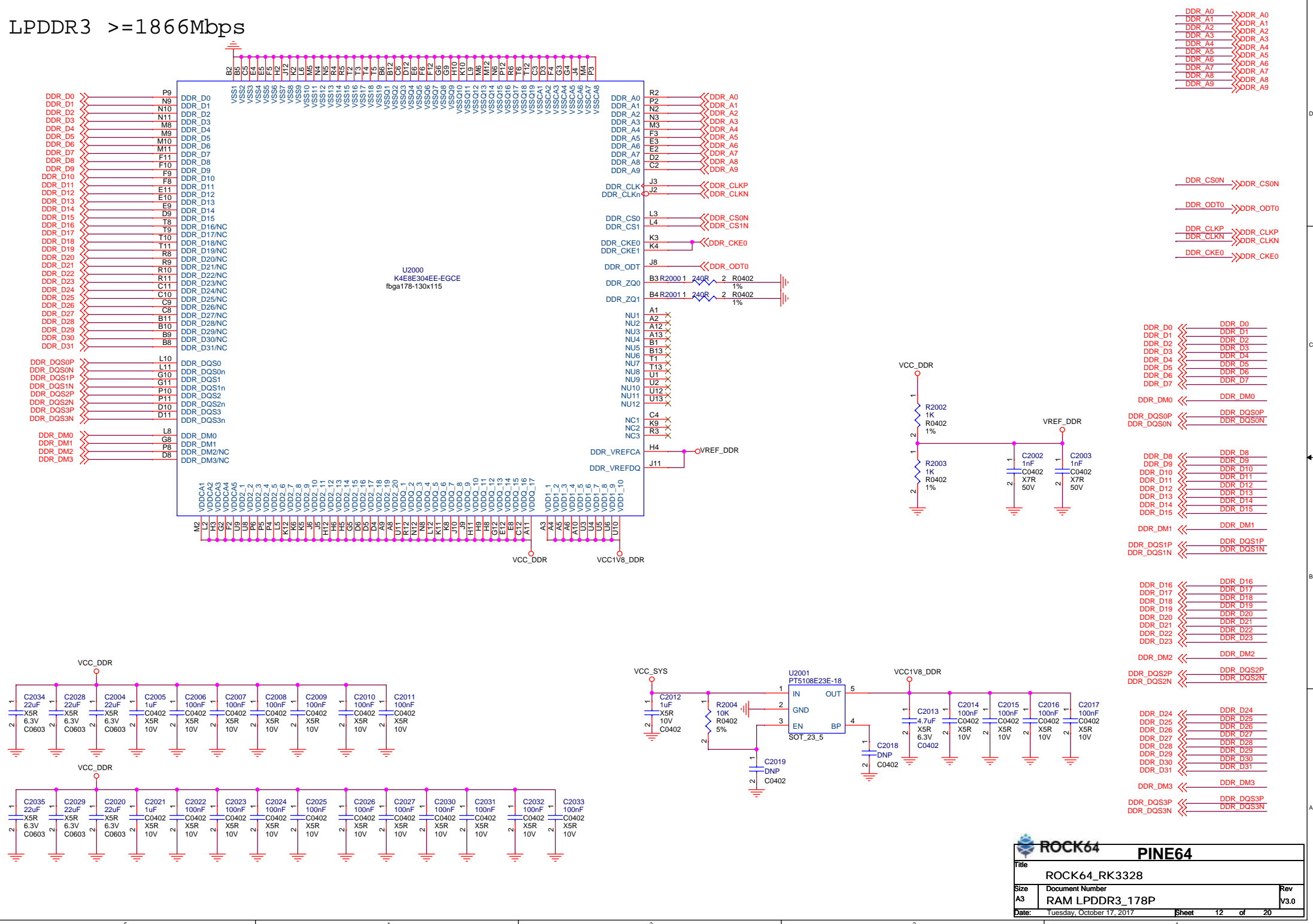
USB20/FEPHY_1V0



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 FEPHY	V3.0
Date:	Tuesday, October 17, 2017	Sheet 11 of 20

LPDDR3 >=1866Mbps



ROCK64 PINE64

Title: ROCK64_RK3328

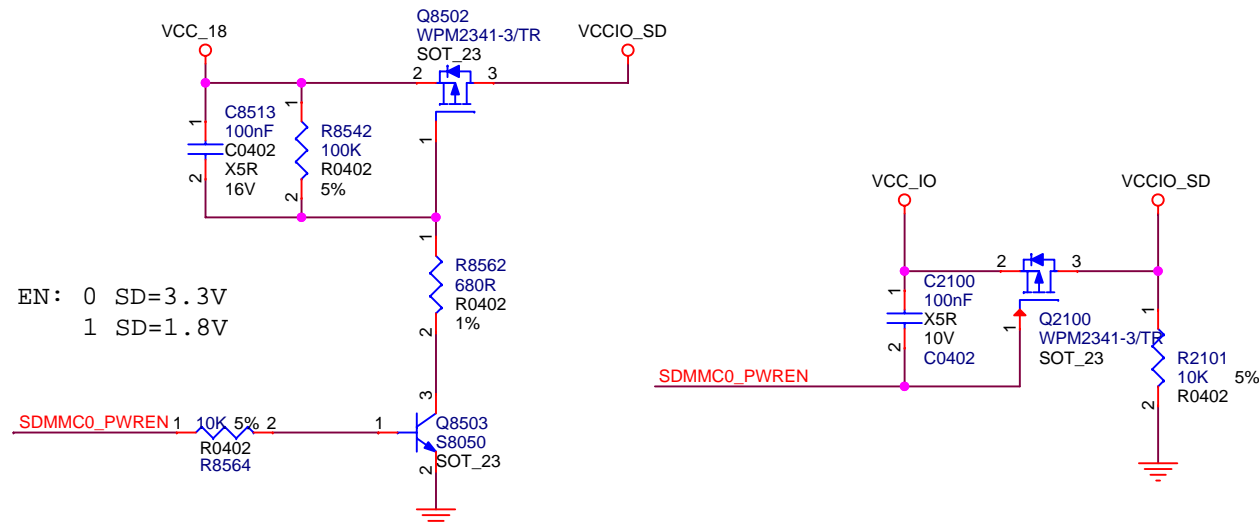
Size: Document Number

A3: RAM LPDDR3_178P

Date: Tuesday, October 17, 2017

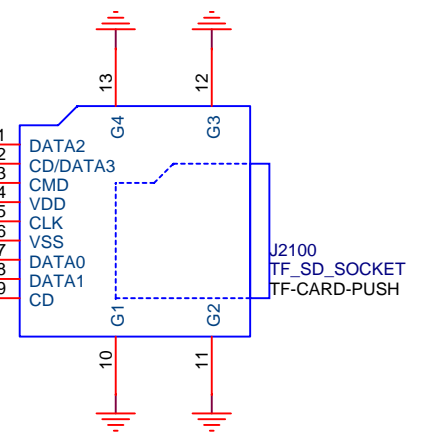
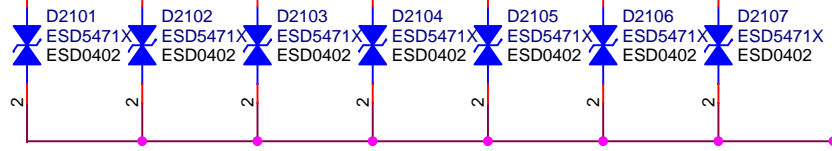
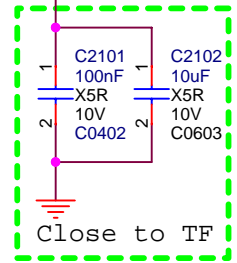
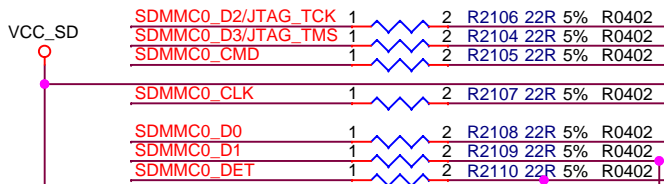
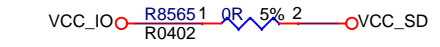
Sheet: 12 of 20

Rev: V3.0



EN: 0 SD=3.3V
 1 SD=1.8V

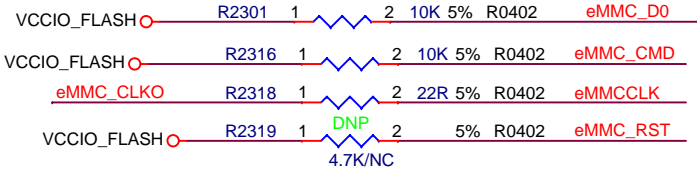
- >>SDMMC0_D0
- >>SDMMC0_D1
- >>SDMMC0_D2/JTAG_TCK
- >>SDMMC0_D3/JTAG_TMS
- >>SDMMC0_CMD
- >>SDMMC0_CLK
- >>SDMMC0_DET
- >>SDMMC0_PWREN



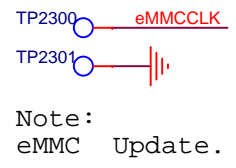
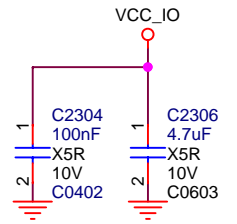
TF Card

		PINE64
Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	TF/SD Card	V3.0
Date:	Tuesday, October 17, 2017	Sheet 13 of 20

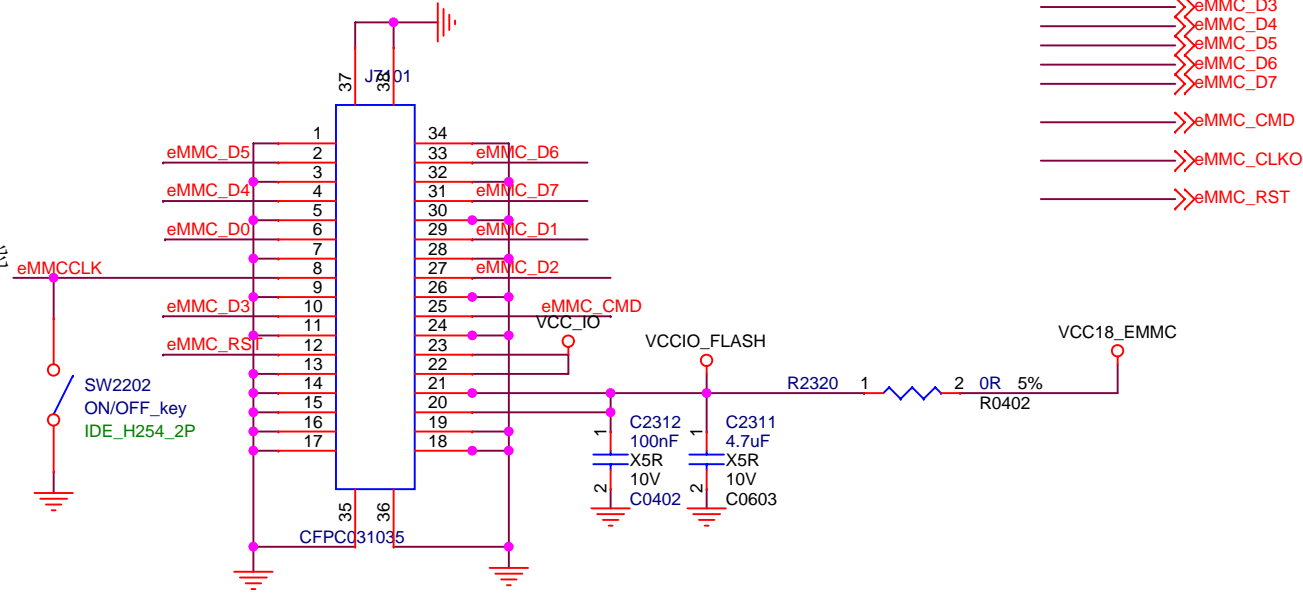
Note:
EMMC SOCKET



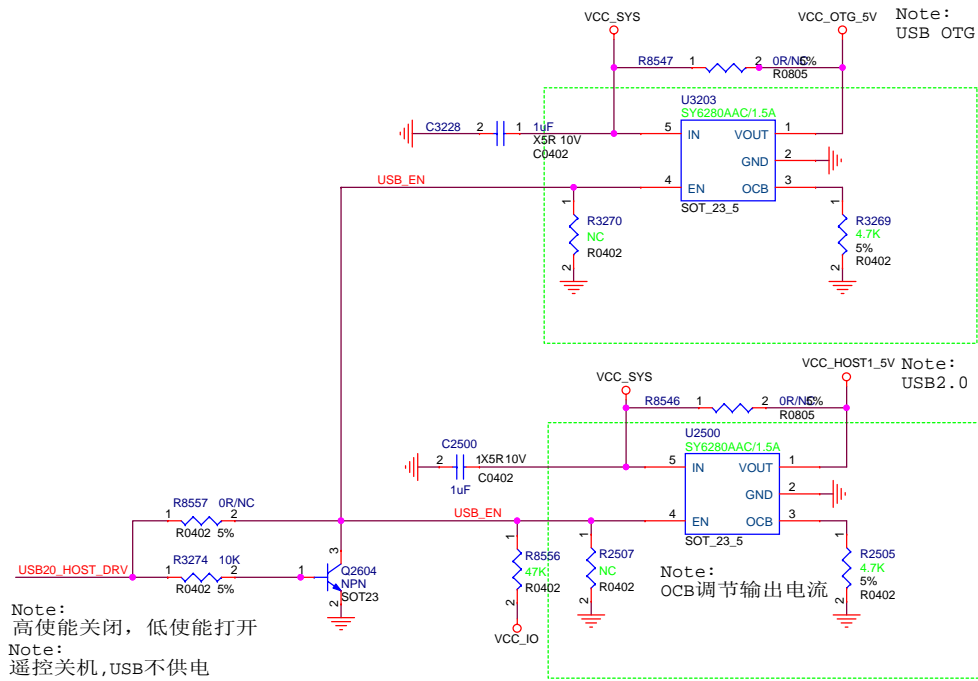
Note:
22R电阻必须靠近CPU放置



Note:
跳针使能

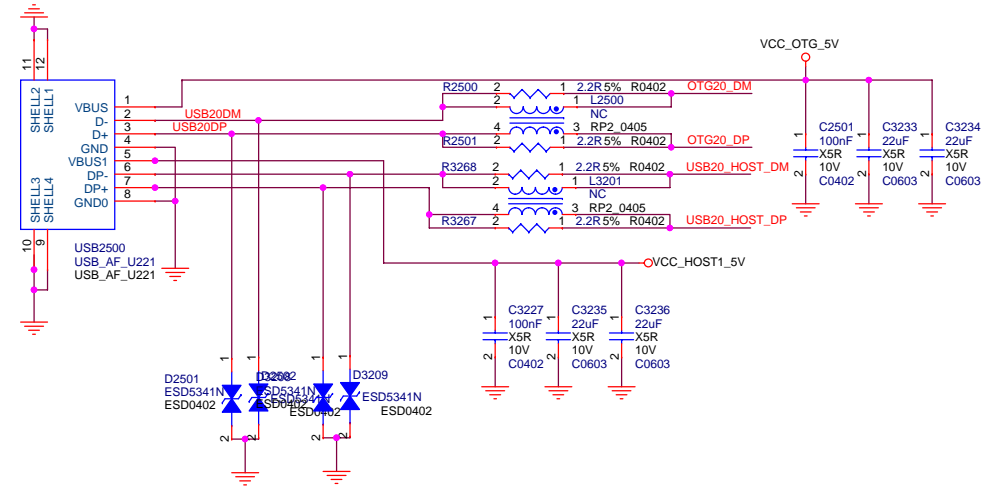


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Size A4	Document Number Flash-eMMC		Rev V3.0
Date: Tuesday, October 17, 2017		Sheet 14 of 20	

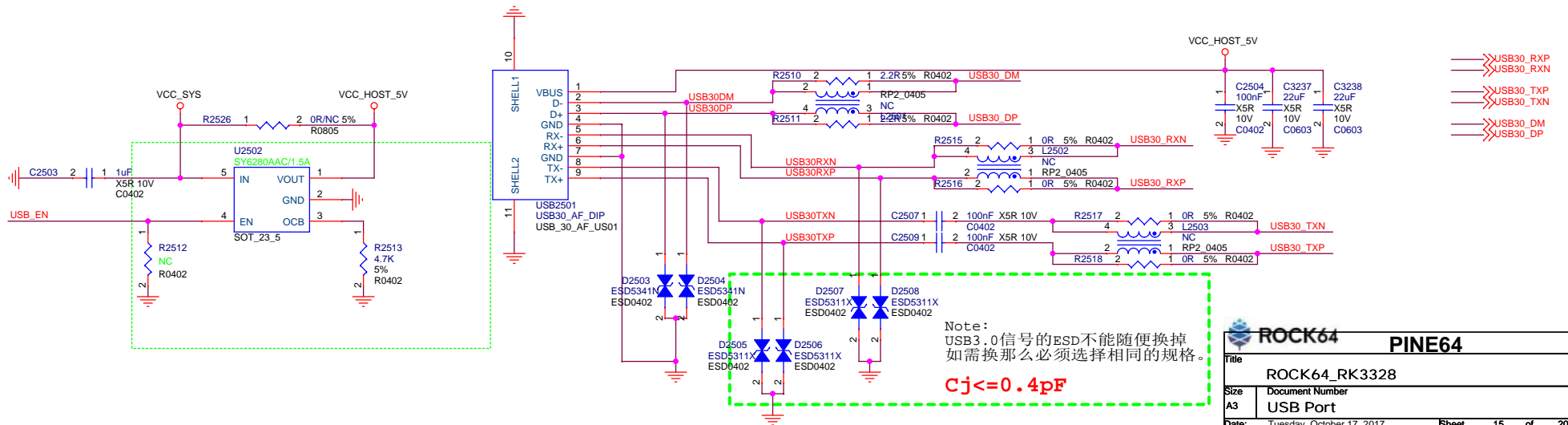


Note:
高使能关闭, 低使能打开
Note:
遥控关机, USB不供电

Note:
上层OTG, 下层USB HOST



OTG20_DM
OTG20_DP
USB20_HOST_DRV
USB20_HOST_DM
USB20_HOST_DP

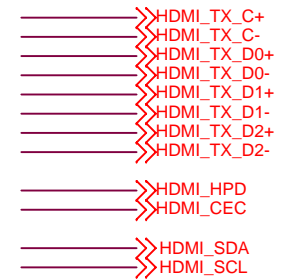
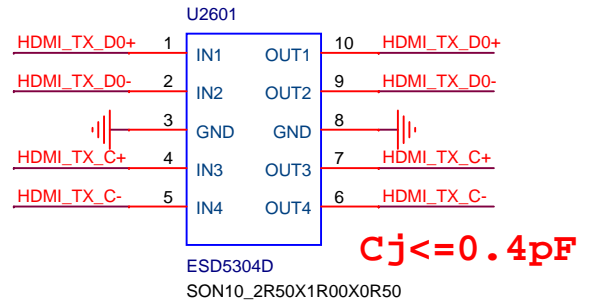
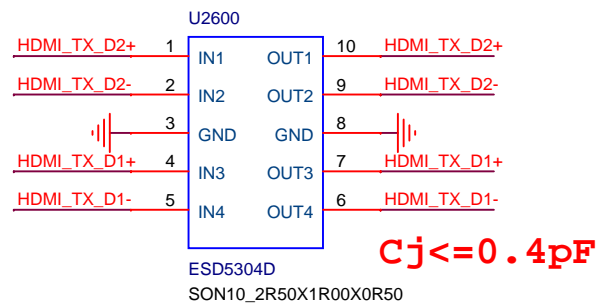
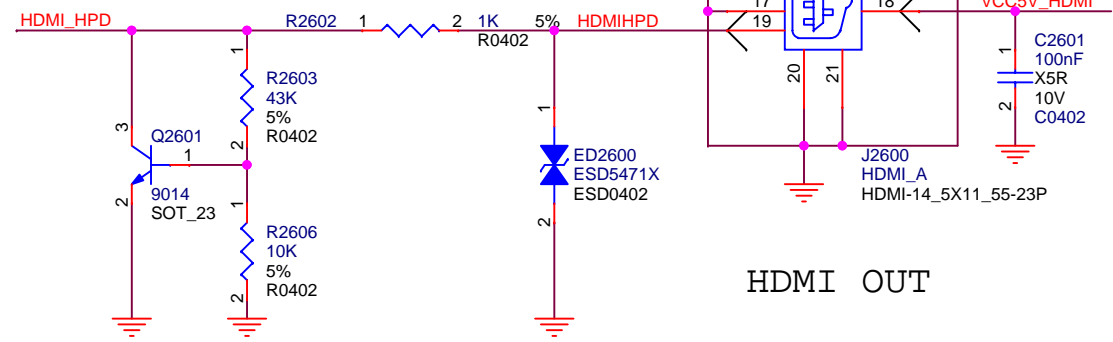
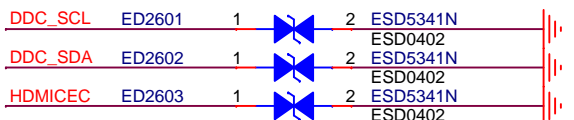
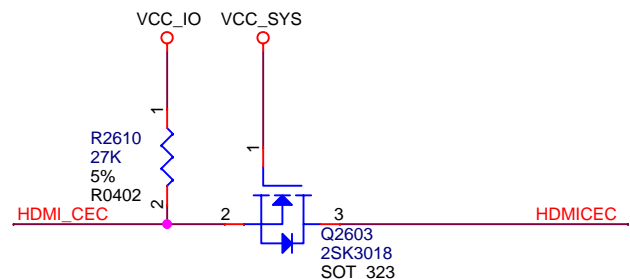
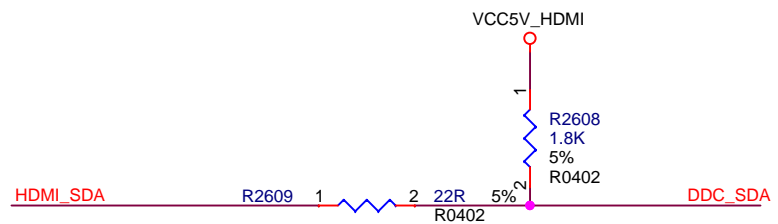
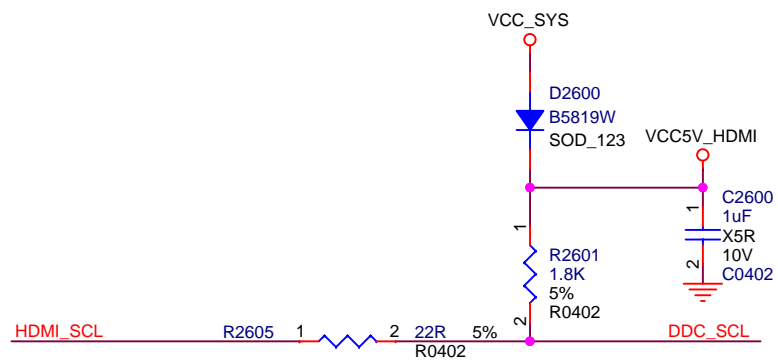


USB30_RXP
USB30_RXN
USB30_TXP
USB30_TXN
USB30_DM
USB30_DP

ROCK64 PINE64

Title: ROCK64_RK3328

Size: A3	Document Number: USB Port	Rev: V3.0
Date: Tuesday, October 17, 2017	Sheet: 15	of 20

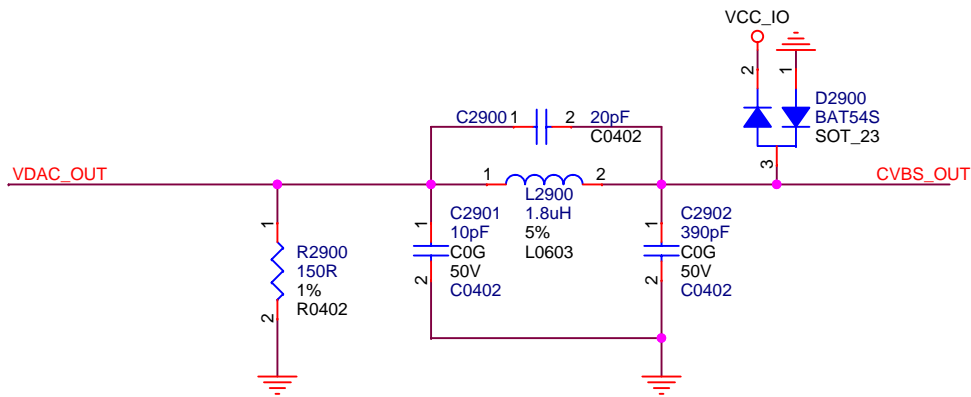


ROCK64 PINE64

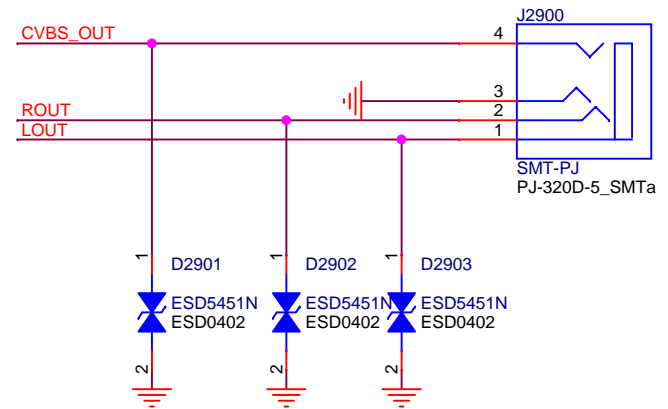
Title: **ROCK64_RK3328**

Size: A4 | Document Number: **HDMI OUT Port** | Rev: V3.0

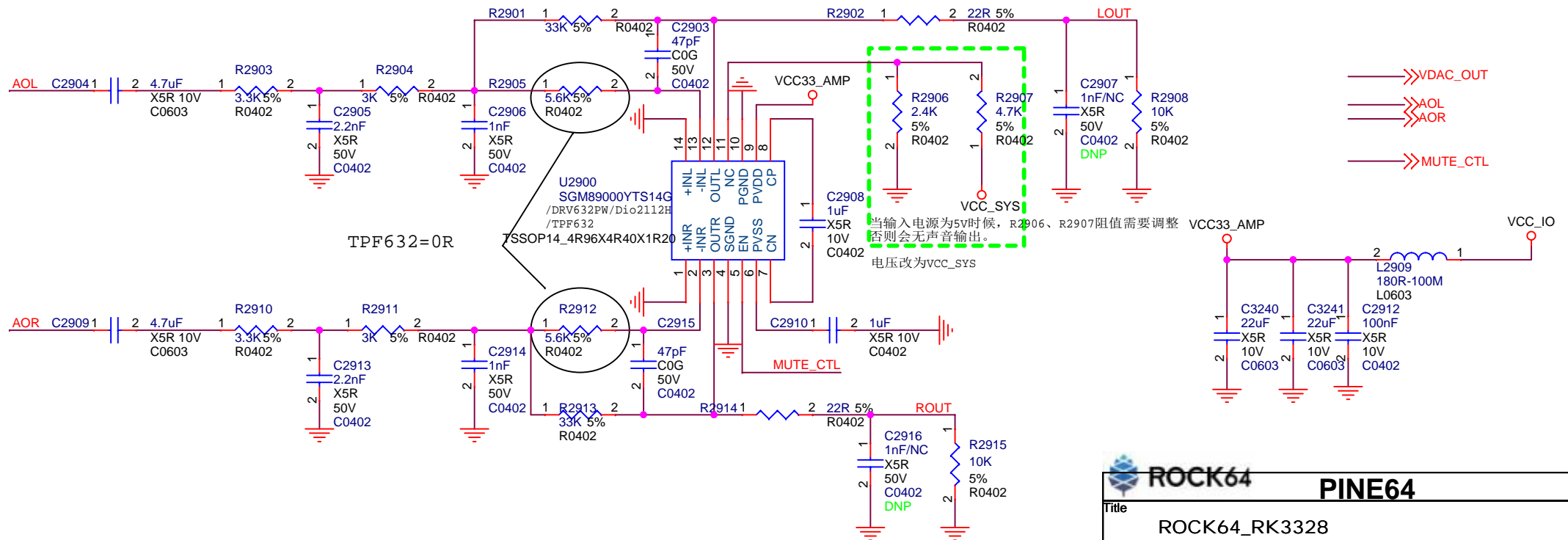
Date: Tuesday, October 17, 2017 | Sheet: 16 of 20



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



AV OUT

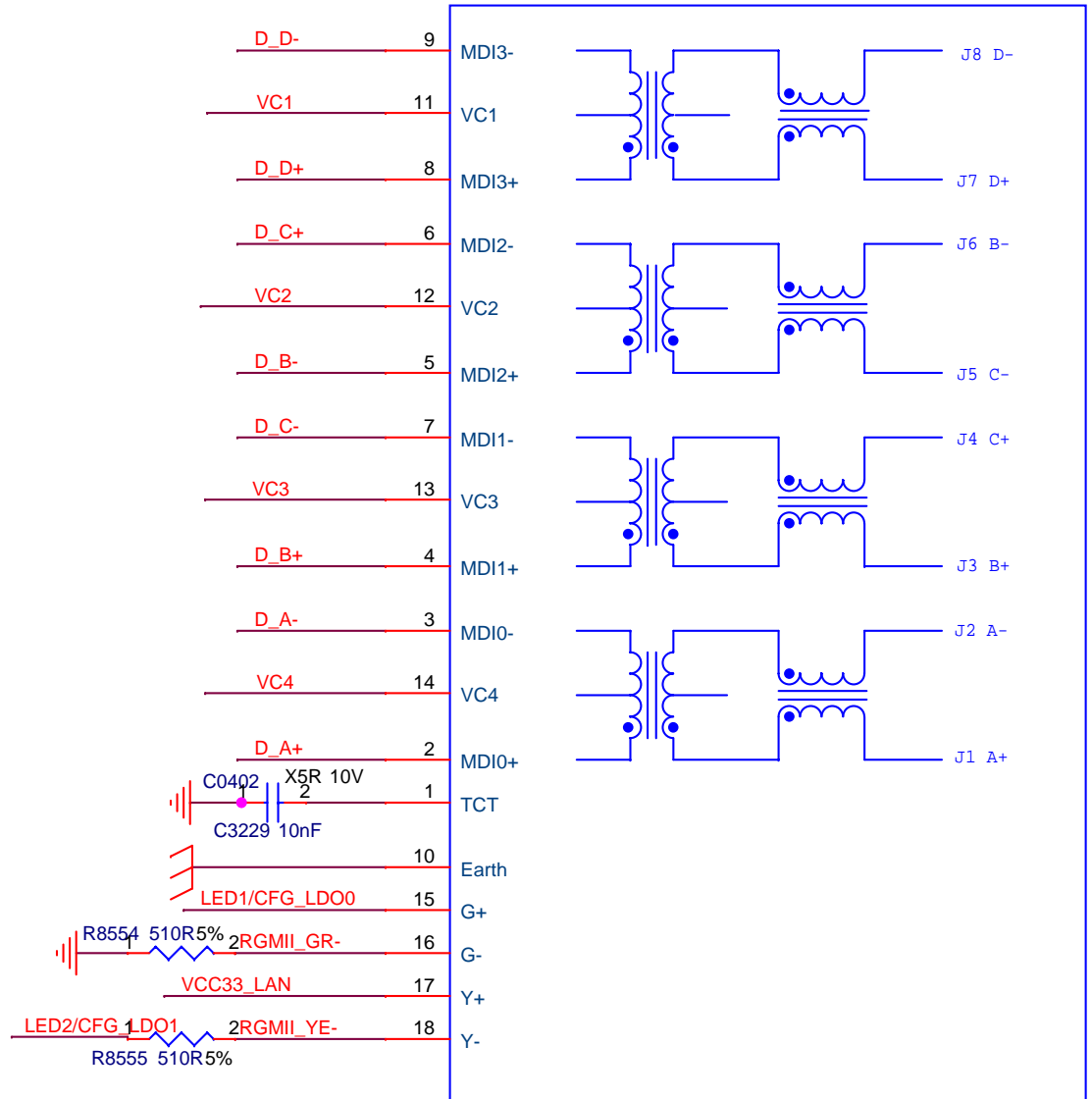
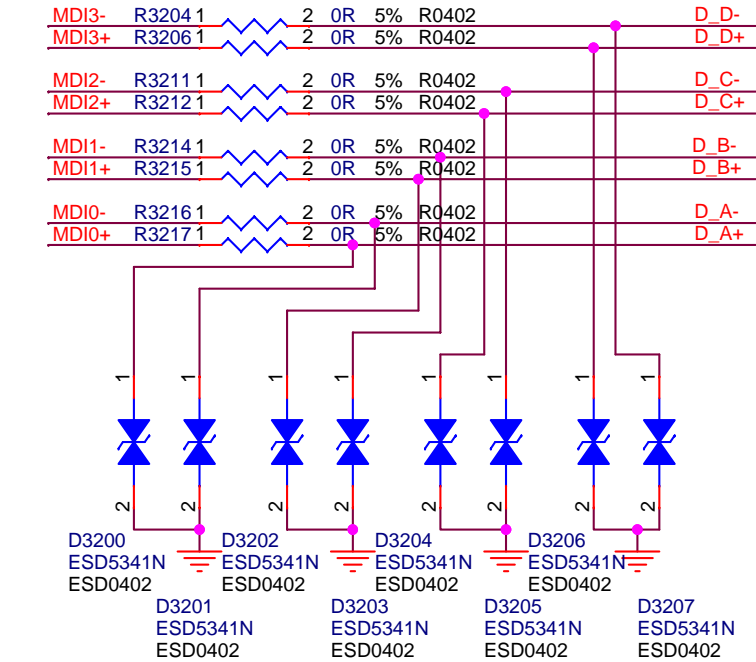
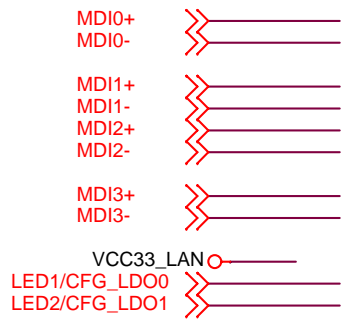


2-Vrms Audio Line Driver

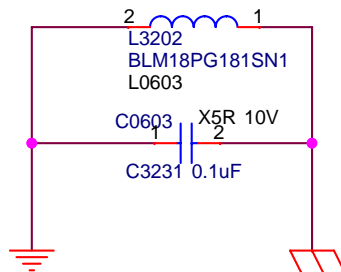
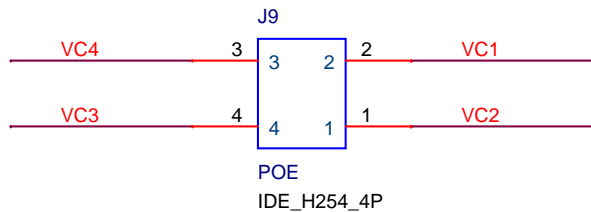
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Size A4	Document Number AV OUT Port	Rev V3.0	
Date: Tuesday, October 17, 2017	Sheet 17	of 20	

RJ45 & Transformer

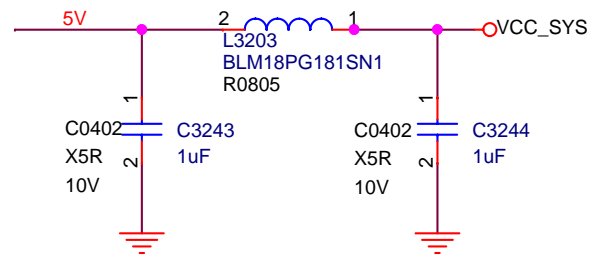
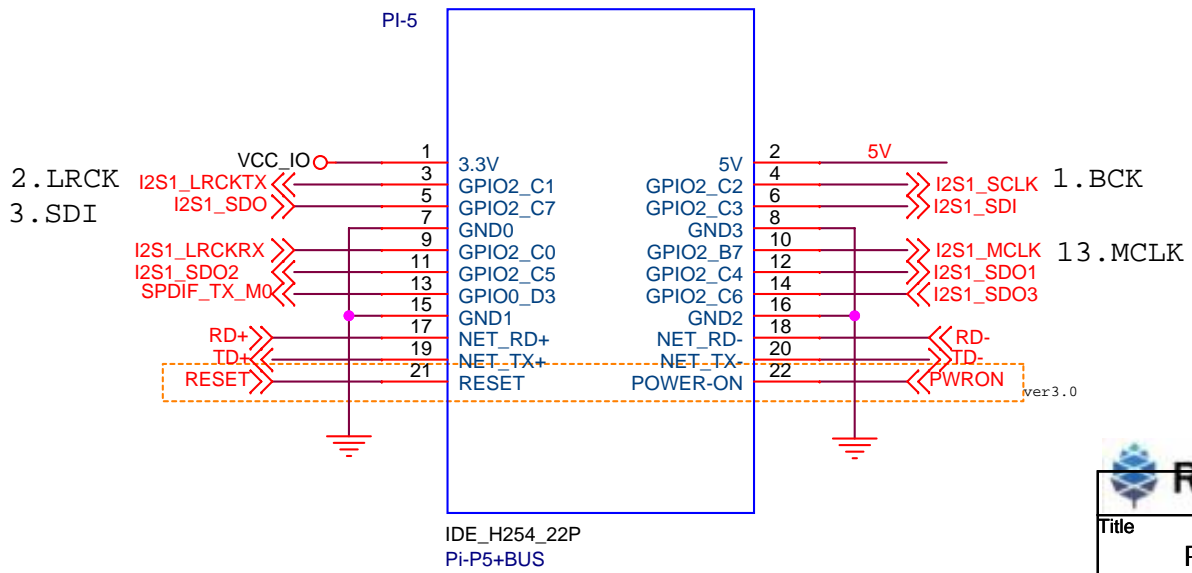
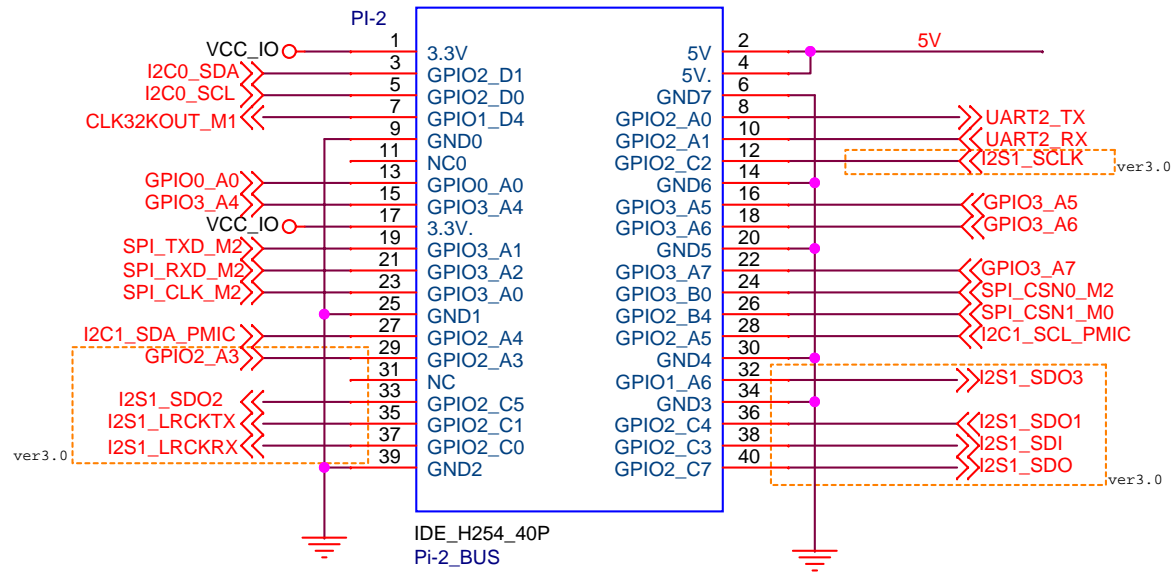
U3



POE JUPER



Title ROCK64		
ROCK64_RK3328		
Size A	Document Number RJ45 & Transformer	Rev V3.0
Date:	Sheet 18 of 20	



Title		
ROCK64_RK3328		
Size	Document Number	Rev
A	PI-2/PI-5+BUS	V3.0
Date:	Sheet	19 of 20