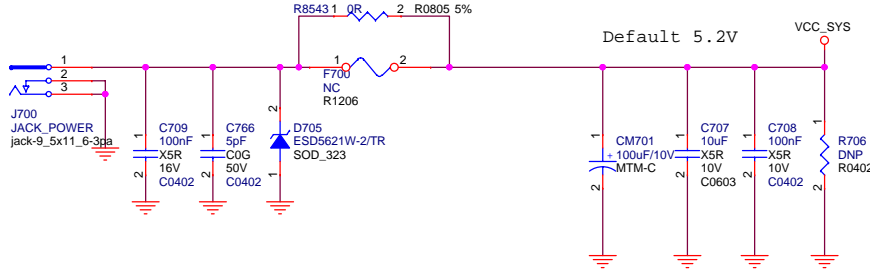


Power Timing

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

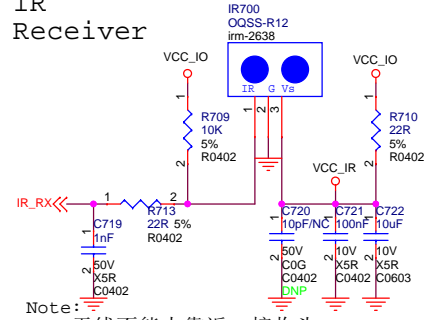
IO电源域电压	IO电压 = 3.3V	IO电压 = 1.8V
VCCIO_PMU	3.3V	不支持
VCCIO1	3.3V	不支持
VCCIO2		1.8V (默认) eMMC
VCCIO3	3.3V (默认)	
VCCIO4	3.3V (默认) WIFI:RTL8723BS	
VCCIO5	3.3V (默认)	
VCCIO6	3.3V (默认)	

DC5V

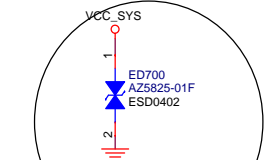


VCC_SYS

IR Receiver

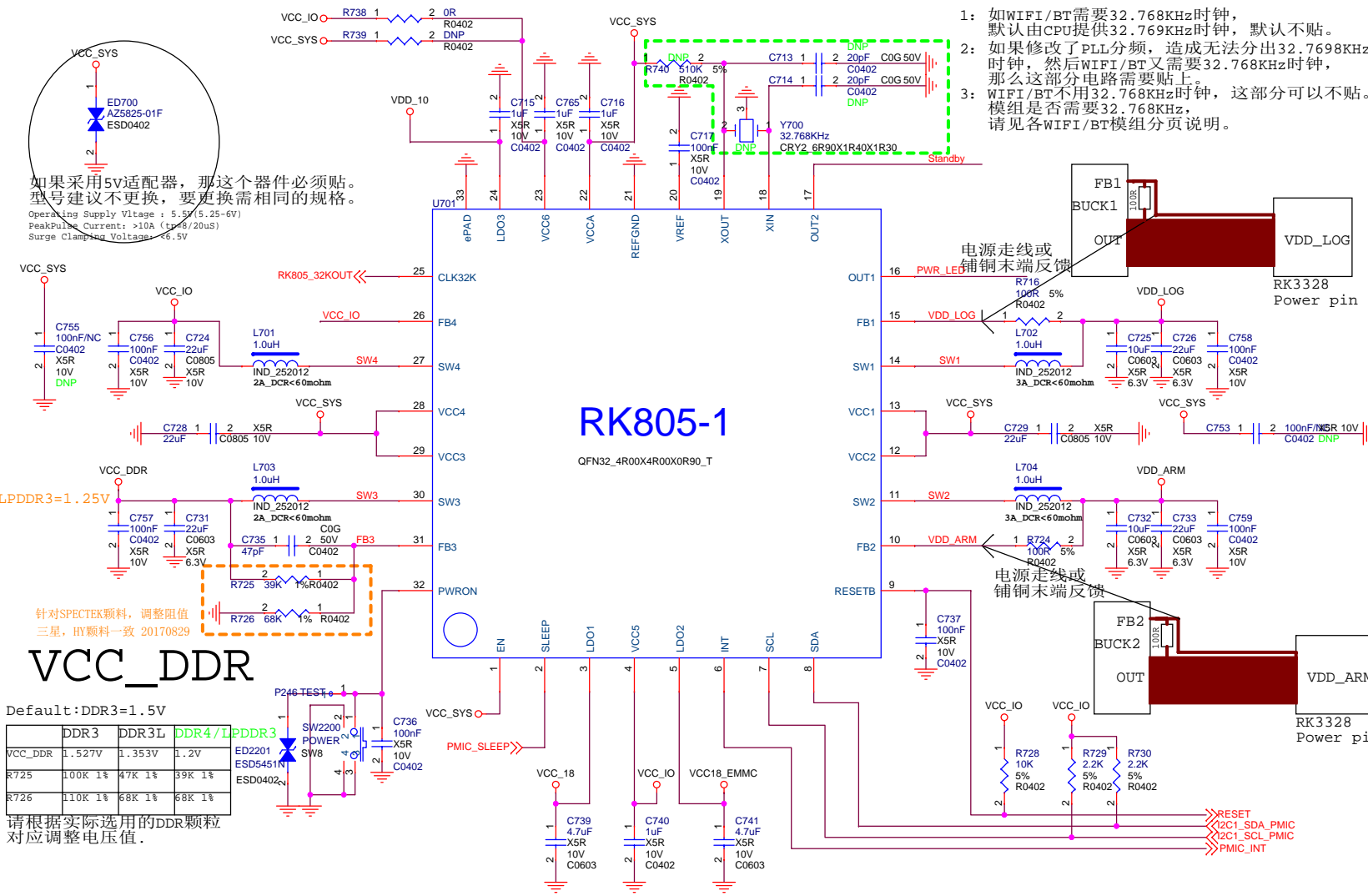


Note:
WIFI天线不能太靠近IR接收头,
WIFI会干扰IR接收头。
发光二极管也有可能影响红外接收。



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

- 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。



LPDDR3=1.25V

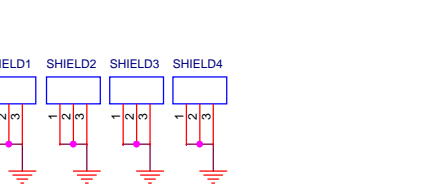
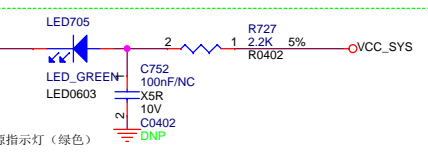
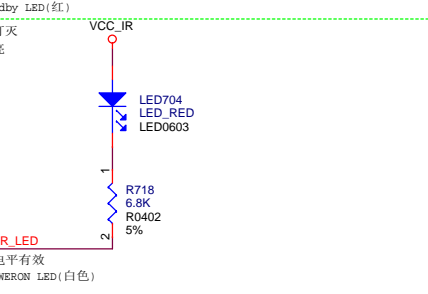
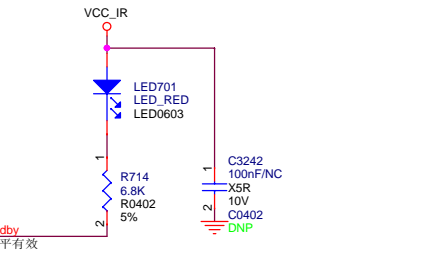
VCC_DDR

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。

LED DISPLAY



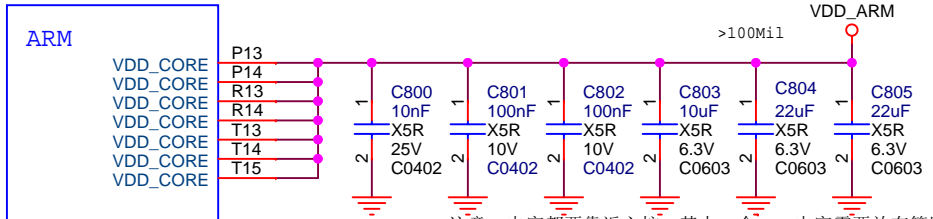
ROCK64 PINE64

File: **ROCK64_RK3328**

Size A3 Document Number: **System Power-PMIC RK805-1** Rev: **V2.0**

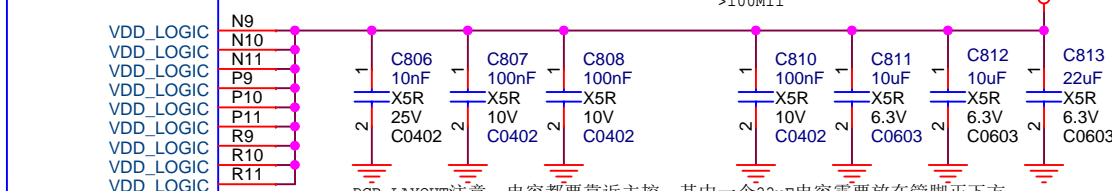
Date: Tuesday, October 17, 2017 Sheet: **2** of **19**

U800N



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。

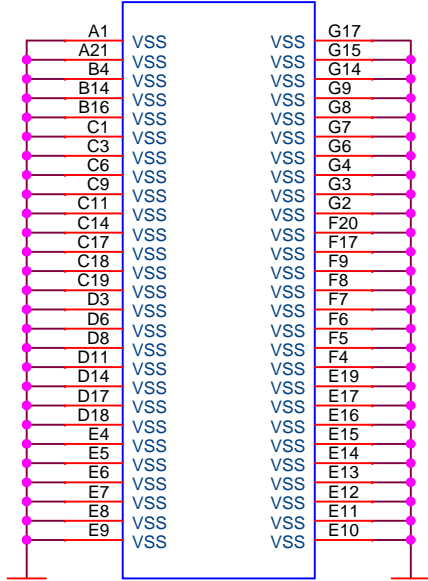
GPU/Logic



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。

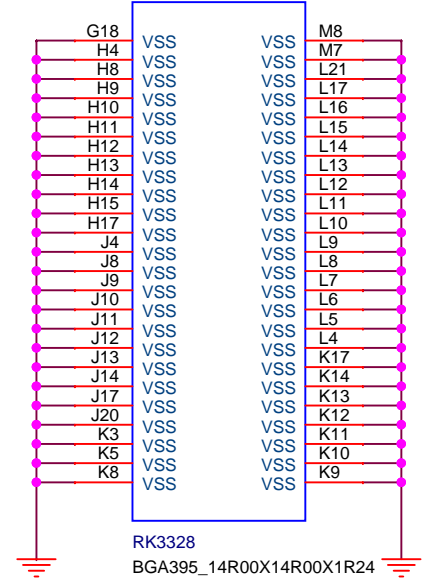
RK3328
BGA395_14R00X14R00X1R24

U800O



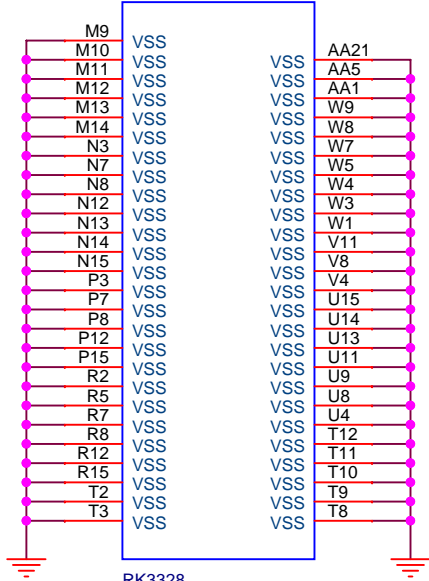
RK3328
BGA395_14R00X14R00X1R24

U800P



RK3328
BGA395_14R00X14R00X1R24

U800Q

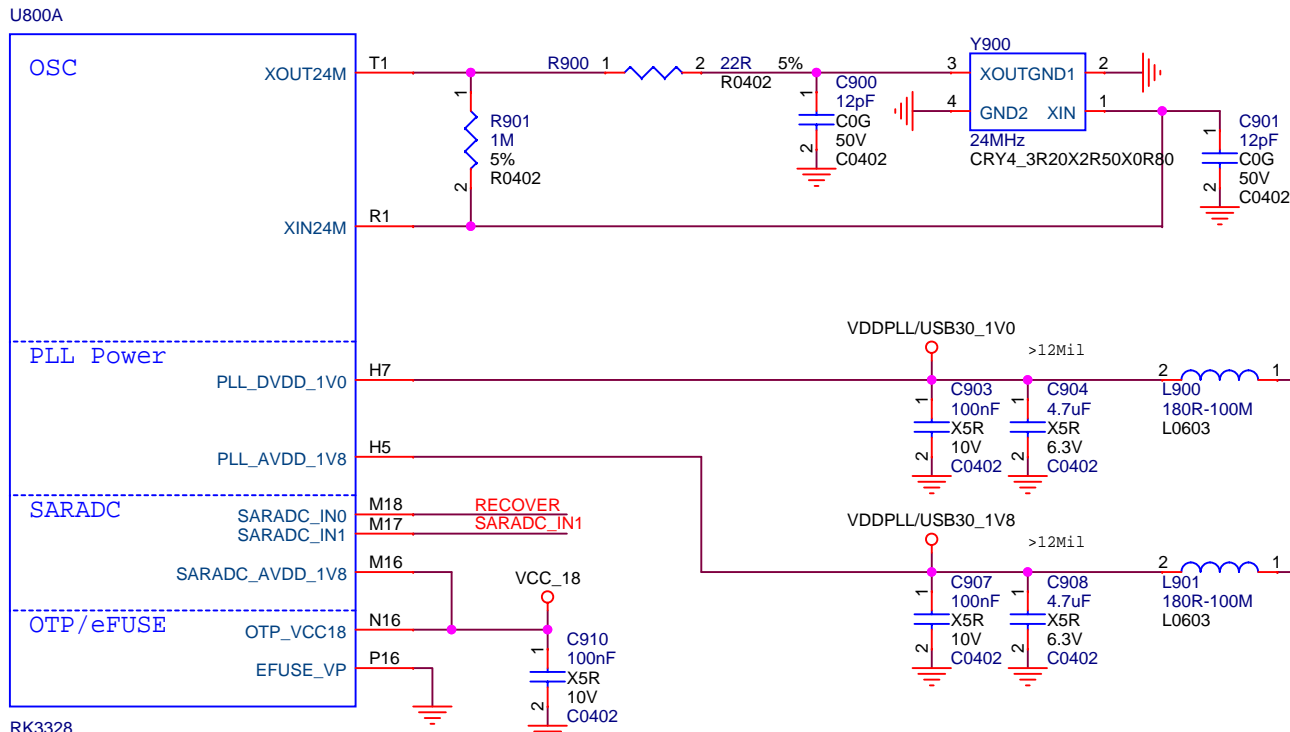


RK3328
BGA395_14R00X14R00X1R24

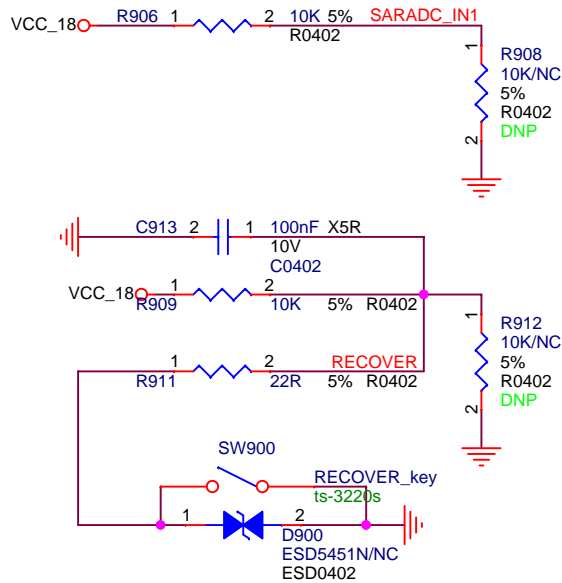


PINE64

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



RK3328
BGA395_14R00X14R00X1R24

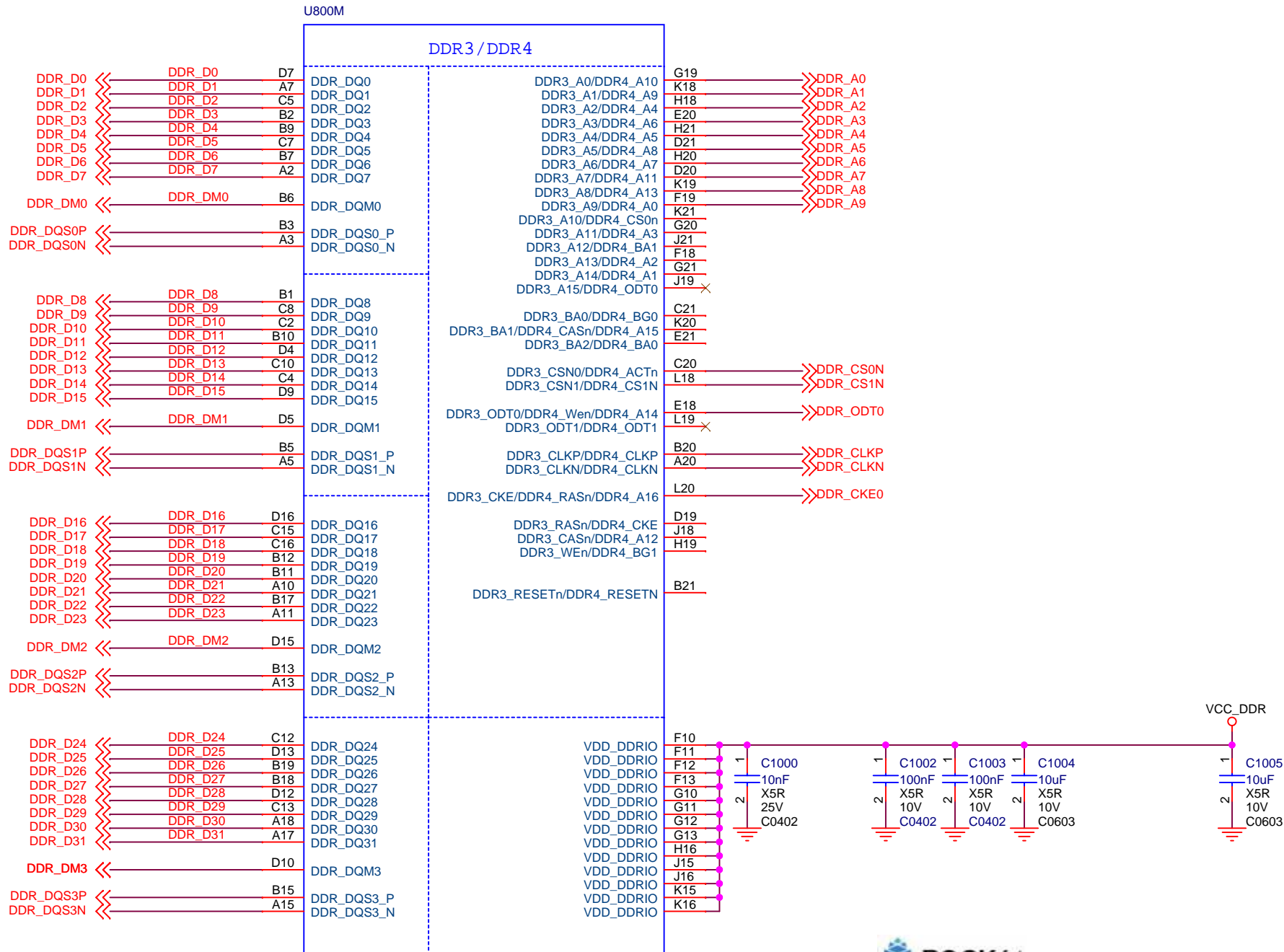


SARADC_IN0 BOM版本	SARADC_IN1 PCB版本	Up阻值	Down阻值
Recover		DNP	10K
BOM1		110K	10K
BOM2		100K	20K
BOM3		100K	33K
BOM4		36K	18K
BOM5		51K	36K
BOM6		51K	51K
BOM7		36K	51K
BOM8		18K	36K
BOM9		33K	100K
BOM10		20K	100K
BOM11		10K	110K
BOM12		10K	DNP



PINE64

Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 OSC/PLL/OTP/SARADC	V2.0
Date:	Tuesday, October 17, 2017	Sheet 4 of 19



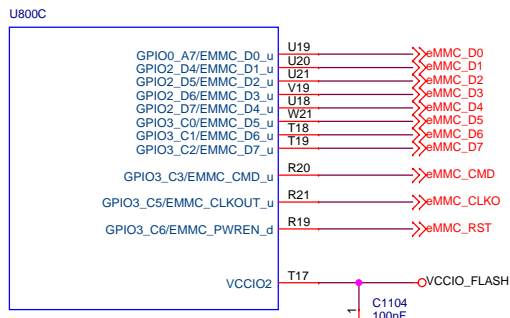
U800M
 RK3328
 BGA395_14R00X14R00X1R24

ROCK64 PINE64

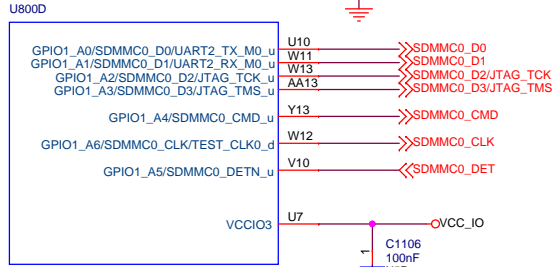
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Size: A4	Document Number: RK3328 DDR Controller	Rev: V2.0
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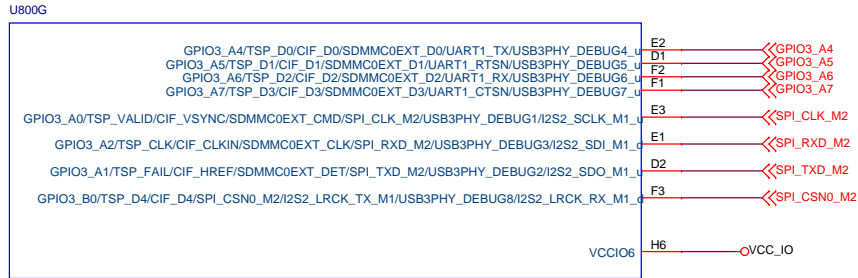
Date: Tuesday, October 17, 2017 Sheet 5 of 19



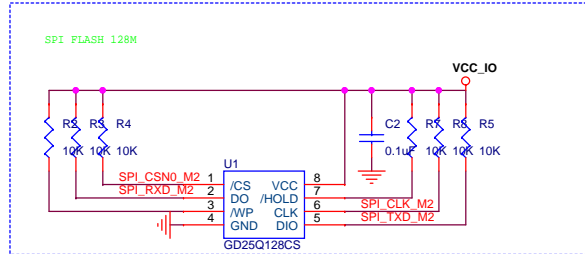
RK3328
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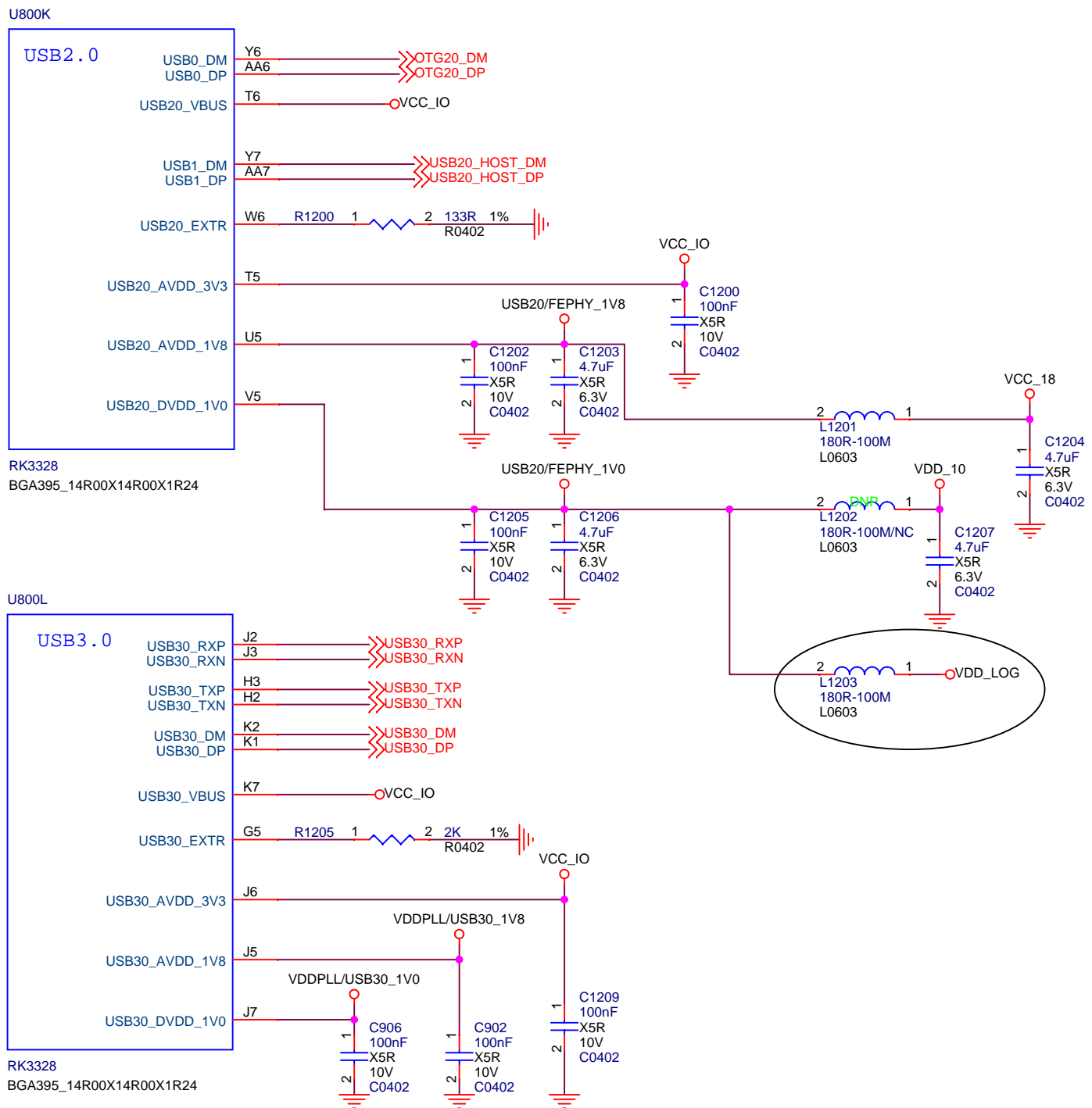


RK3328
 BGA395_14R00X14R00X1R24



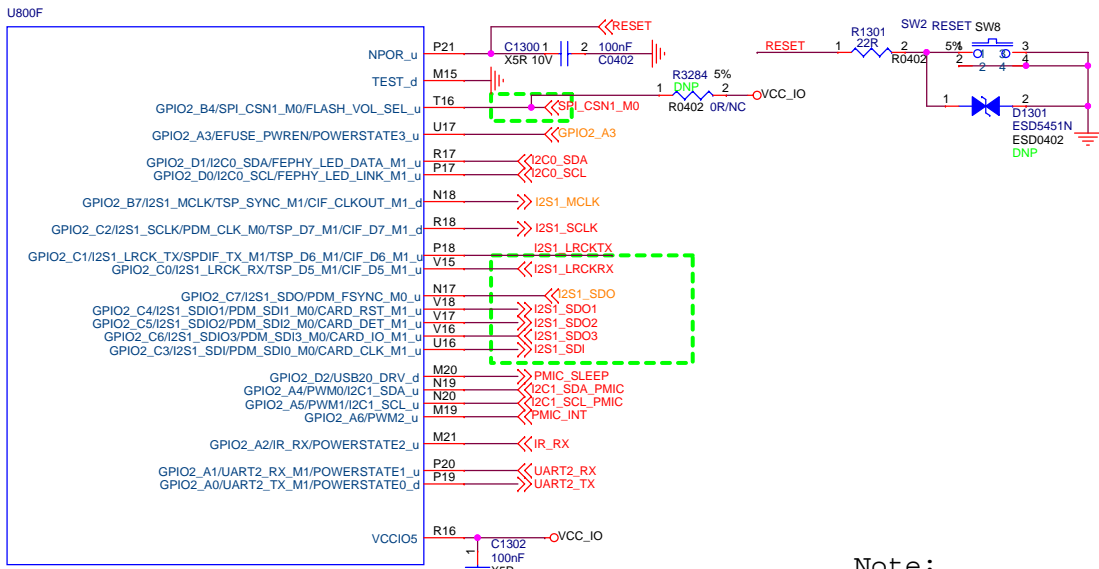
RK3328
 BGA395_14R00X14R00X1R24



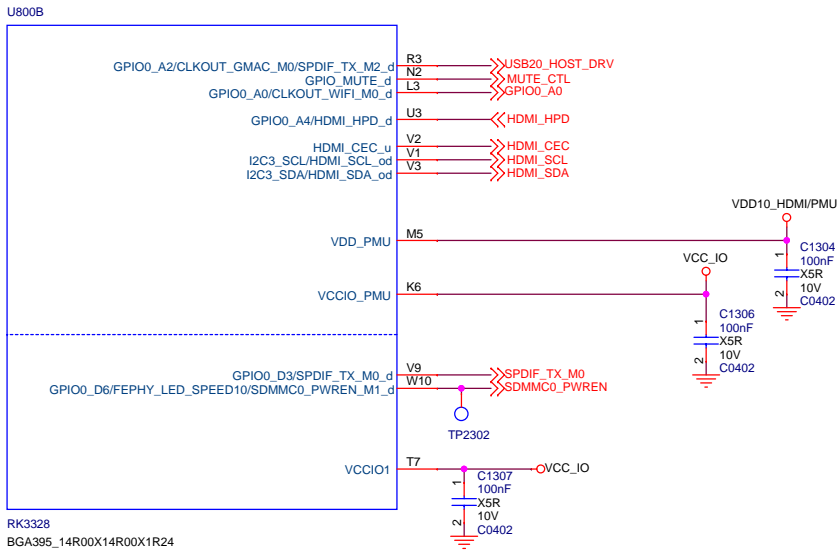


PINE64

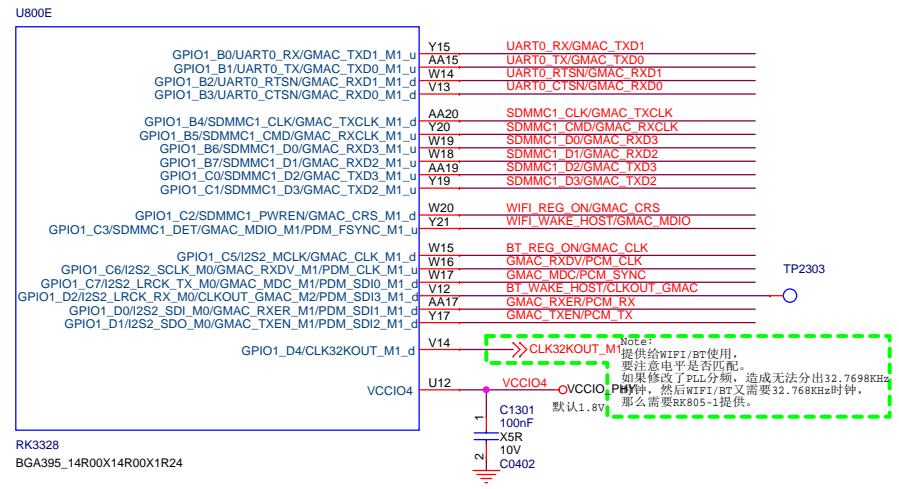
Title		
ROCK64_RK3328		
Size	Document Number	Rev
A4	RK3328 USB2 PHY/USB3 PHY	V2.0
Date:	Tuesday, October 17, 2017	Sheet 7 of 19



RK3328
BGA395_14R00X14R00X1R24

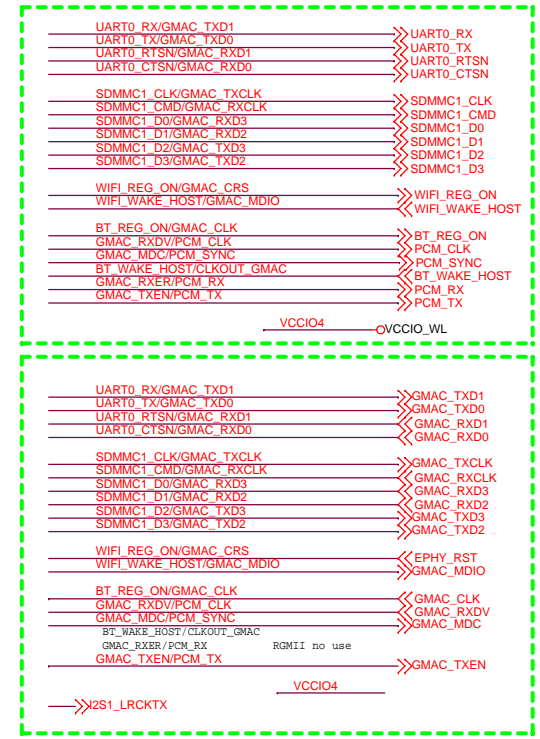


RK3328
BGA395_14R00X14R00X1R24

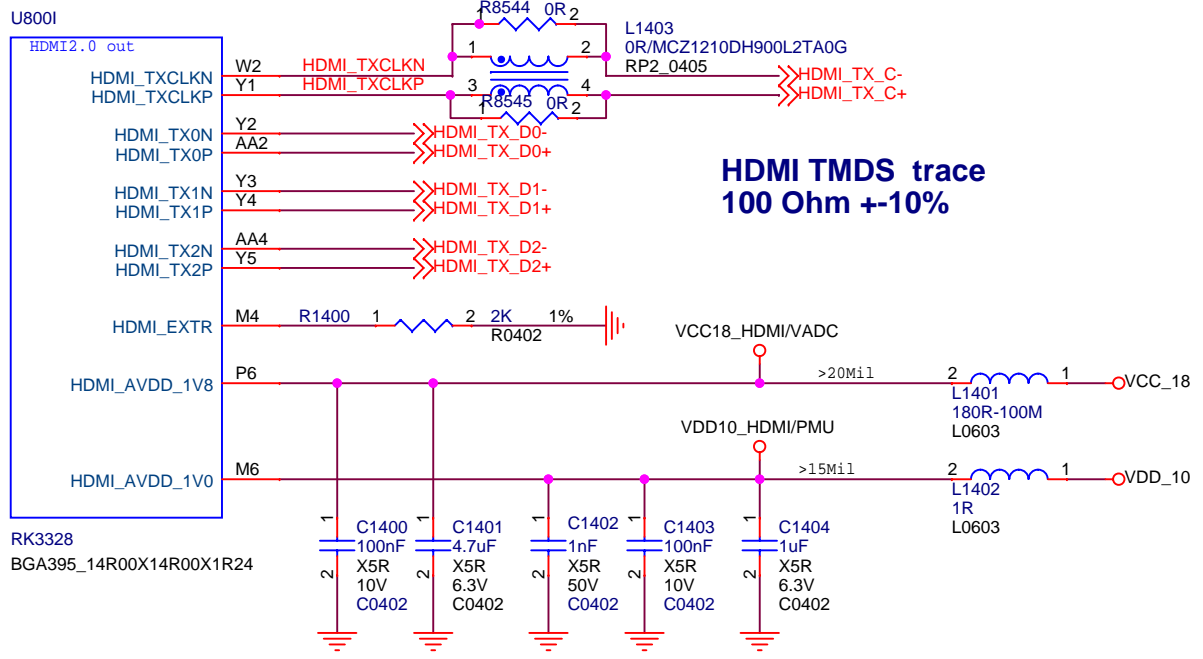


RK3328
BGA395_14R00X14R00X1R24


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。

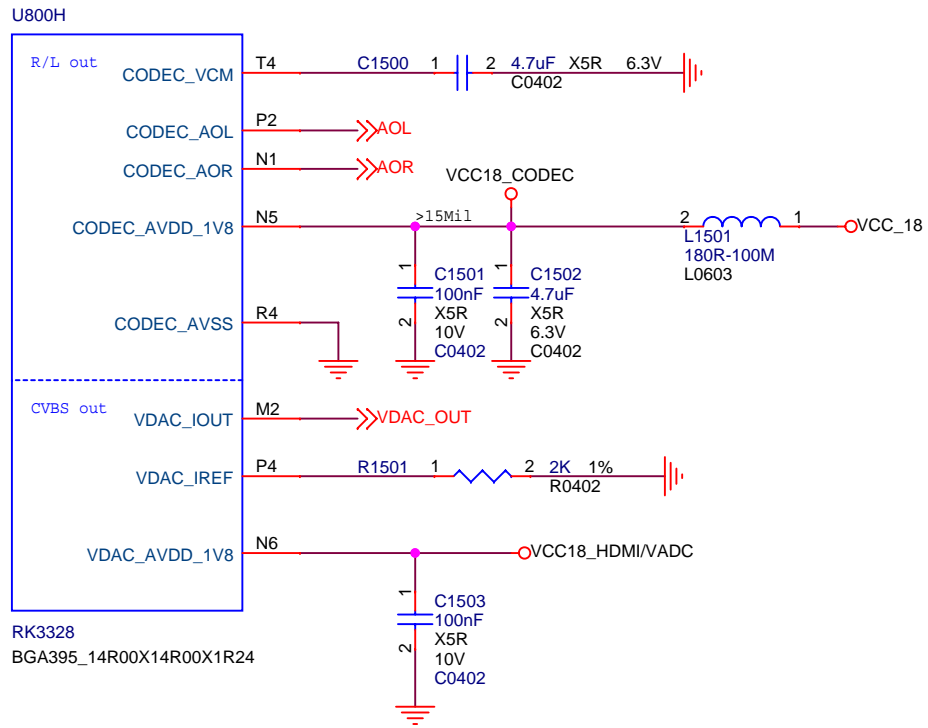


Note:
SDIO1+UART0和GMAC的IO是复用的。
二选一



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

 ROCK64		PINE64	
Size A4	Document Number RK3328 HDMI PHY		Rev V2.0
Date: Tuesday, October 17, 2017		Sheet 9 of 19	



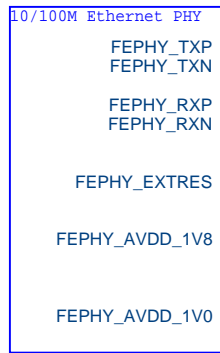
RK3328
BGA395_14R00X14R00X1R24



PINE64

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

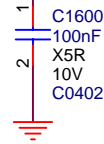
U800J



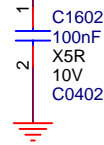
RK3328
BGA395_14R00X14R00X1R24

Embed FEPHY

USB20/FEPHY_1V8



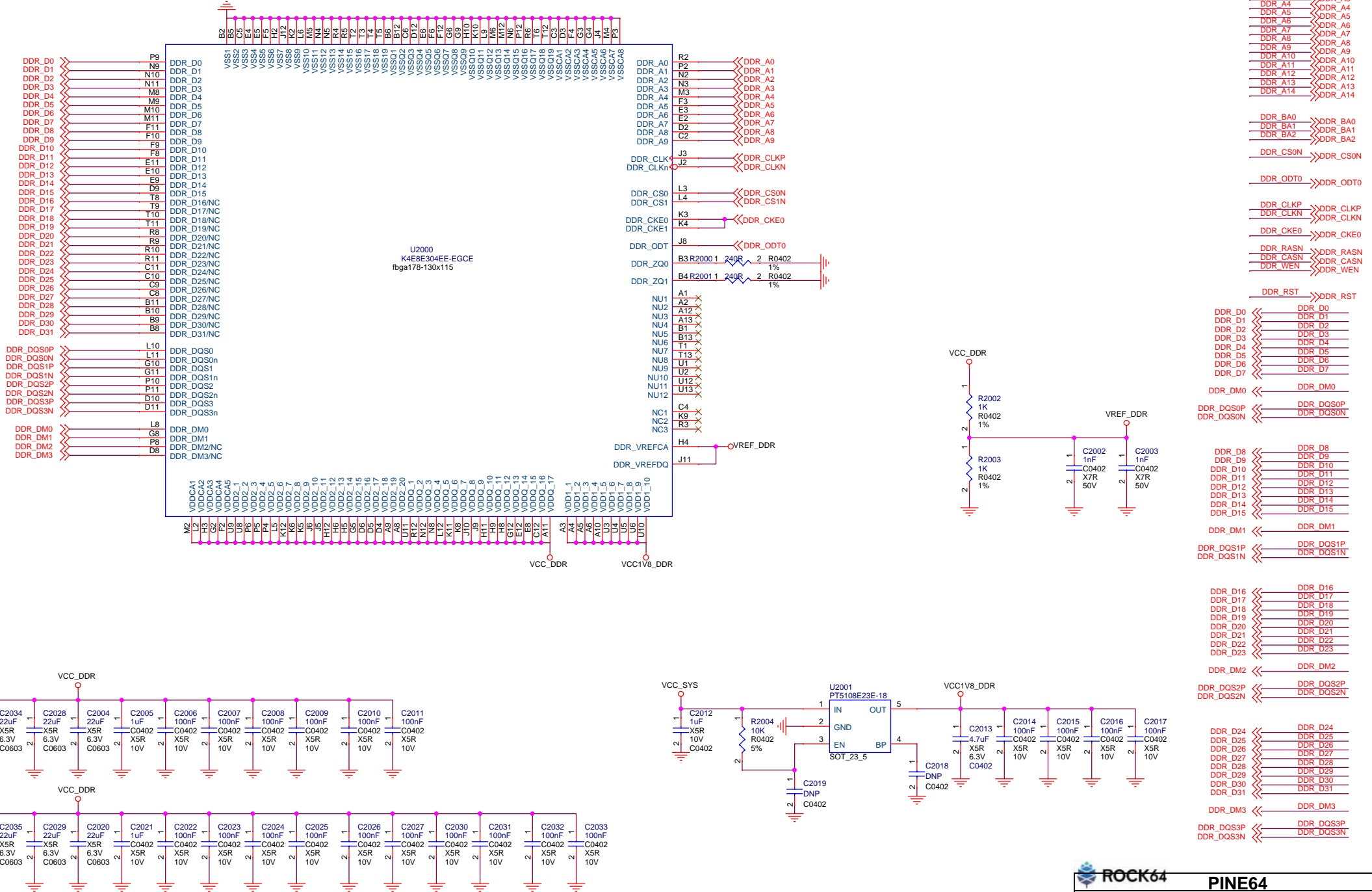
USB20/FEPHY_1V0



PINE64

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

LPDDR3 >=1866Mbps



ROCK64 PINE64

Title: ROCK64_RK3328

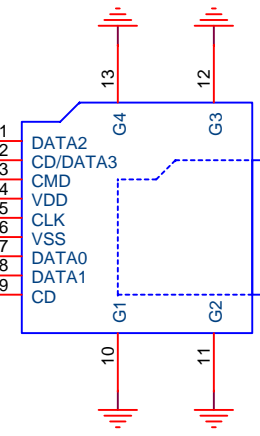
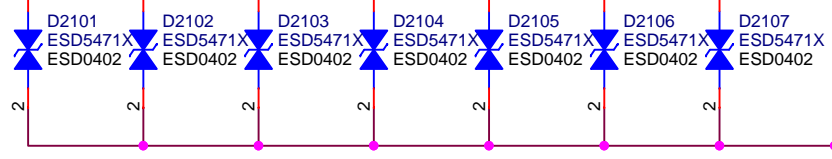
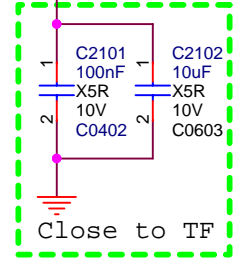
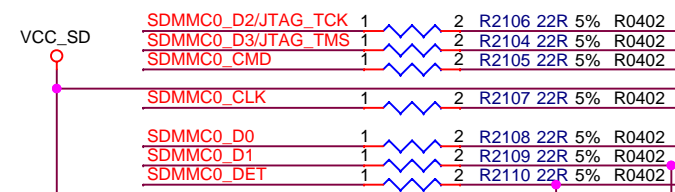
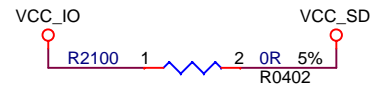
Size: Document Number

A3: RAM LPDDR3_178P

Date: Tuesday, October 17, 2017

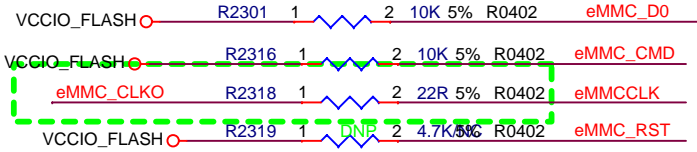
Sheet: 12 of 19

Rev: V2.0

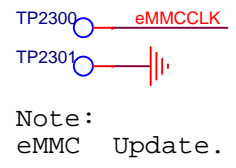
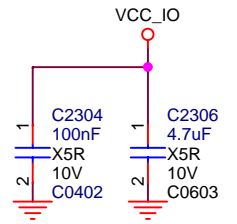


TF Card

Note:
EMMC SOCKET

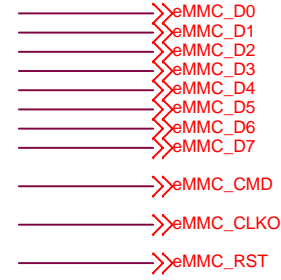
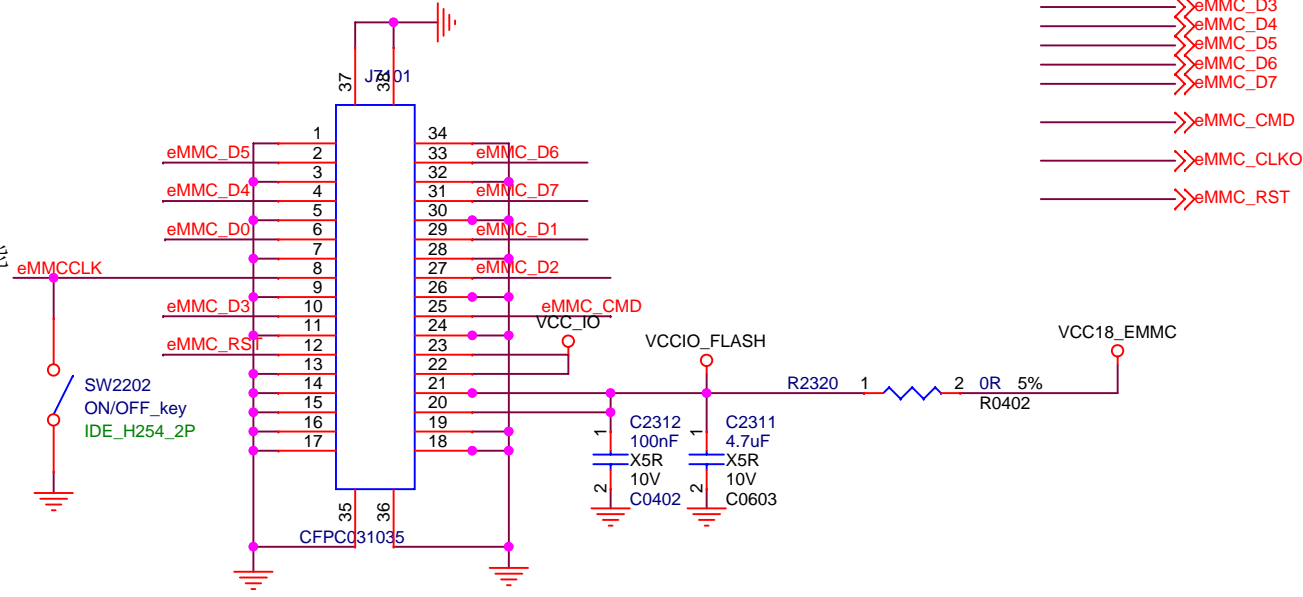


Note:
22R电阻必须靠近CPU放置

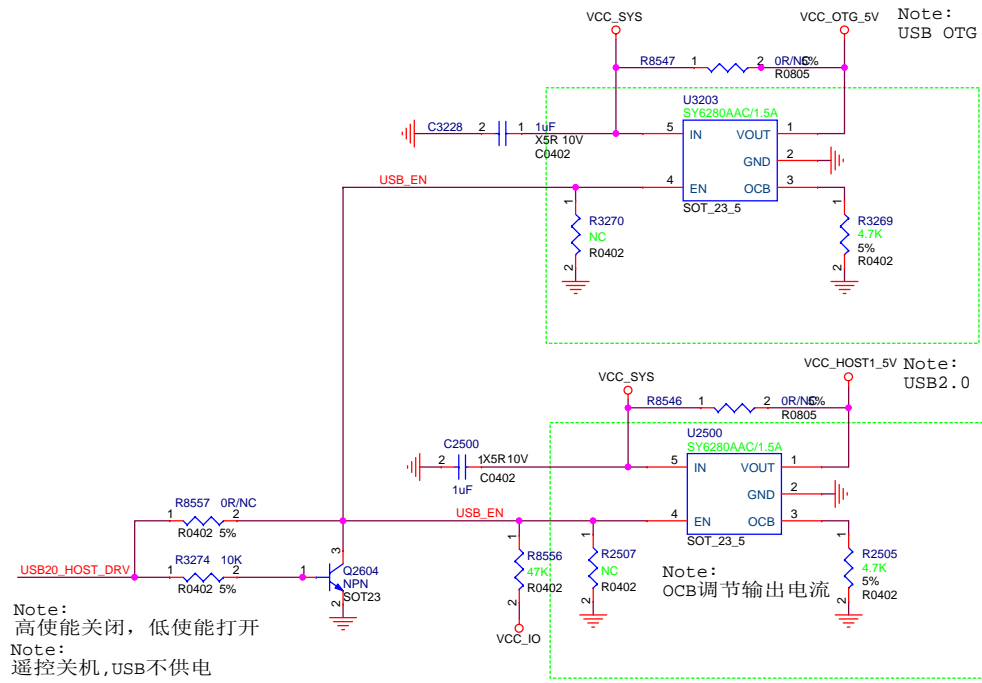


Note:
eMMC Update.

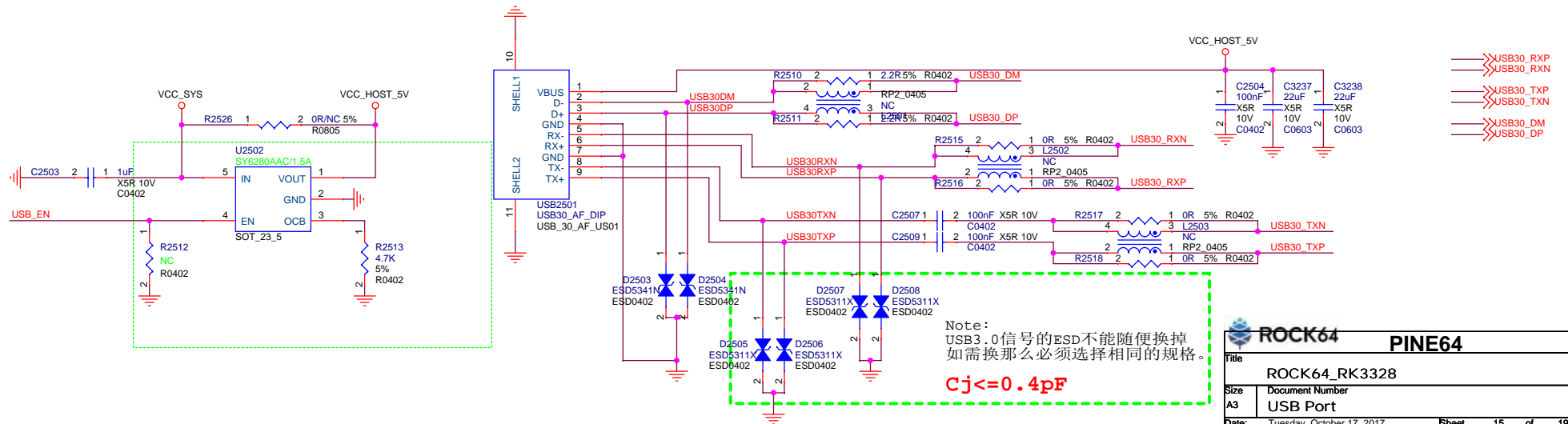
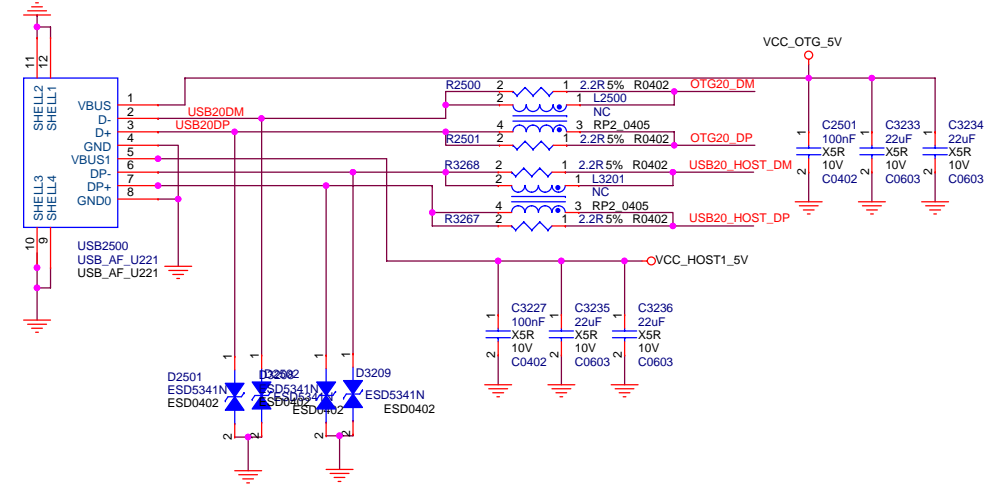
Note:
跳针使能



		PINE64	
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Size A4	Document Number Flash-eMMC	Rev V2.0	
Date: Tuesday, October 17, 2017	Sheet 14	of 19	



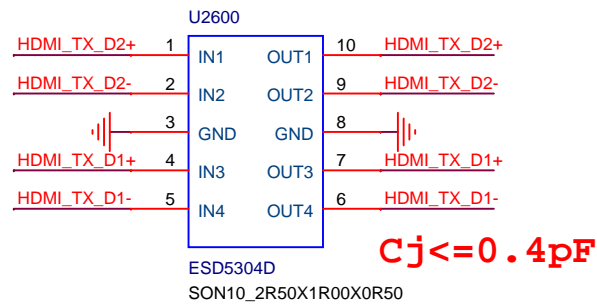
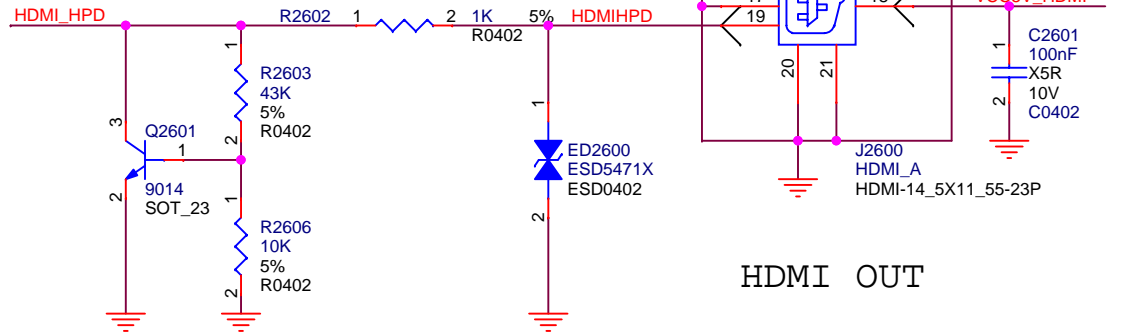
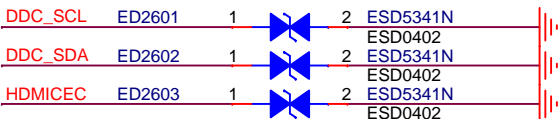
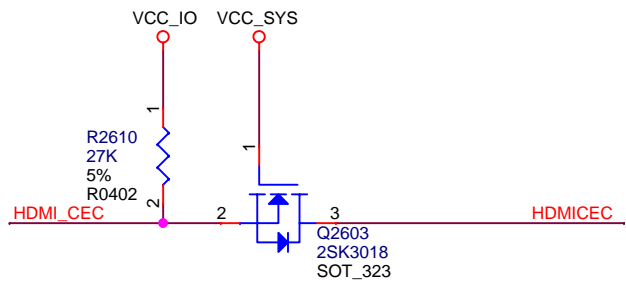
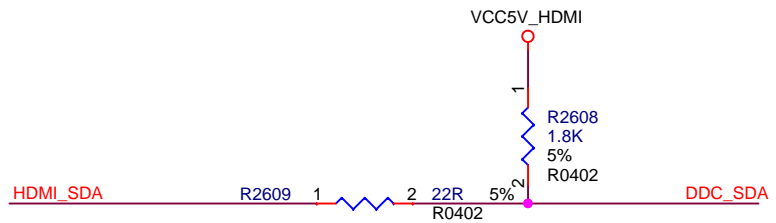
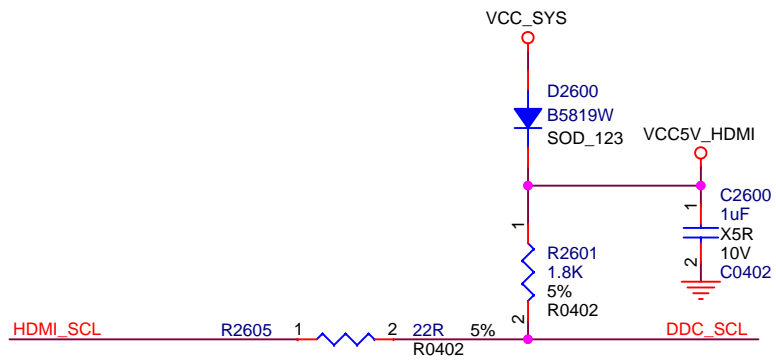
Note:
上层OTG, 下层USB HOST



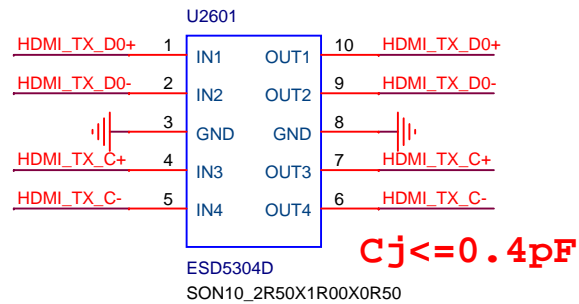
ROCK64 PINE64

Title: **ROCK64_RK3328**

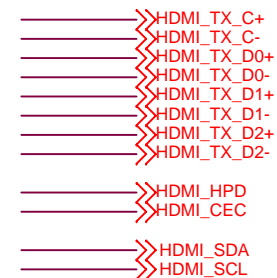
Size	Document Number	Rev
A3	USB Port	V2.0
Date:	Tuesday, October 17, 2017	Sheet 15 of 19



Cj <= 0.4 pF



Cj <= 0.4 pF

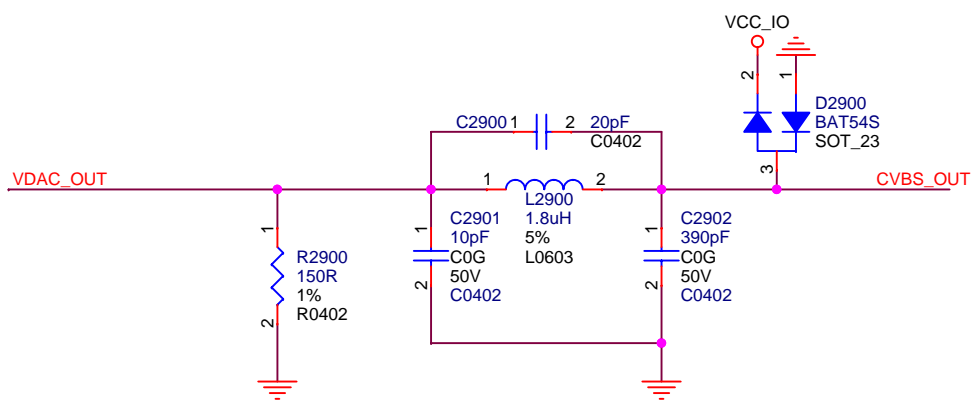


ROCK64 PINE64

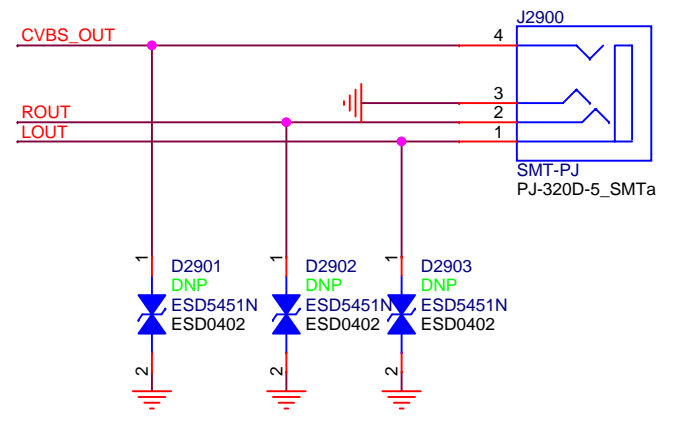
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Size: A4 Document Number: **HDMI OUT Port** Rev: **V2.0**

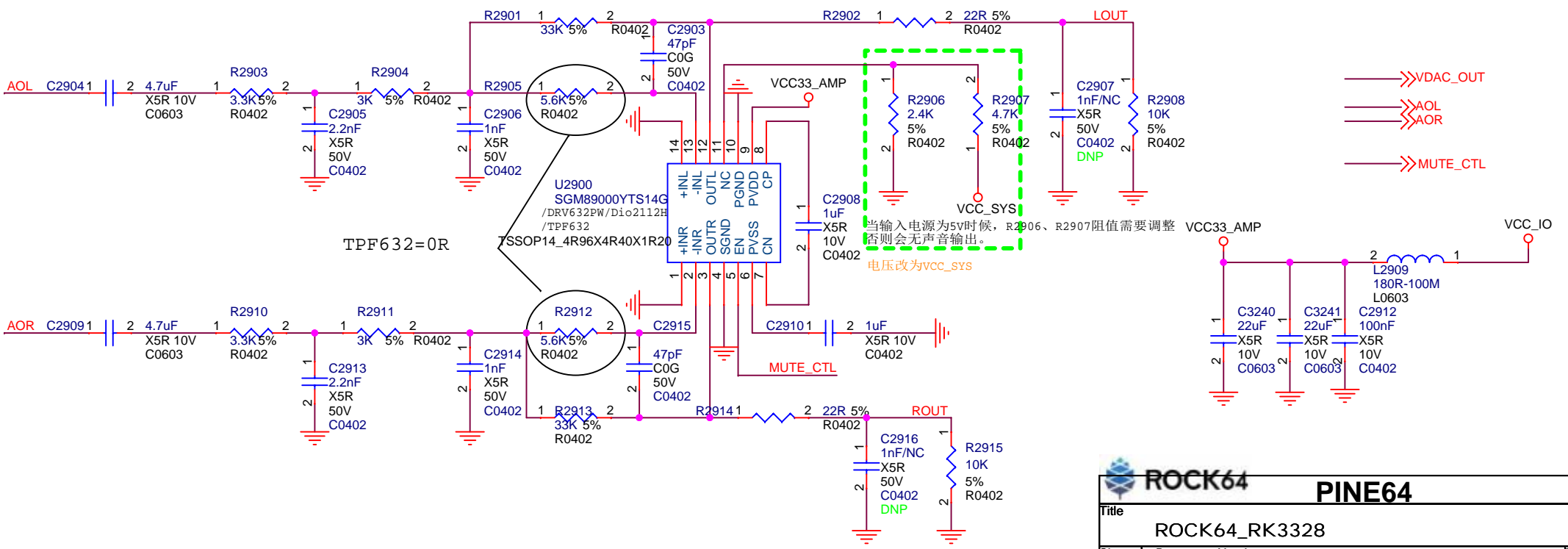
Date: Tuesday, October 17, 2017 Sheet: **16** of 19



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



AV OUT



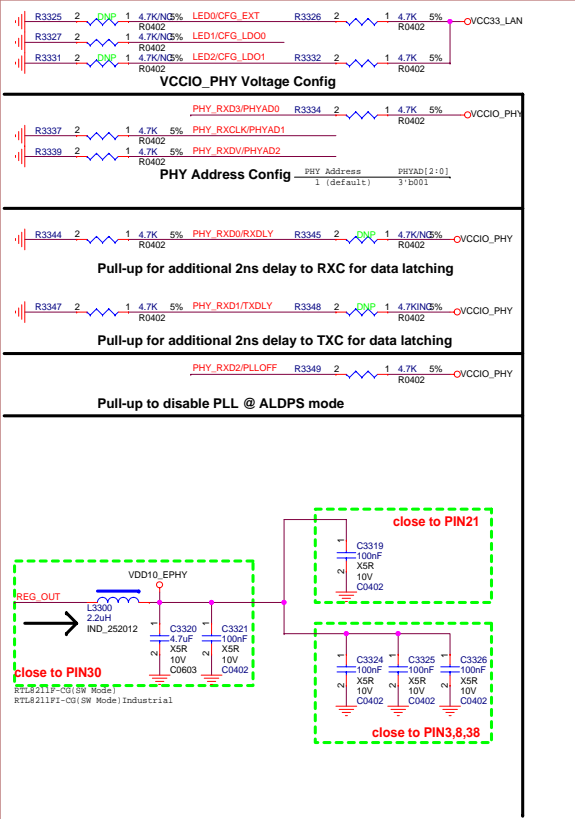
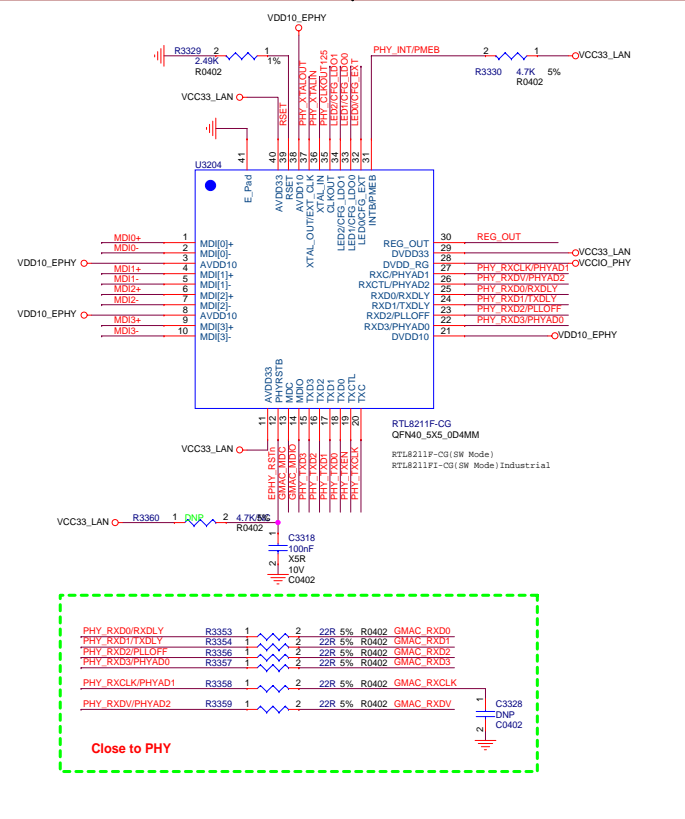
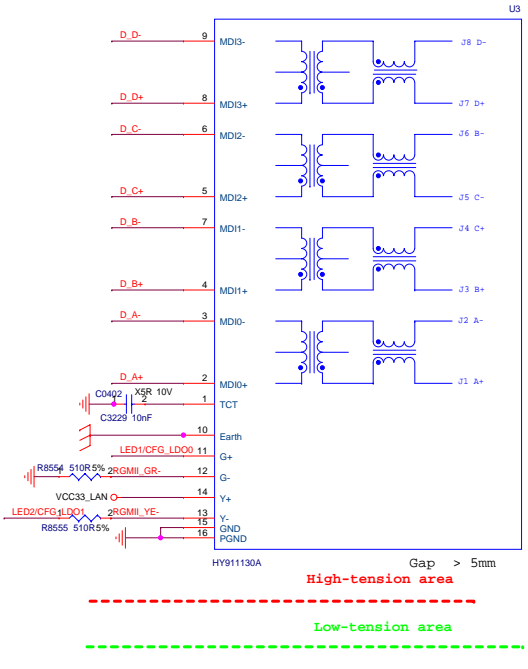
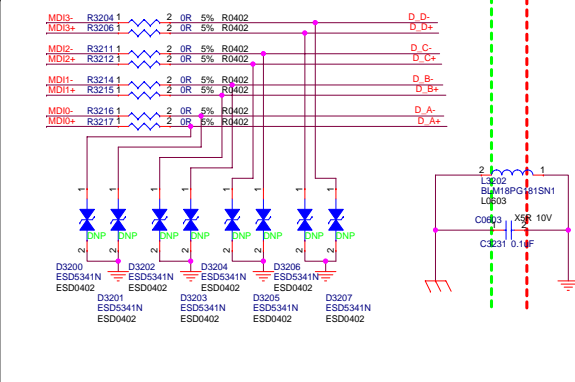
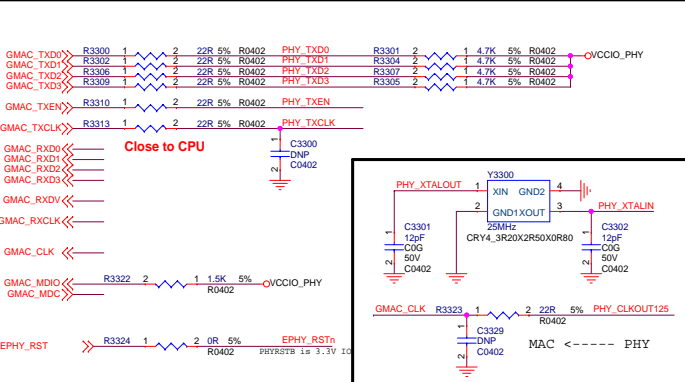
当输入电源为5v时候, R2906、R2907阻值需要调整
电压改为vcc_sys
否则会有无声输出。

- >>>VDAC_OUT
- >>>AOL
- >>>AOR
- >>>MUTE_CTL

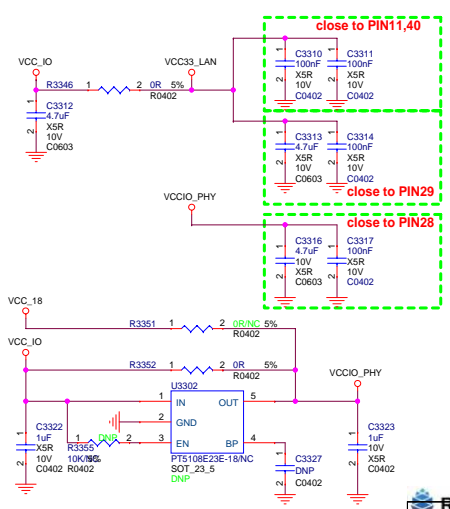
2-Vrms Audio Line Driver

		PINE64
Title ROCK64_RK3328		
Size A4	Document Number AV OUT Port	Rev V2.0
Date: Tuesday, October 17, 2017	Sheet 17	of 19

RJ45 & Transformer



ROM11 Power Source	CFG_EXT	CFG_LDO1[1:0]
External 3.3V	1'b1	2'b00
External 1.8V (default)	1'b1	2'b10
Internal 1.8V	1'b0	2'b10



ROCK64 PINE64

Title: **ROCK64_RK3328**

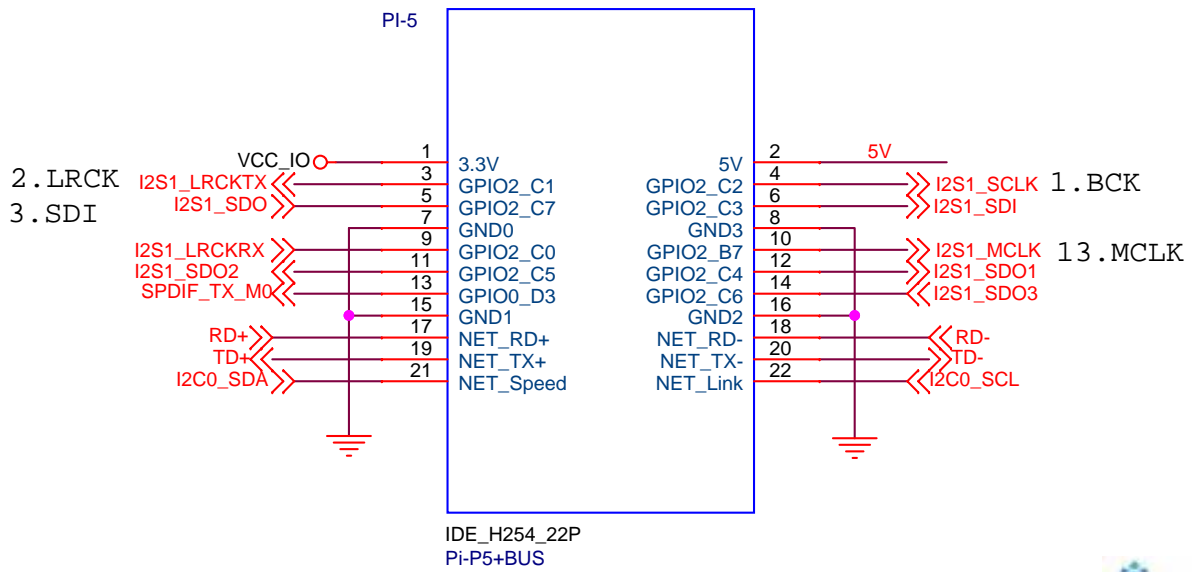
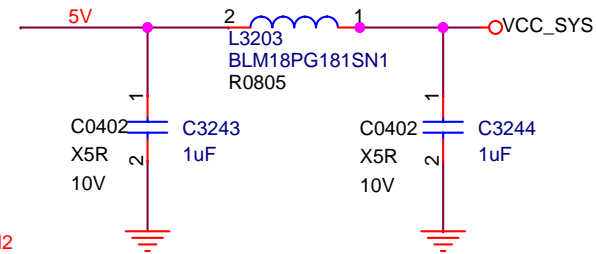
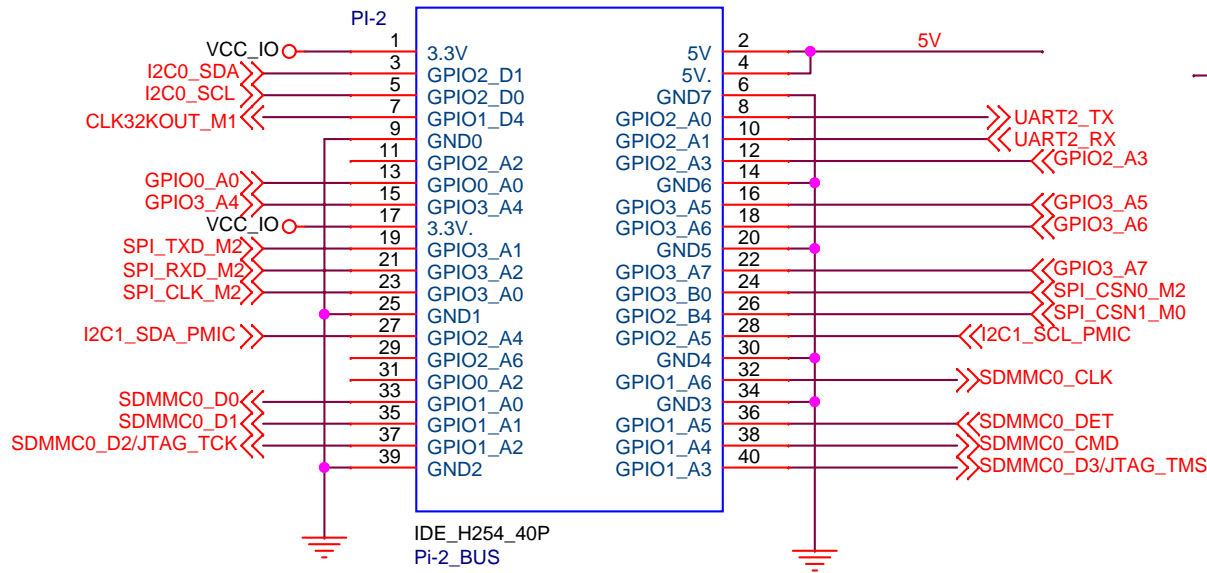
Size: **10/100/1000M-ExternalPHY-opt**

Doc: **10/100/1000M-ExternalPHY-opt**

Date: **Tuesday, October 17, 2017**

Sheet: **18** of **19**

Rev: **V2.0**



ROCK64

Title: ROCK64_RK3328

Size: A	Document Number: PI-2/PI-5+BUS	Rev: V2.0
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Date: _____ Sheet 19 of 19