

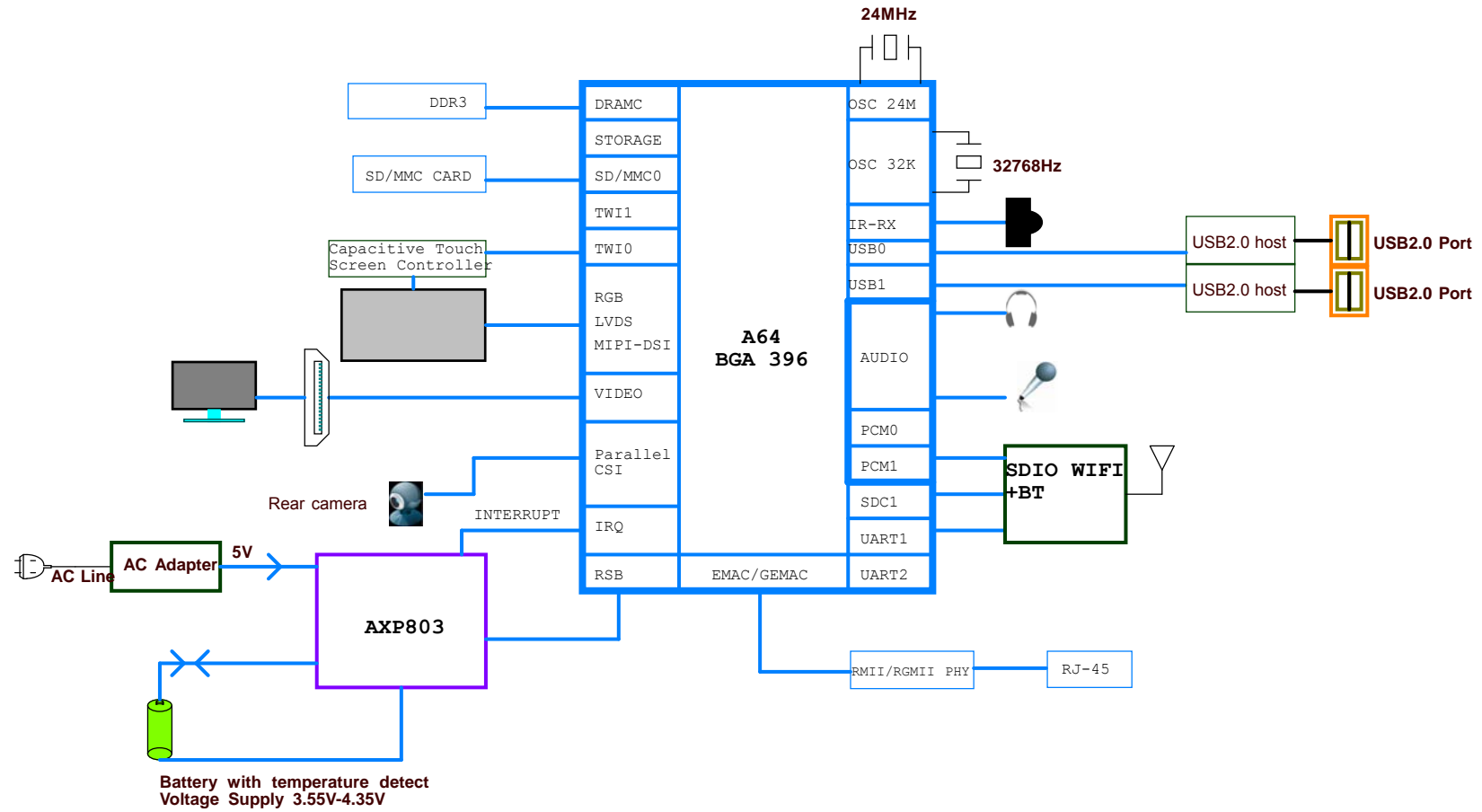
# VERSION HISTORY

## Index:

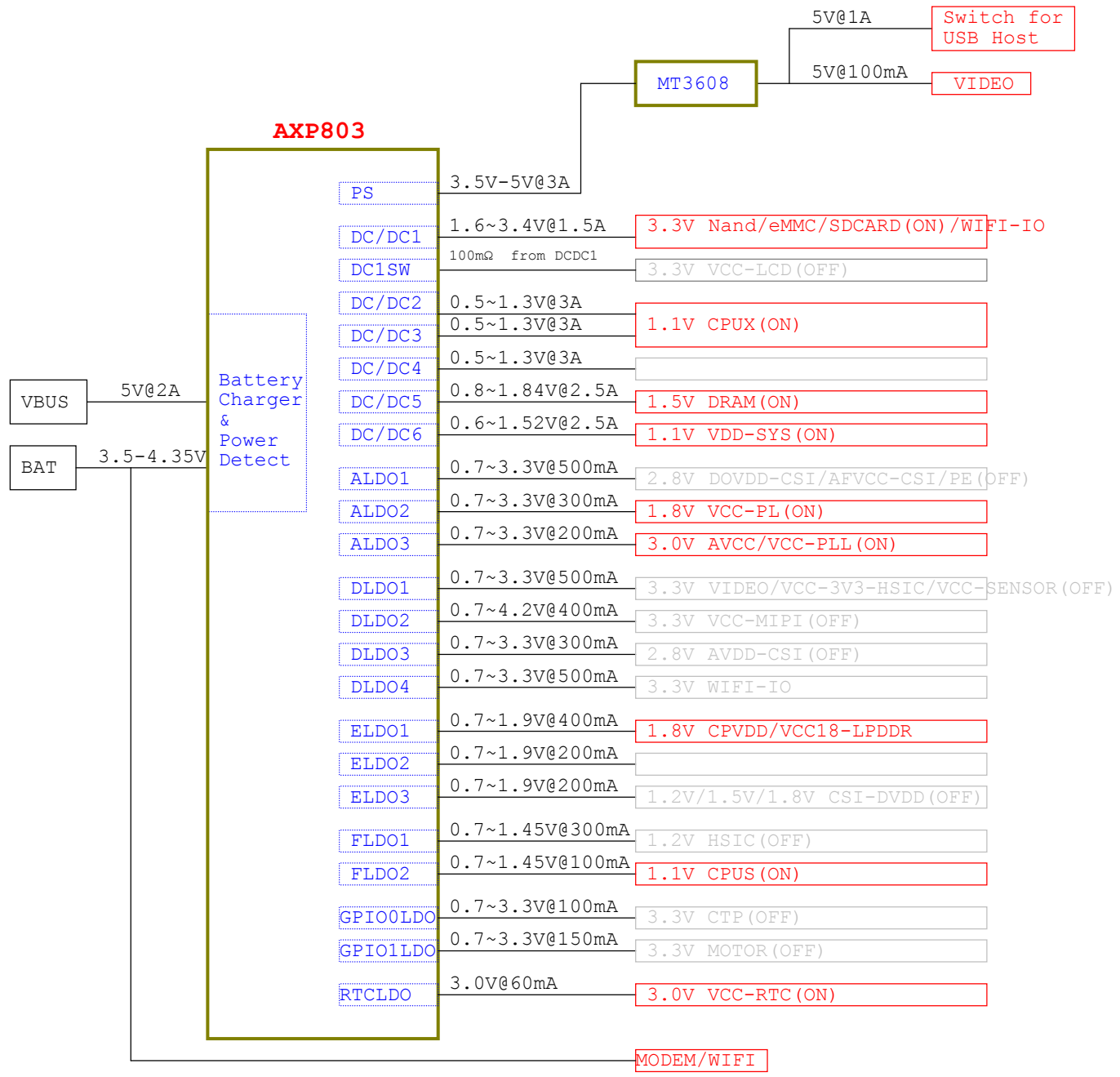
- P01: REVISION HISTORY
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Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Release version	2015-04-22			
Ver 1.2	Added EXP Connector and rearrange Wifi/BT module pintout	2015-12-24			
	Added power LED light				

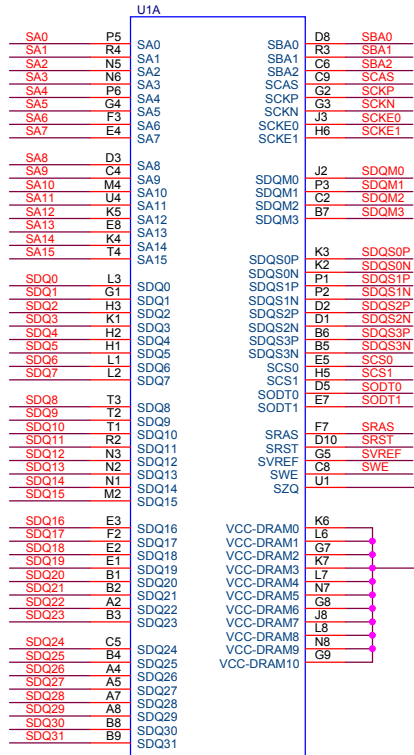
# BLOCK DIAGRAM



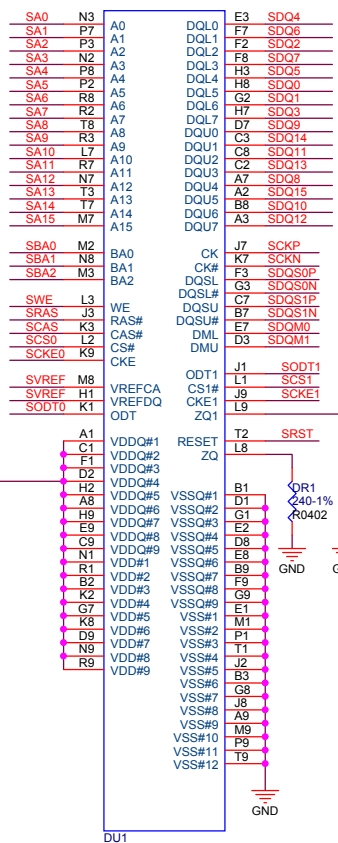
# POWER TREE



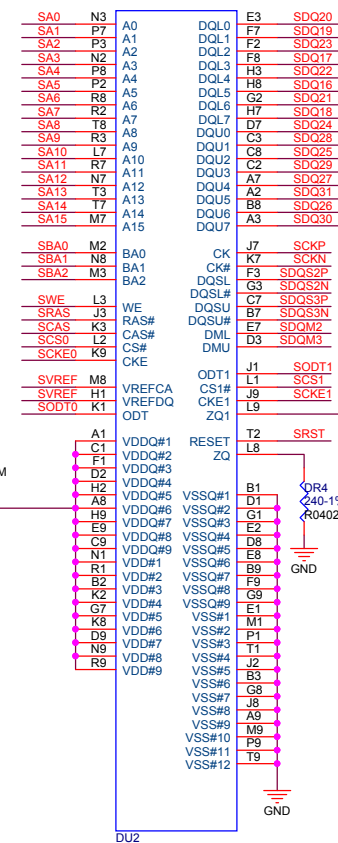
# DDR3 16x2



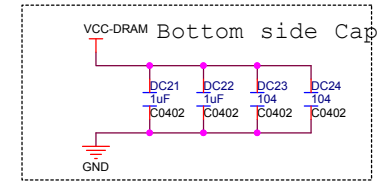
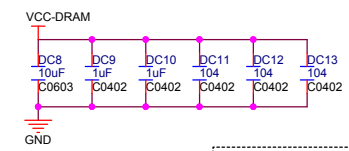
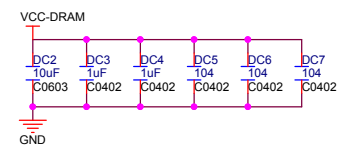
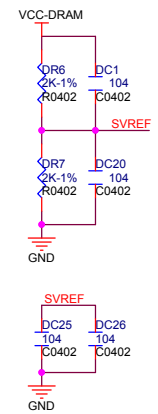
A64



DU1  
 DDR3-FBGA96  
 BGA96P0\_80B11\_00X14\_00

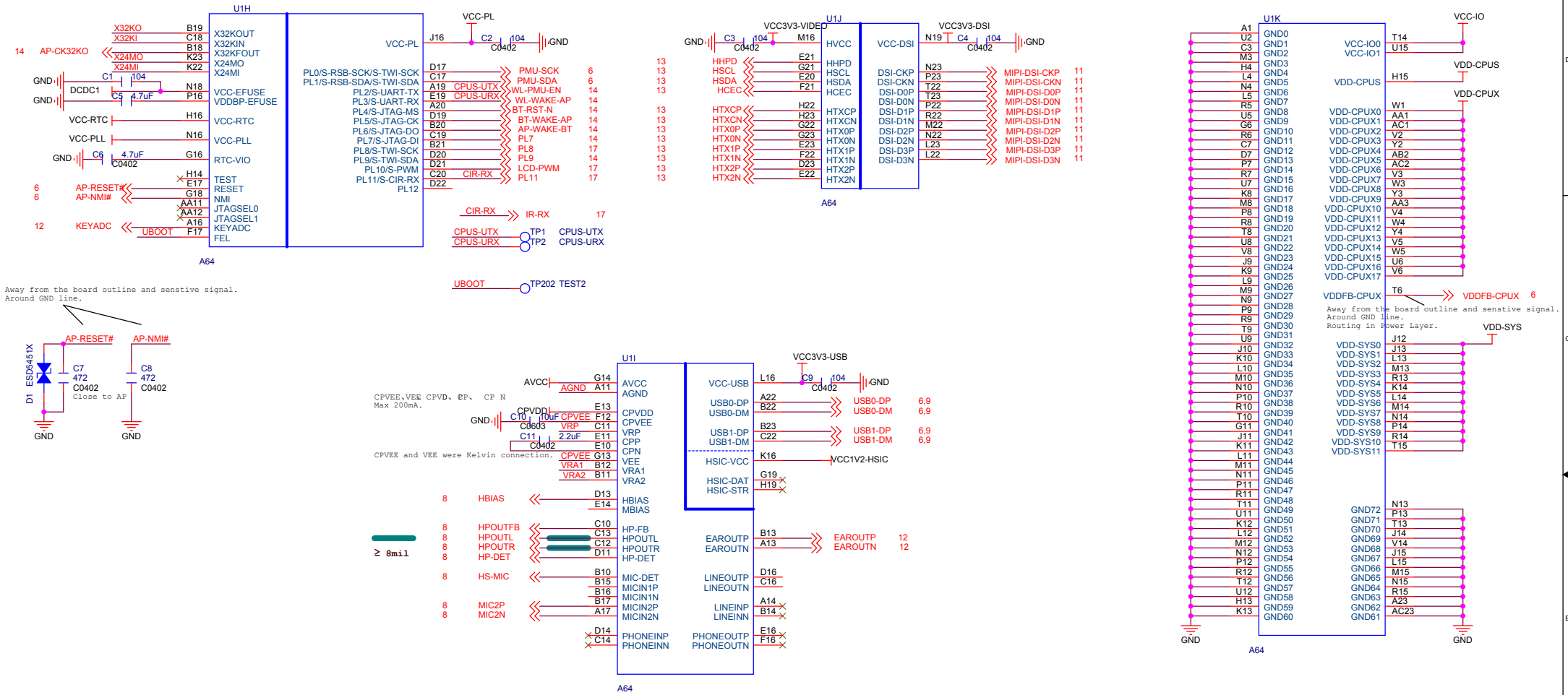


DU2  
 DDR3-FBGA96  
 BGA96P0\_80B11\_00X14\_00



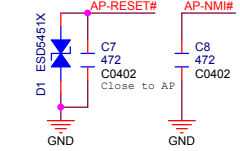
<b>Pine A64</b>			
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# CPU



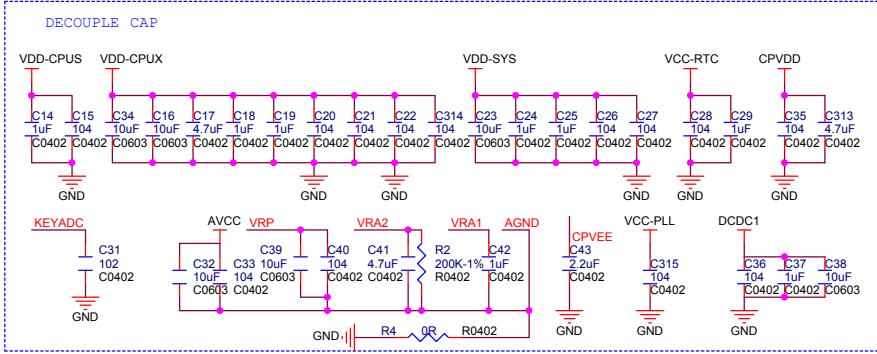
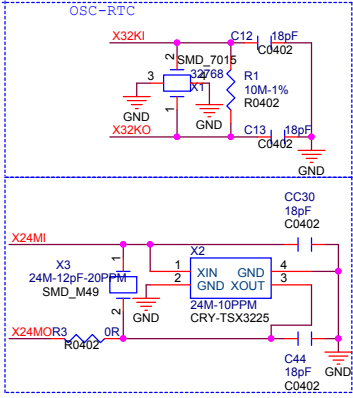
Away from the board outline and sensitive signal. Around GND line.

Away from the board outline and sensitive signal. Around GND line. Routing in Power Layer.



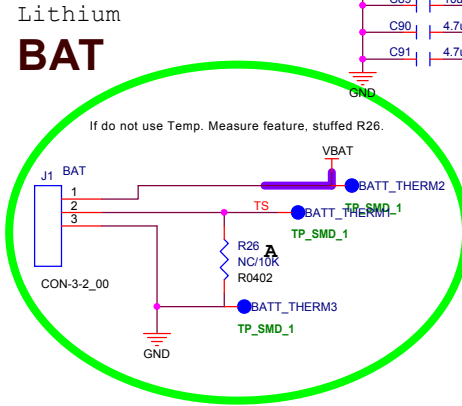
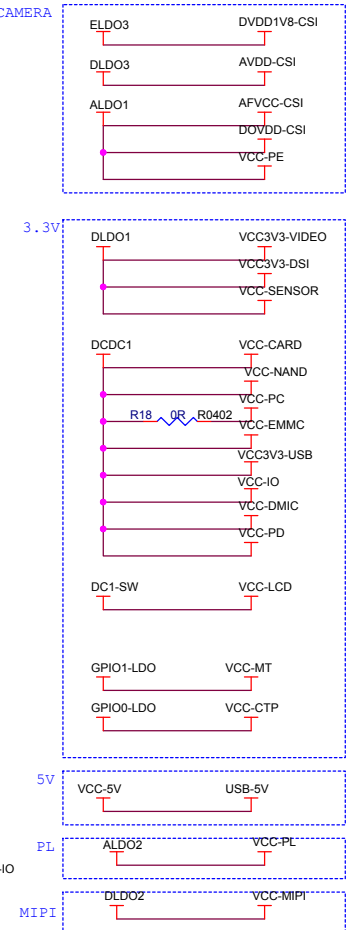
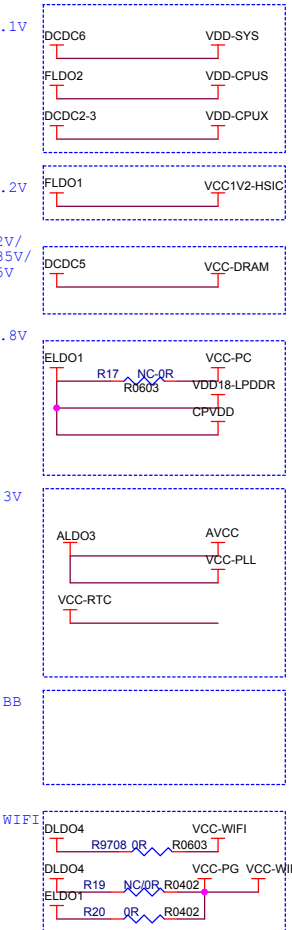
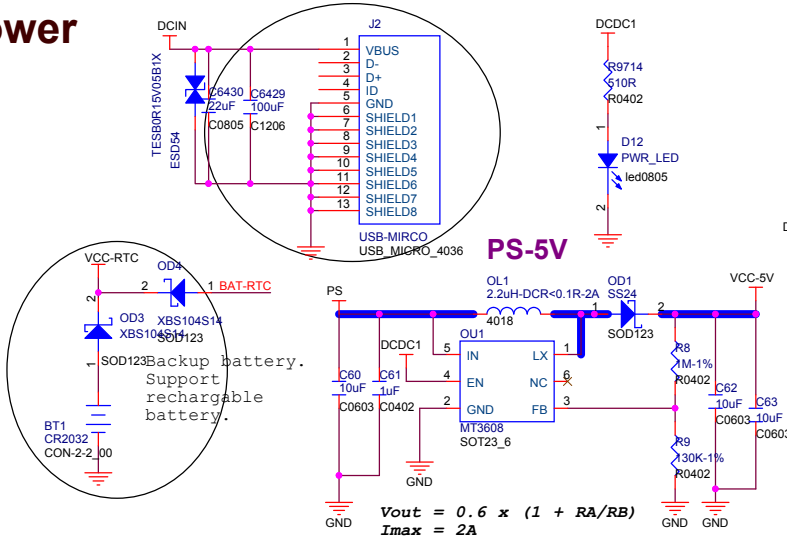
Close to AP

≥ 8mil

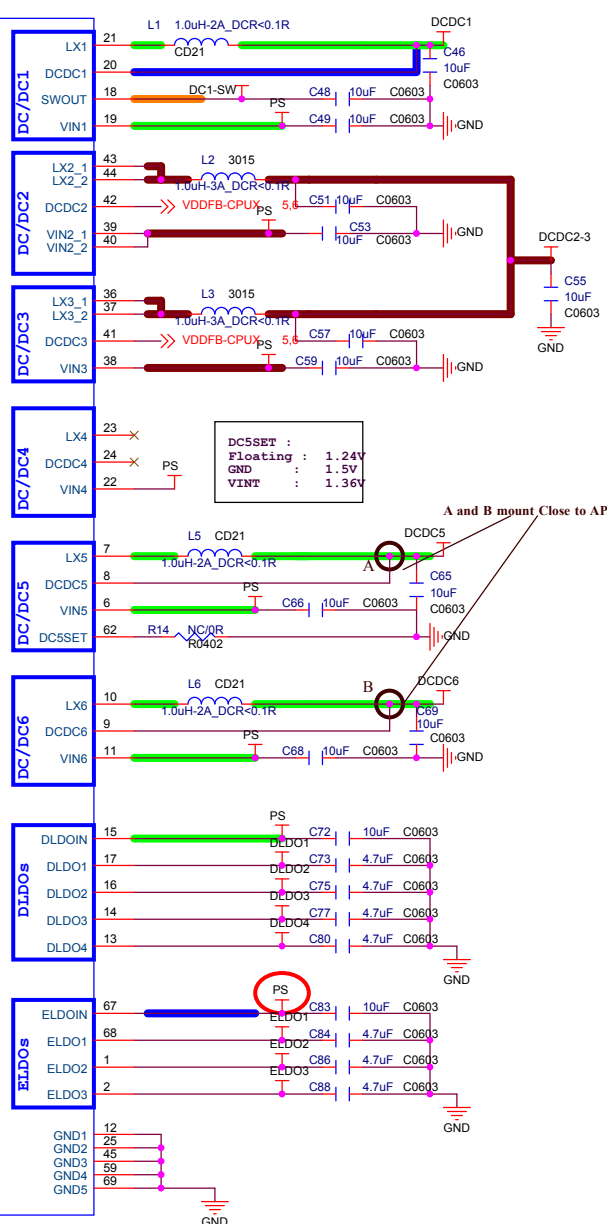
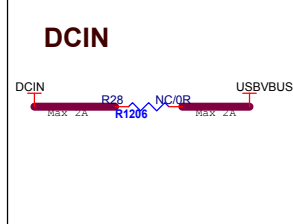
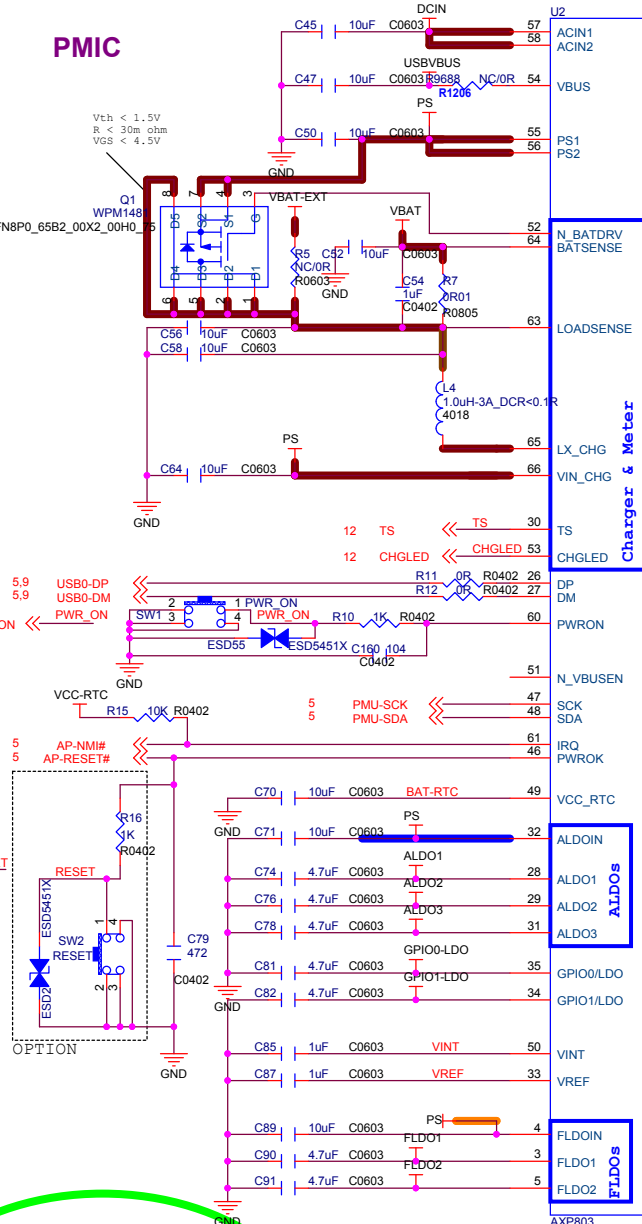


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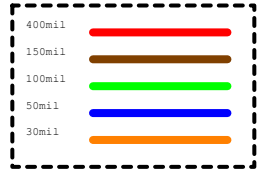
# Power



# PMIC

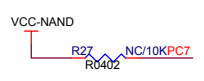
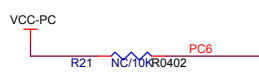
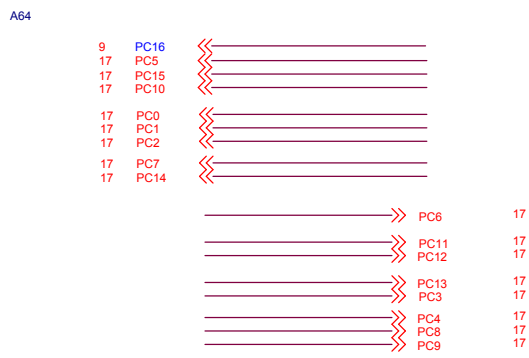
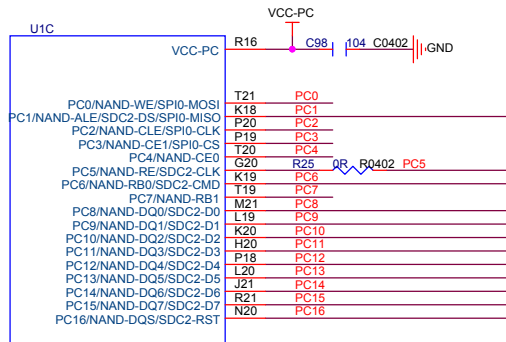


DC5SET :  
 Floating : 1.24V  
 GND : 1.5V  
 VINT : 1.36V



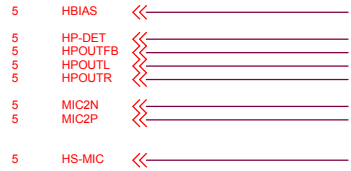
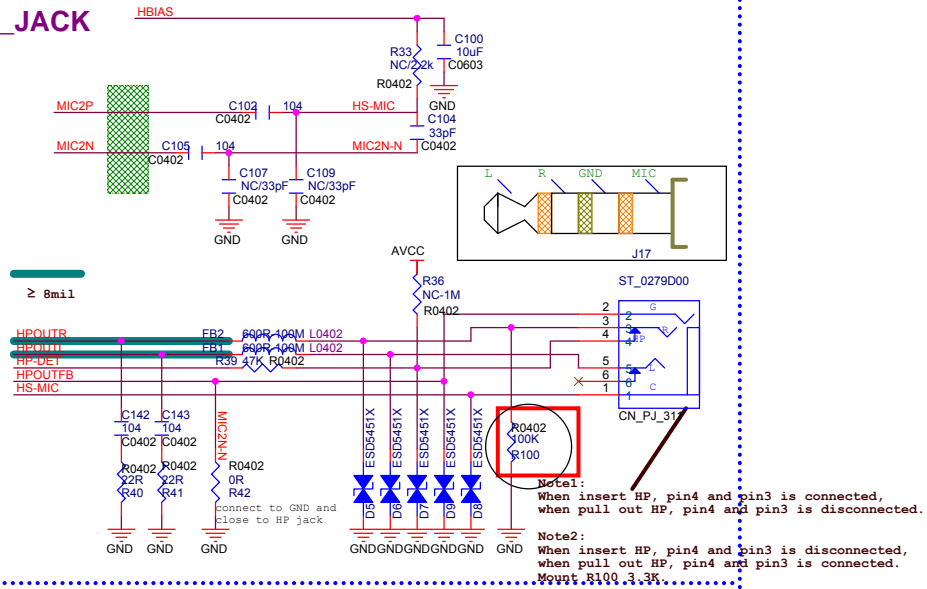
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# NAND/eMMC



# AUDIO

## HP\_JACK

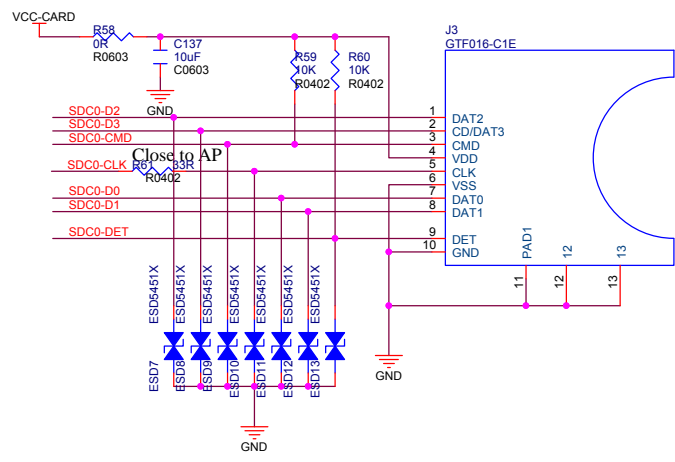
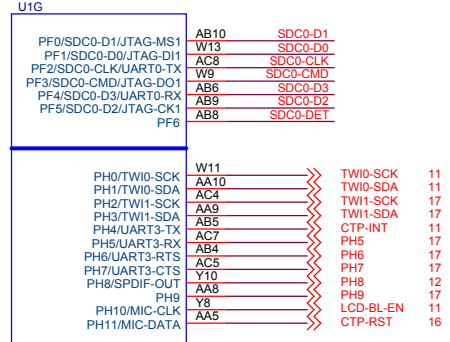


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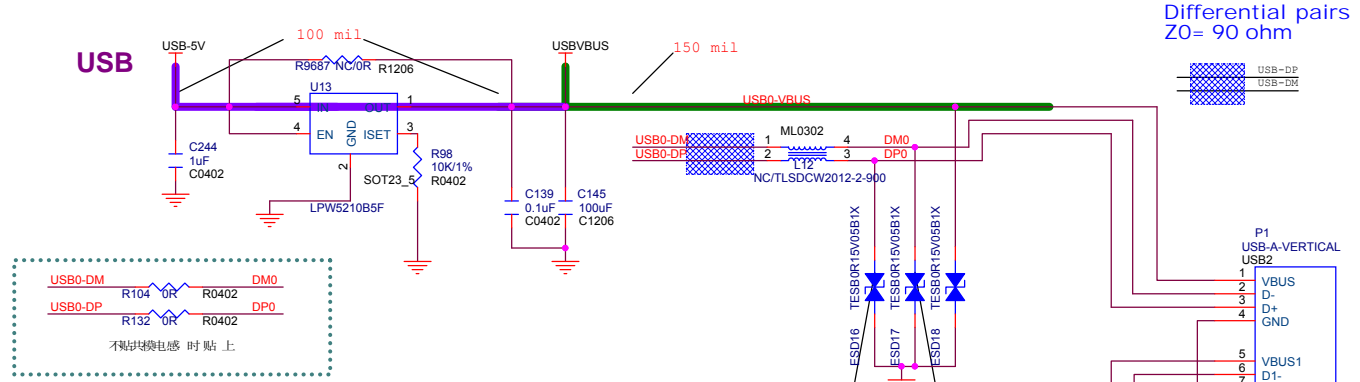
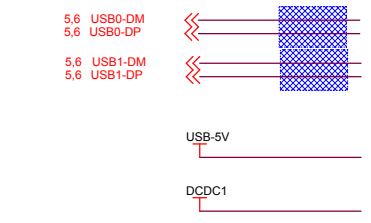


# T-CADD/USB

## T-CARD



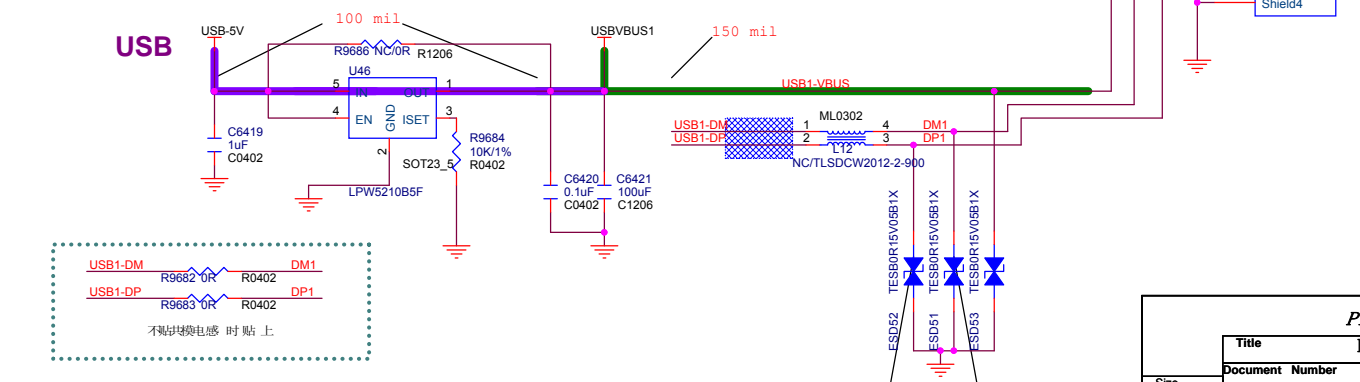
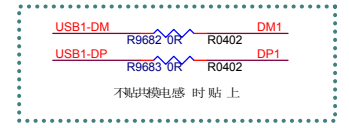
## USB



Differential pairs  
ZO= 90 ohm

The ESD part's parasitic capacitance < 5pF.

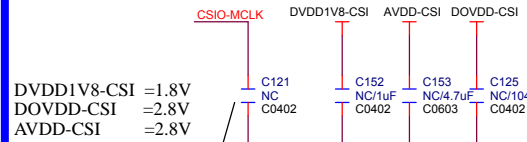
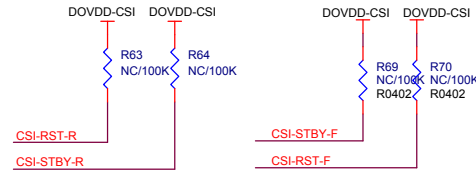
## USB



The ESD part's parasitic capacitance < 5pF.

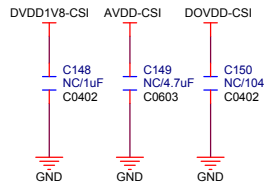
<b>Pine A64</b>			
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# CAM9R5



DVDD1V8-CSI = 1.8V  
DOVDD-CSI = 2.8V  
AVDD-CSI = 2.8V

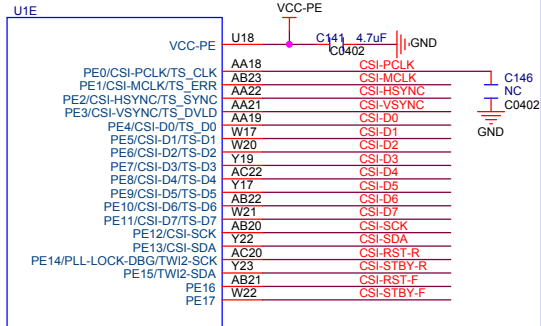
Close to camera.



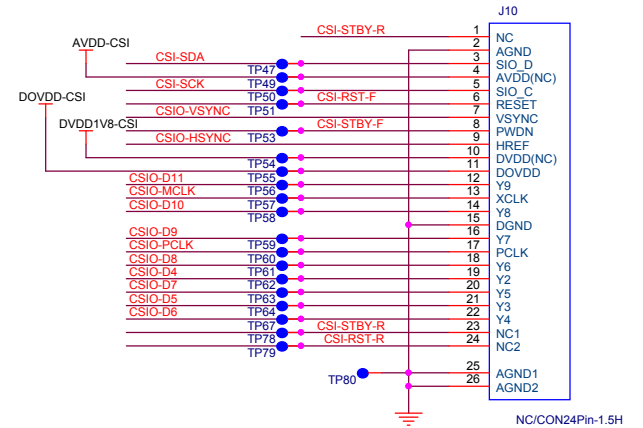
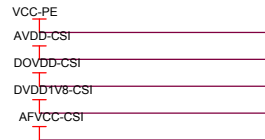
Close to AP



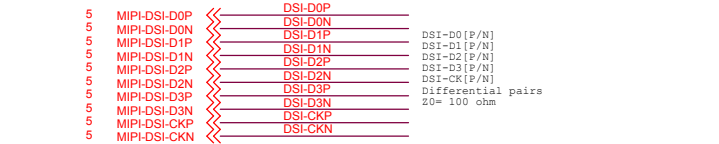
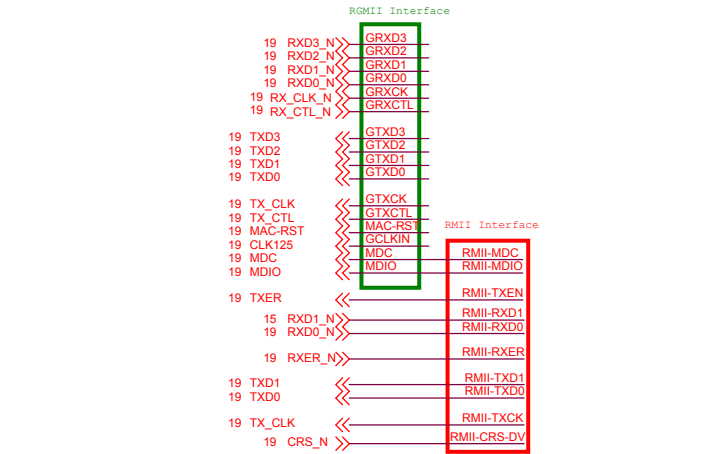
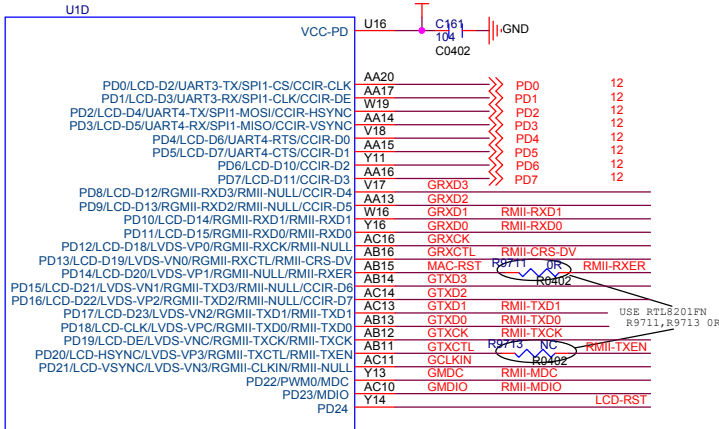
Close to Camera



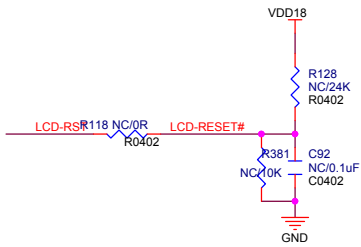
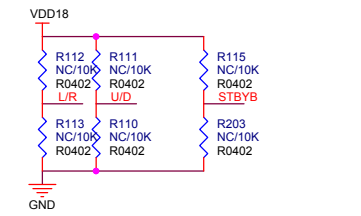
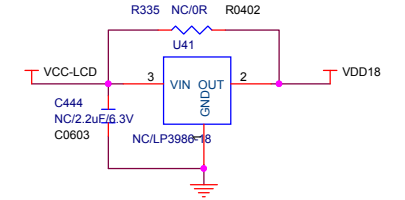
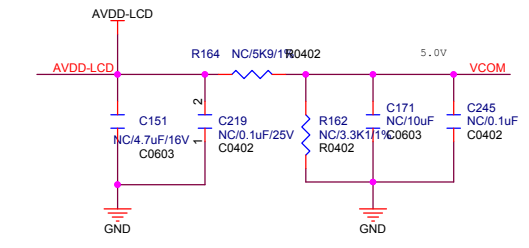
A64



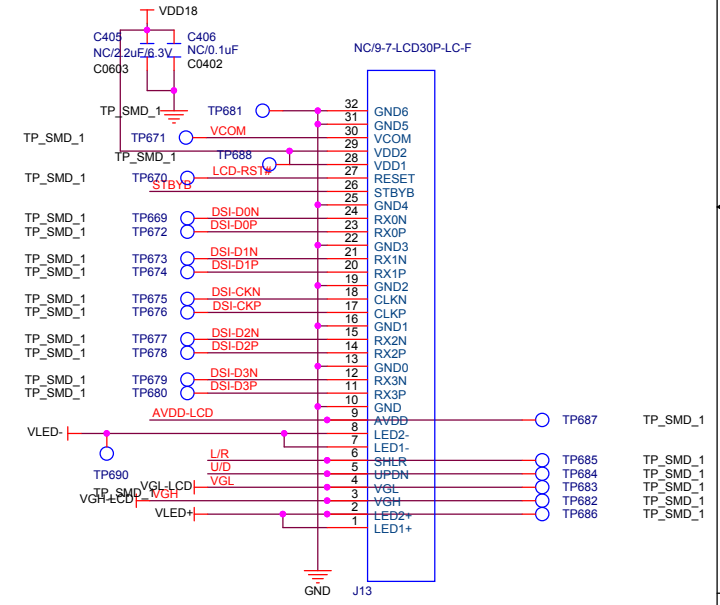
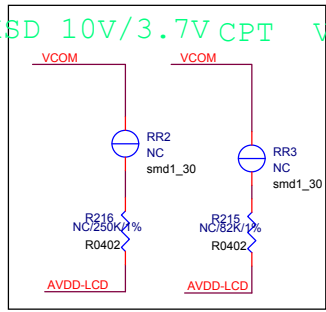
# LCD



# MIPI-LCD

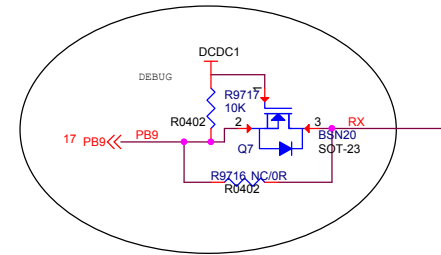
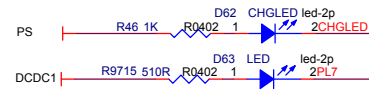
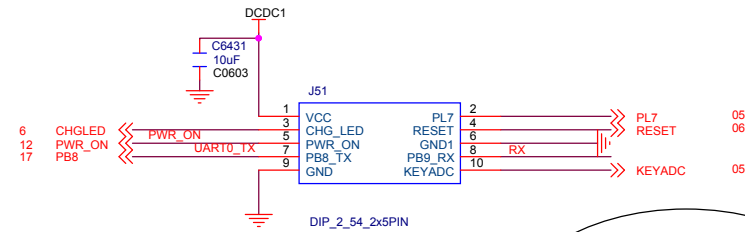
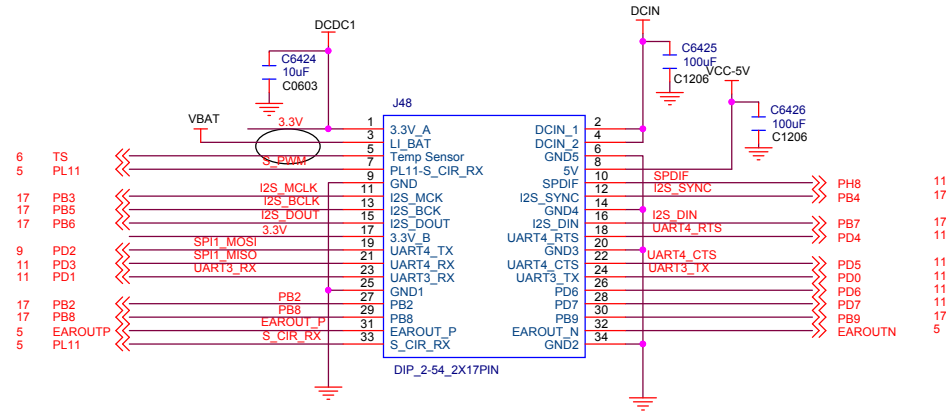


HSD 10V/3.7V CPT Vcom=4.3V



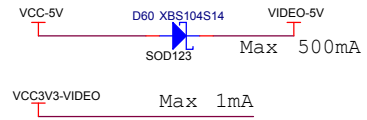
<b>Pine A64</b>			
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# Euler bus

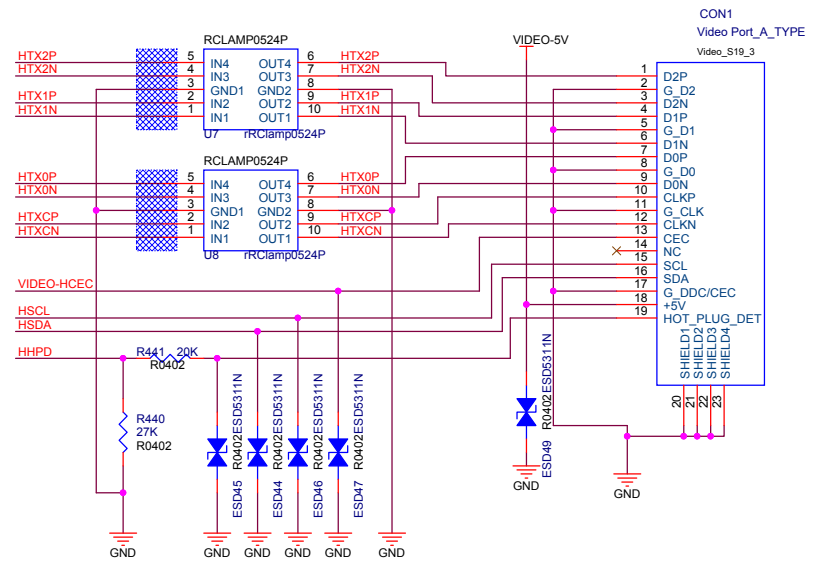
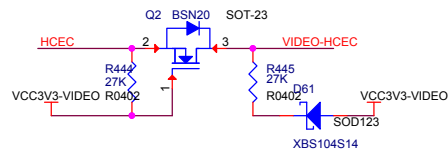
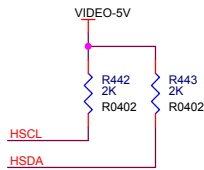


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# Video

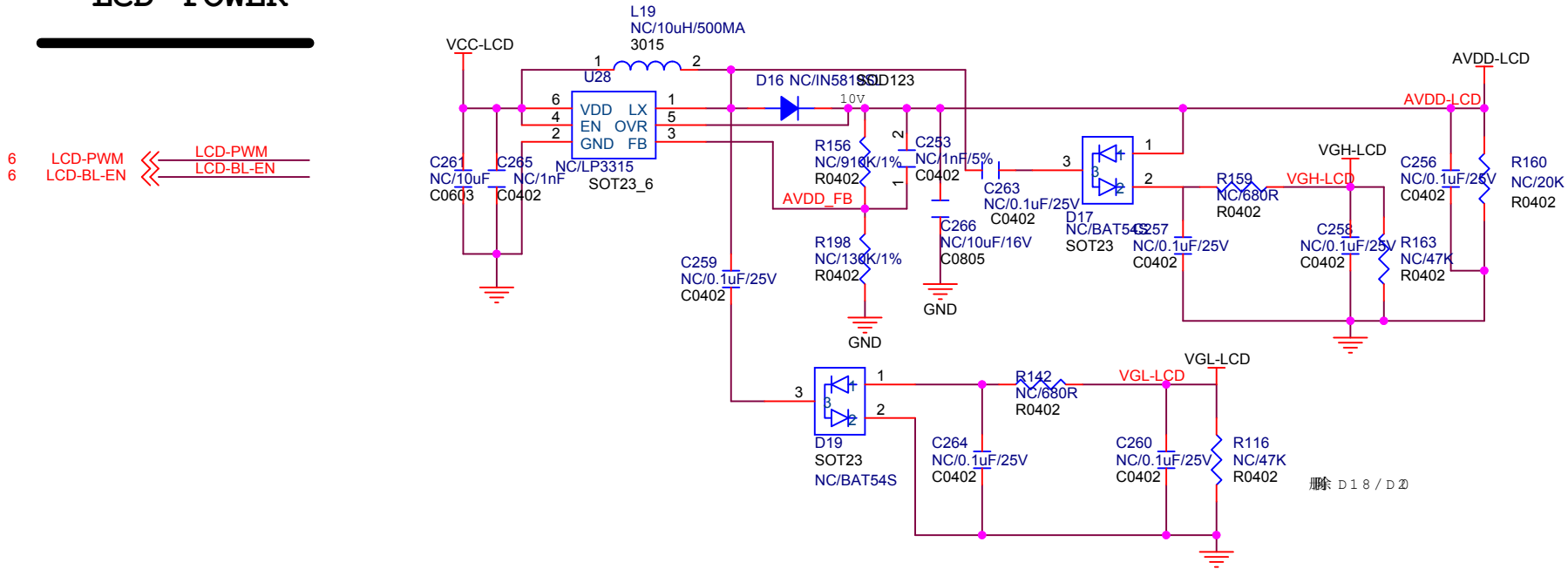


Differential pairs  
Z0= 100 ohm

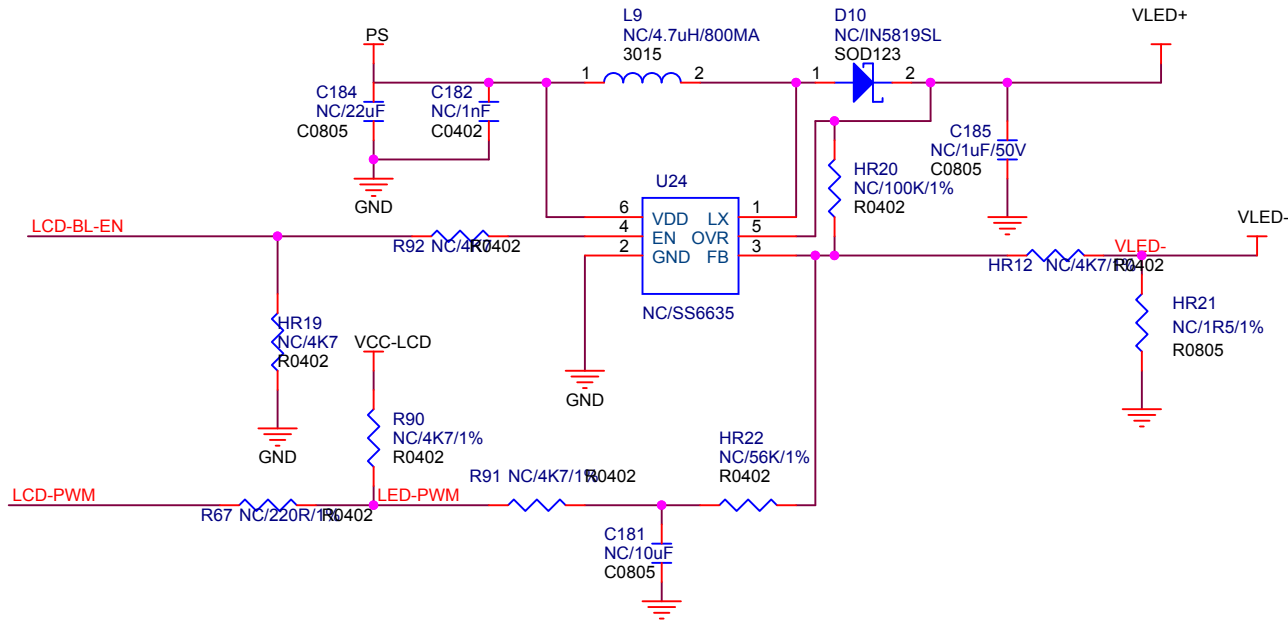


<b>Pine A64</b>	
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# LCD POWER



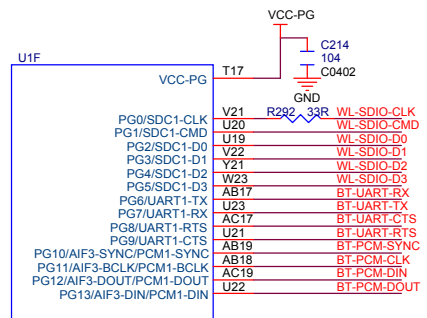
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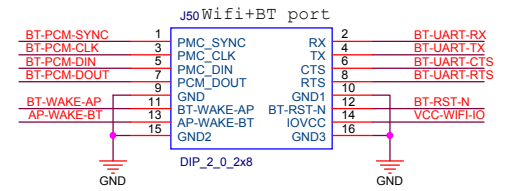
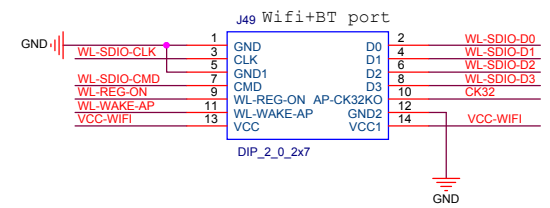
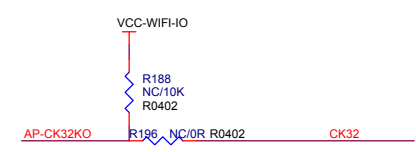
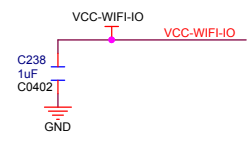
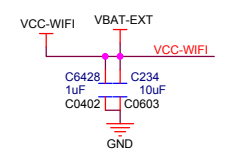
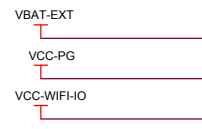
删除 D18 / D20

<i>Pine A64</i>	
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# WIFI+BT

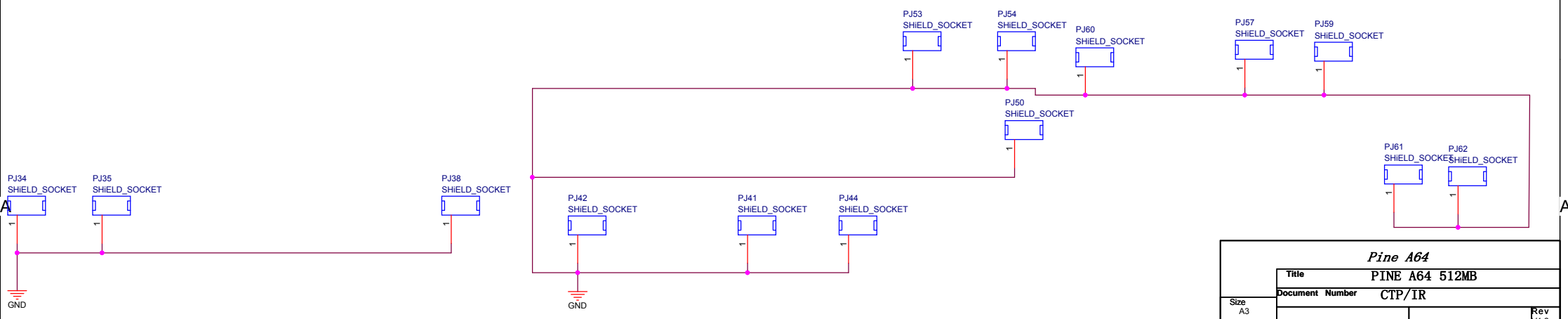
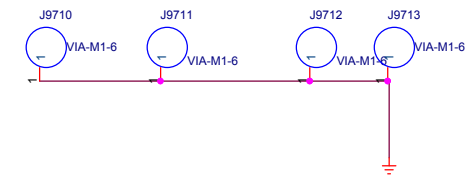
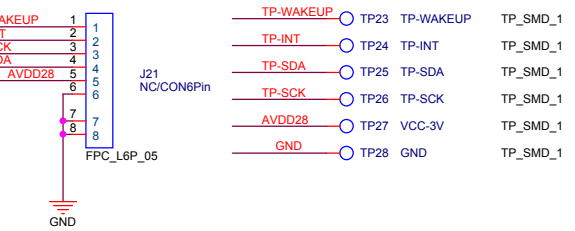
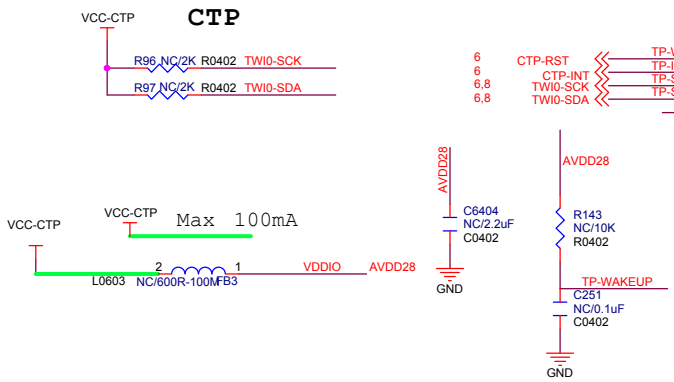
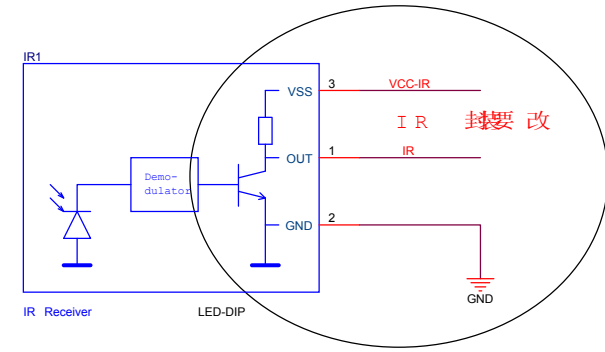
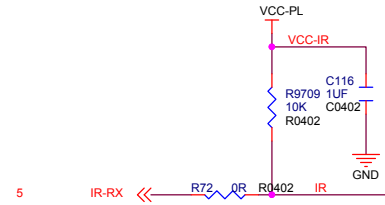


A64



# CTP

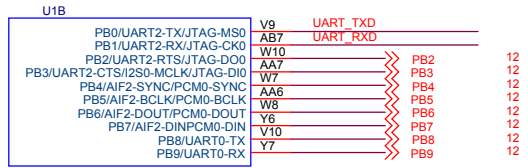
# IR



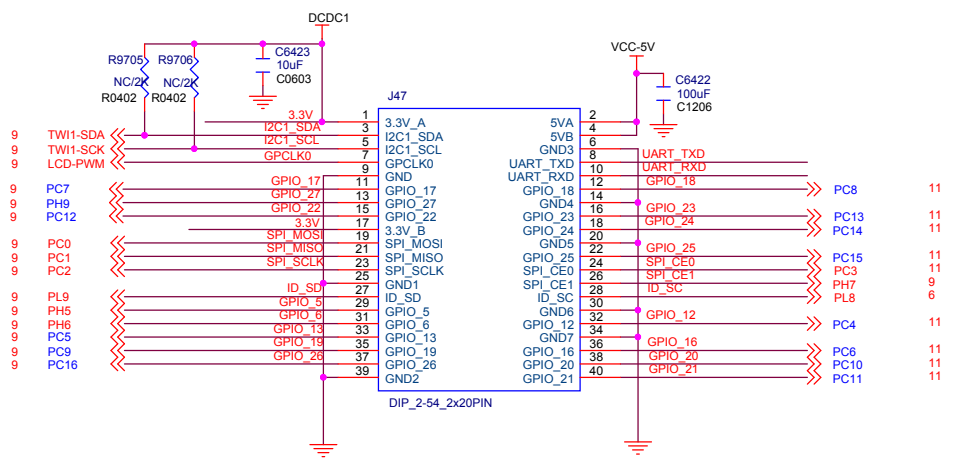
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# PI-2 bus

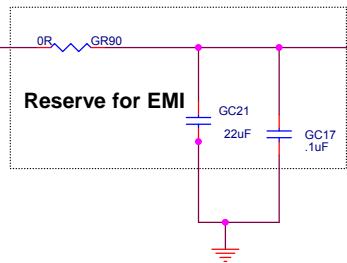


A64

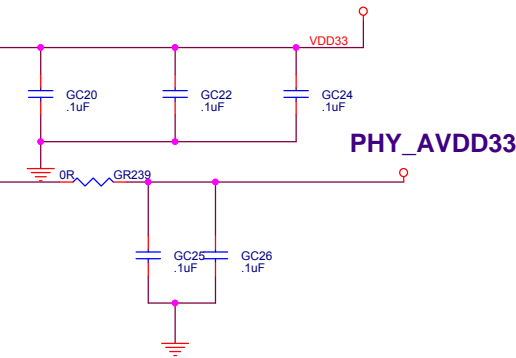


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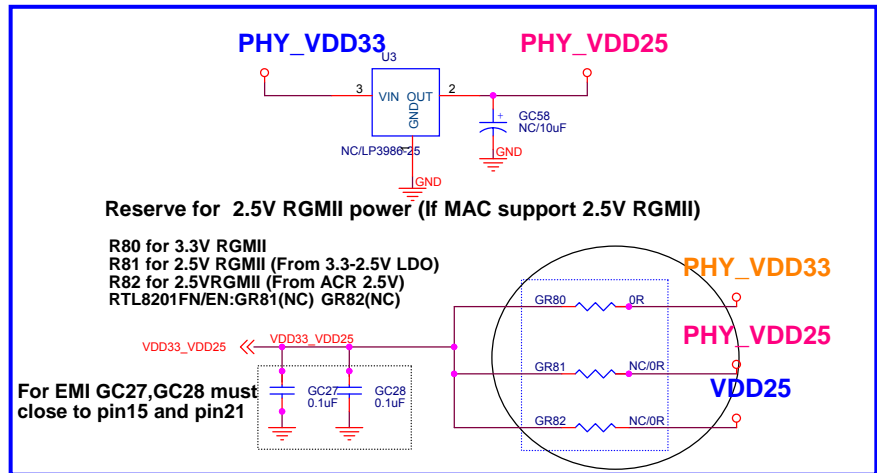
### GMAC-3V



### PHY\_VDD33



### 3.3/2.5V RGMII Power



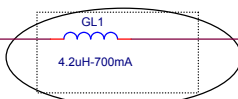
RTL8211CN/D/E	GL1	C56	U10	GR65	GR66	GR122	GC41/GC57
Enable switching regulator	○	○	✗	○	✗	✗	○
Disable switching regulator	✗	✗	○	✗	○	○	✗

Note 1: The Trace length between GL1 and Pin 48 must be within 0.5 cm. GC40 and GC41 to G L1 must be within 0.5cm.

RTL8211D/8211CN: GC40 22uF(X5R)  
RTL8211E: GC40 4.7uF(X5R)

RTL8201FN/EN :  
C40,C41,GL1 is NC  
GC33,GC38,GC35,GC37 is NC

C44 close to pin40

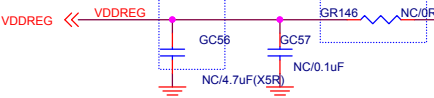


RTL8211D/8211CN: L1=4.7uH  
RTL8211E: L1= 2.2uH

### VDDREG

### PHY\_AVDD33

Note 2: The Trace length from C56, C57 to Pin 44,45 must be within 1 cm. The trace width from PHY\_AVDD33 to Pin 44,45 should >40mils

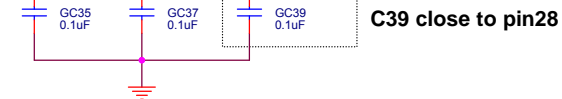
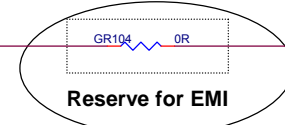
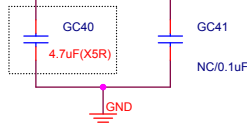


Isolation VDDREG and AVDD33  
RTL8201FN/EN: GC56(NC), GC57(NC), GR146(NC)  
RTL8211CN/8211D: GC56 22uF(X5R)  
RTL8211E: GC56 4.7uF(X5R)

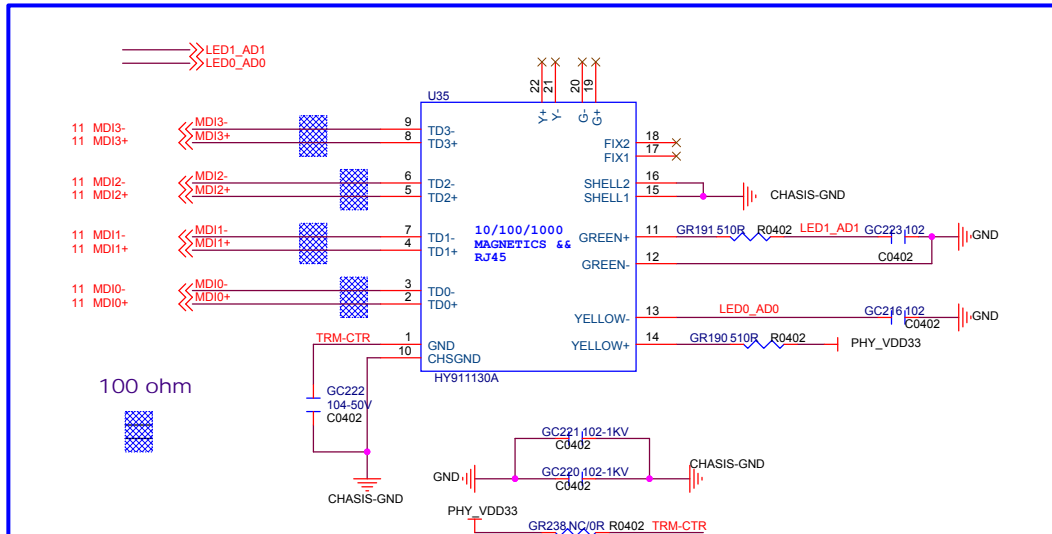
### External Power Source

U10,GC69,GC68, GR122,GR120 and GR121 are only used by 8211CN/8211D/8211E application when switching regulator is disabled. For other applications, please remove them.

C40 close to L1

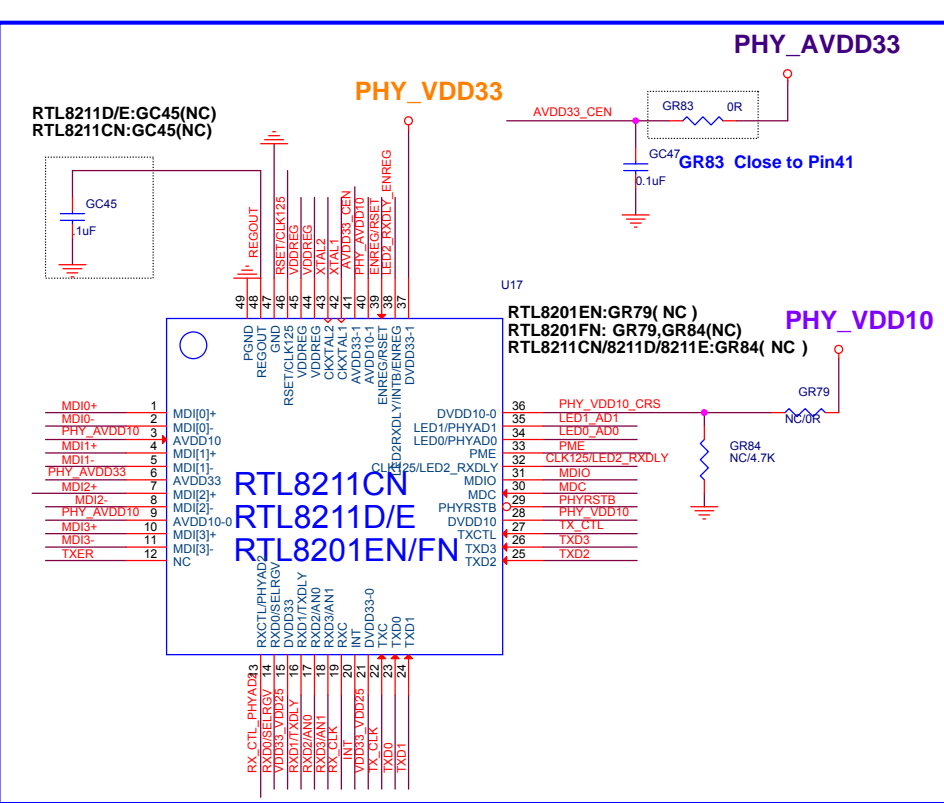
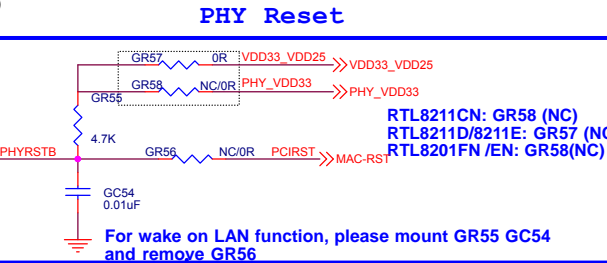
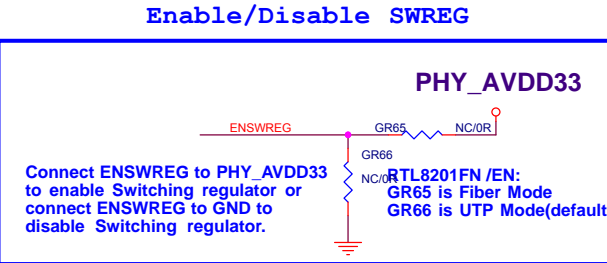
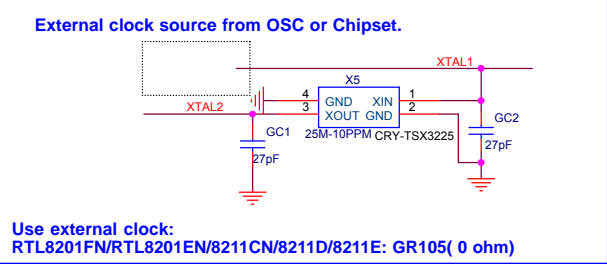
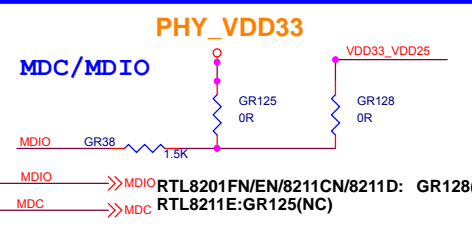
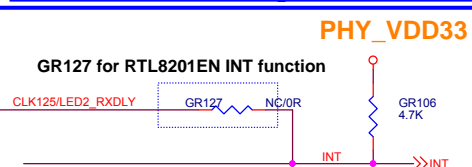
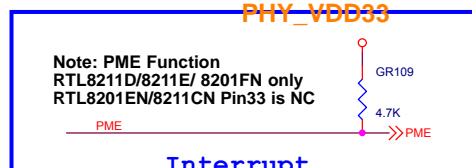


C39 close to pin28



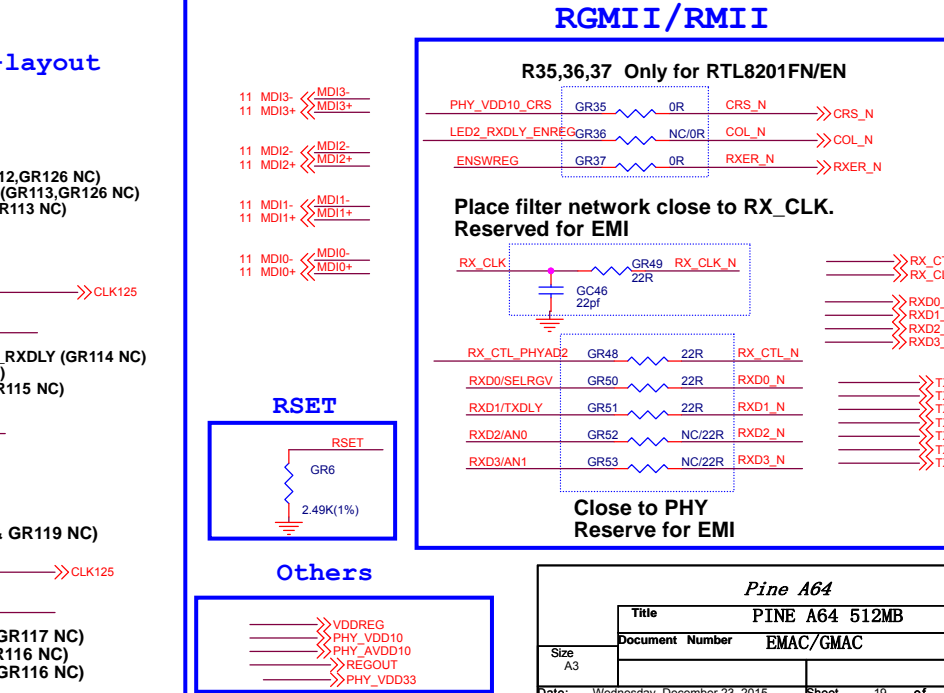
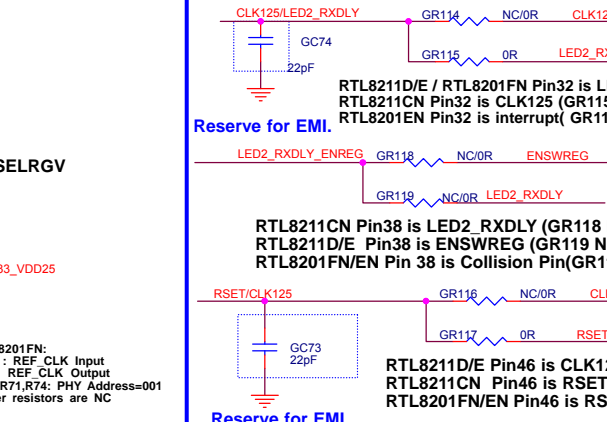
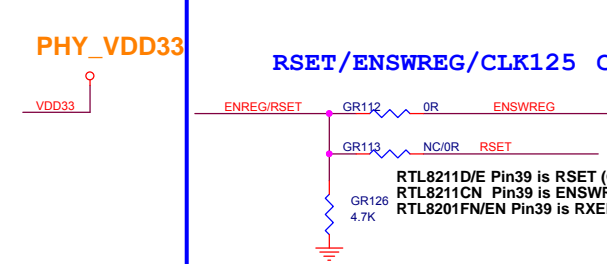
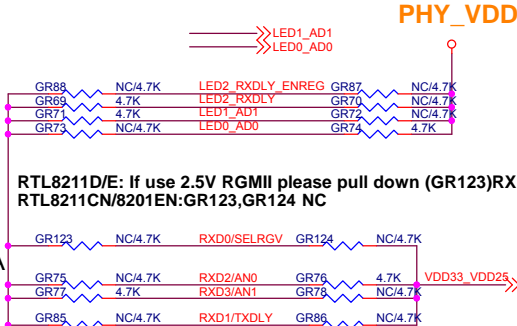
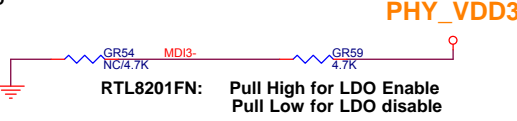
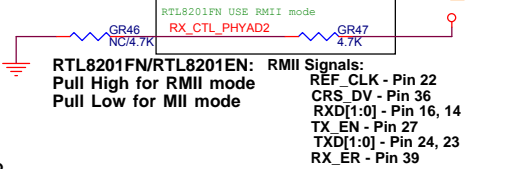
RESERVE

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### Configuration Setting

MII/RMII Setting only for RTL8201FN & RTL8201EN PHYAD2  
Setting only for RTL8211E



RTL8211CN/8211D/8211E: GR76,GR78: Config for all capability GR71,GR74: PHY Address=01 (8211D/8211CN) GR46,GR71,R74: PHY Address=001 (8211E) GR69,GR85: Without TX/RX Delay

RTL8201EN: GR88:MII Interface GR71,GR74: PHY Address=01 Other resistors are NC

RTL8201FN: R78 : REF CLK Input R77: REF CLK Output R69,R71,R74: PHY Address=001 Other resistors are NC

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