

VERSION HISTORY

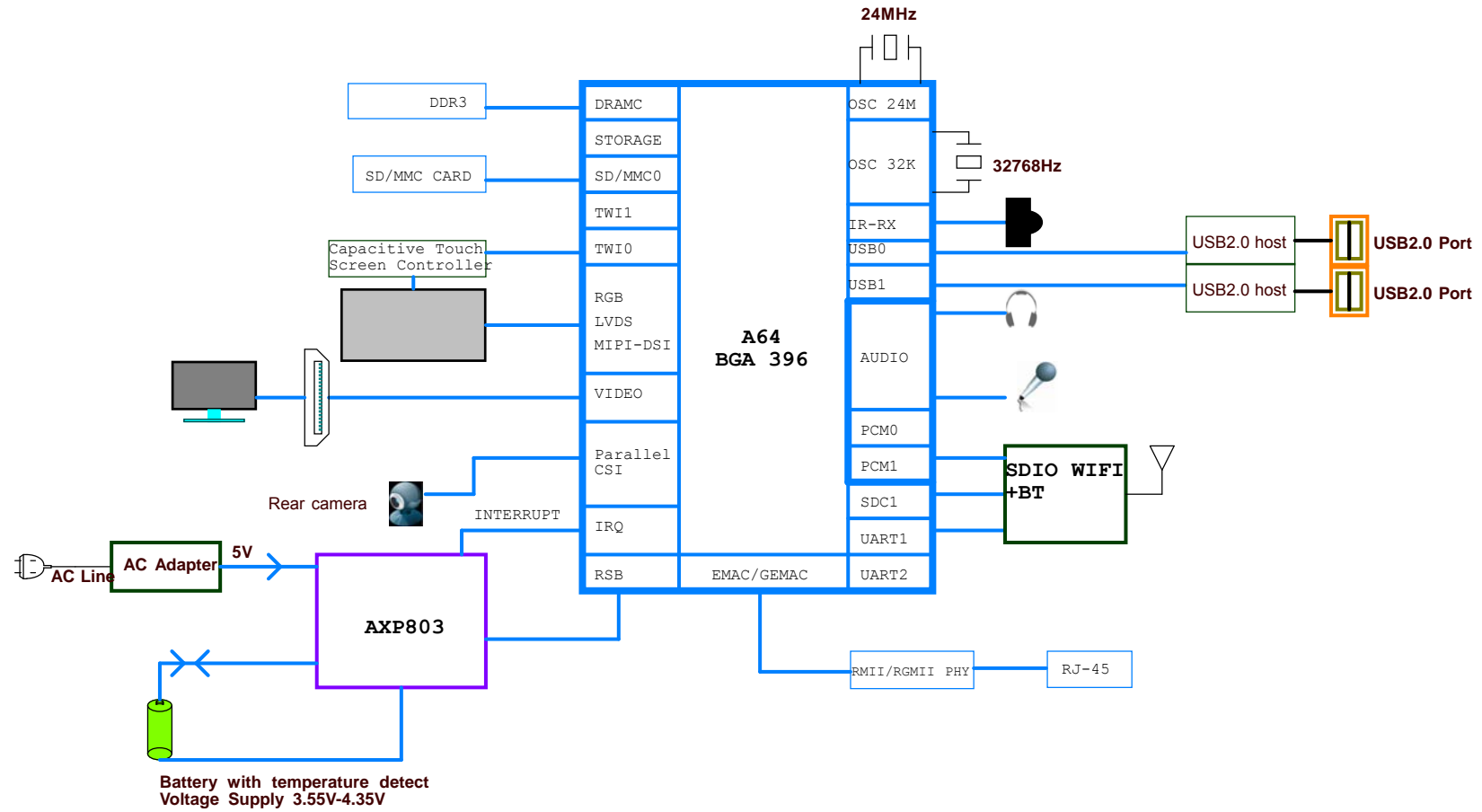
Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Release version	2015-04-22			
Ver 1.2	Added EXP Connector and rearrange Wifi/BT module pintout	2015-12-24			
	Added power LED light				

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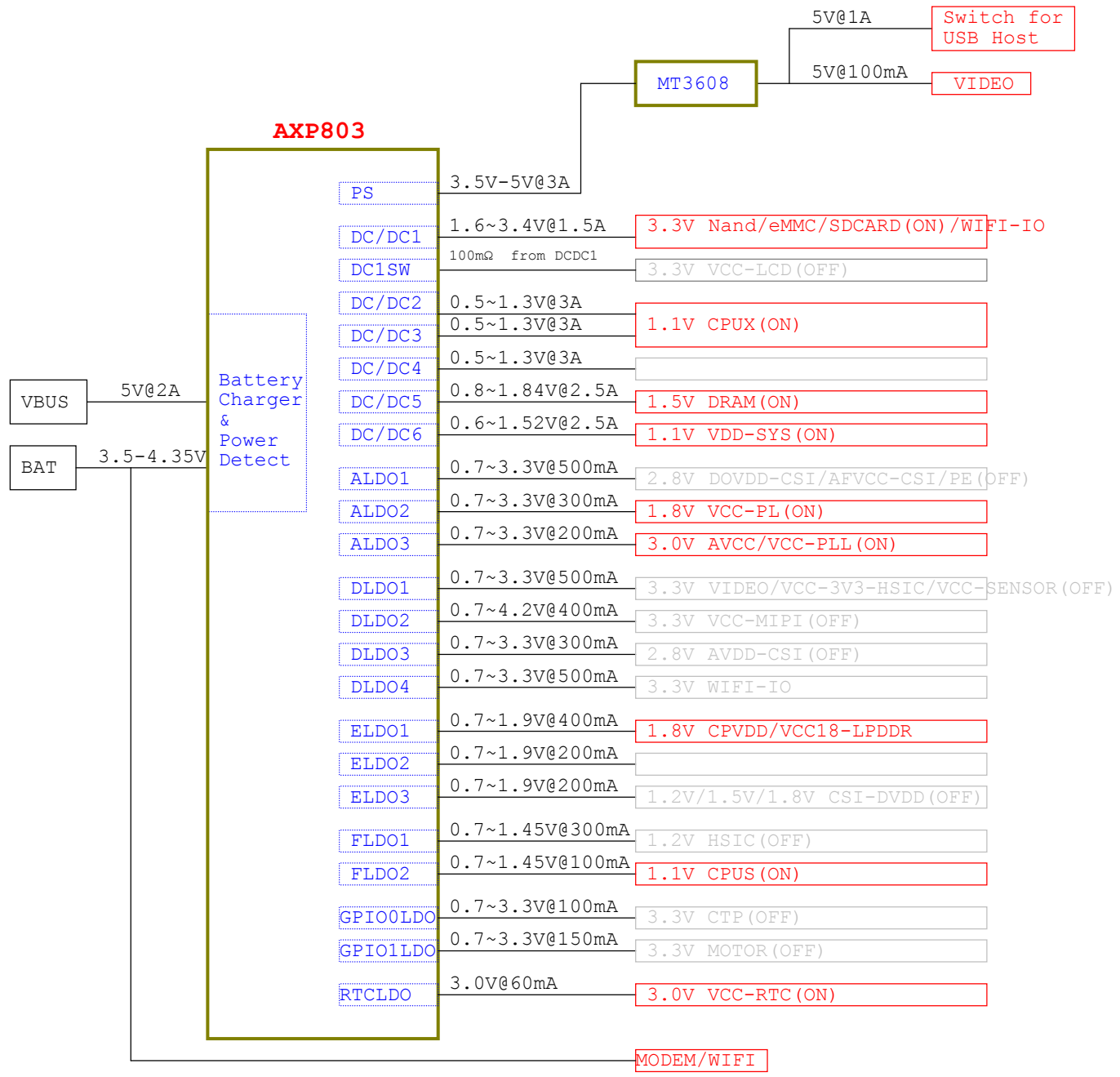
- P01: REVISION HISTORY
- P02: BLOCK DIAGRAM
- P03: POWER TREE
- P04: DDR3 16X2
- P05: CPU
- P06: PMIC
- P07: FLASH
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Pine A64		
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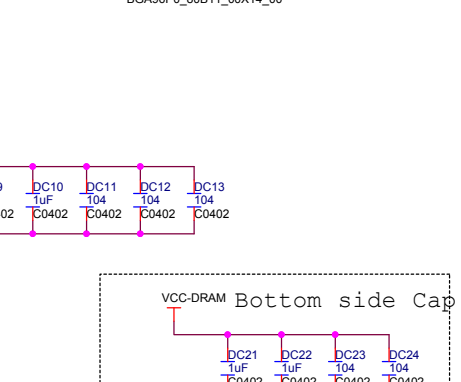
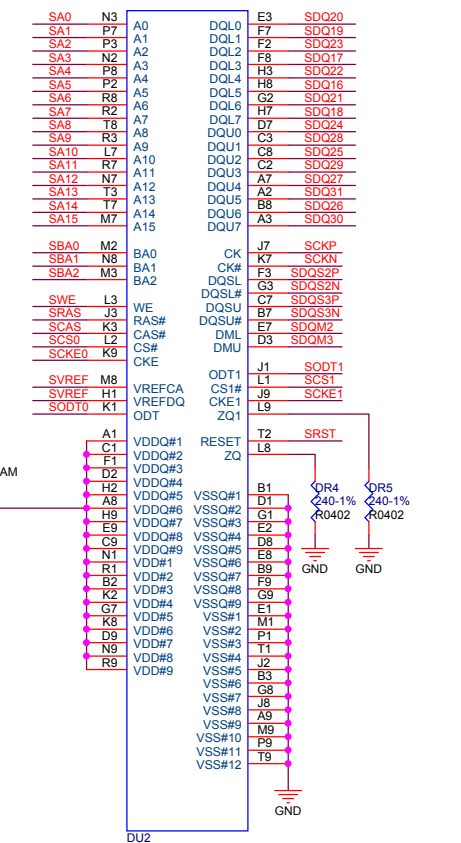
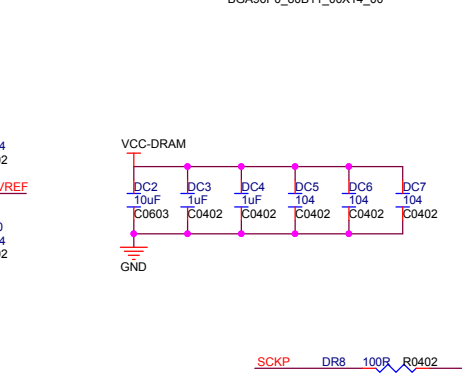
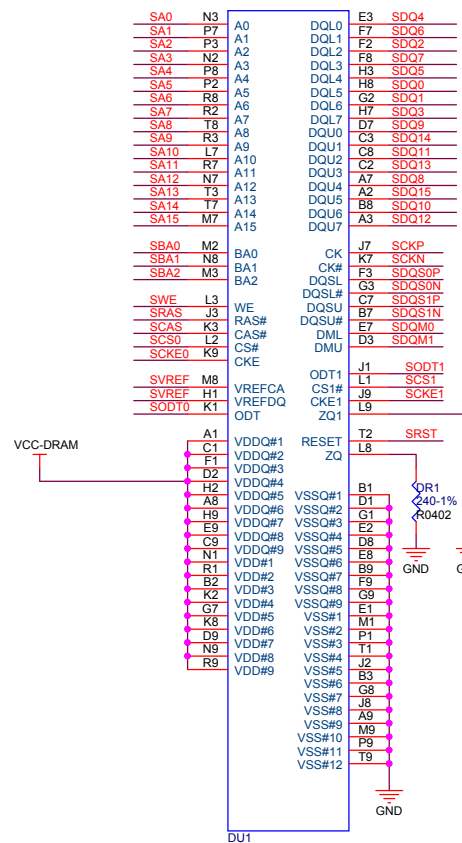
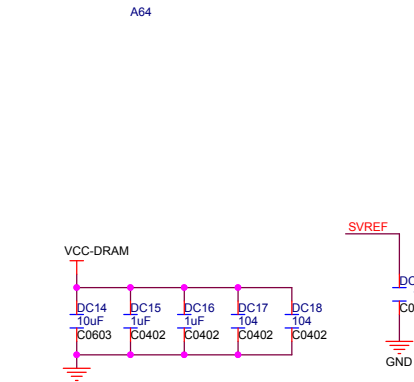
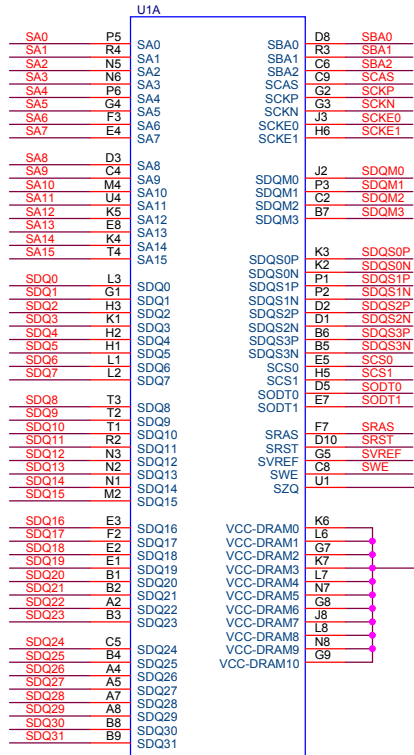
BLOCK DIAGRAM



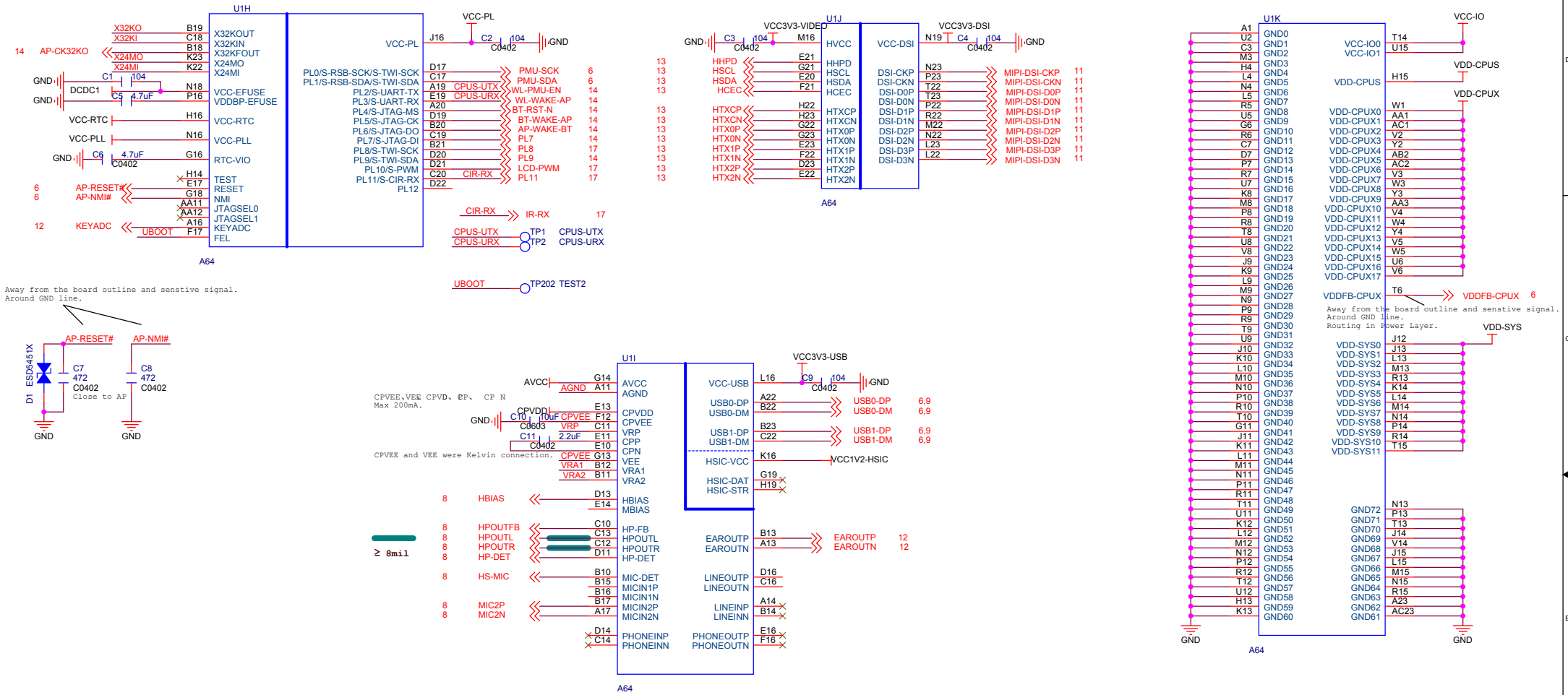
POWER TREE



DDR3 16x2

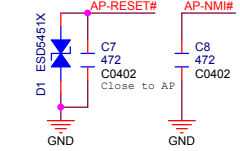


CPU



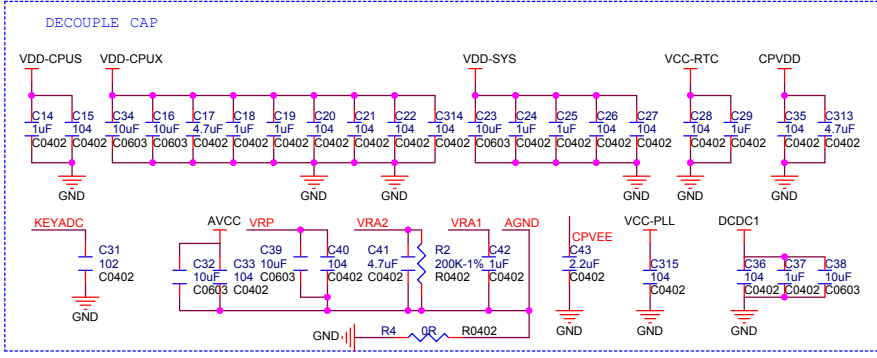
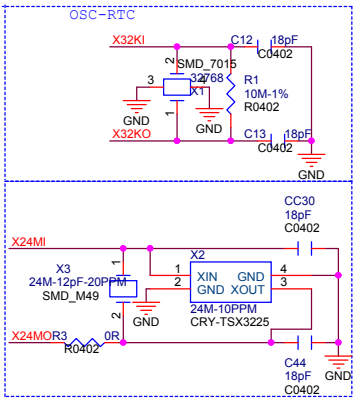
Away from the board outline and sensitive signal. Around GND line.

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



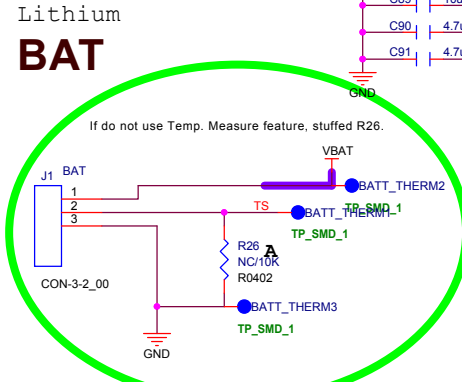
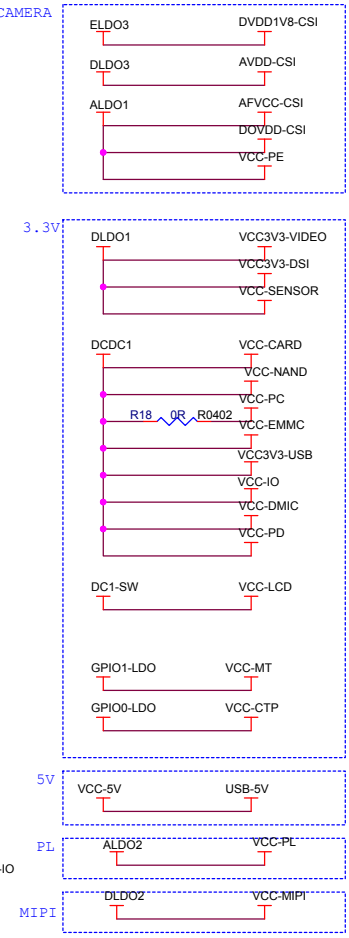
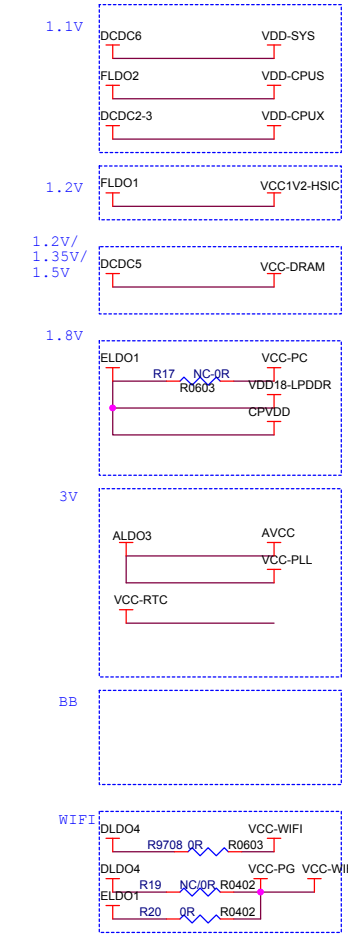
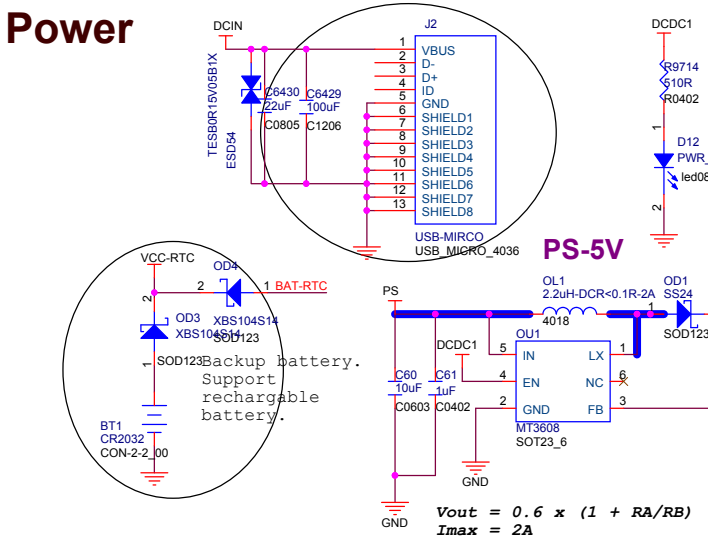
Close to AP

≥ 8mil

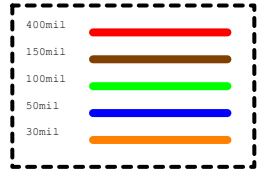
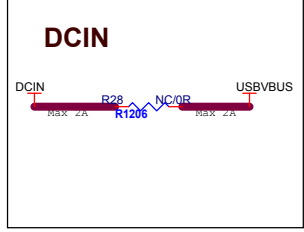
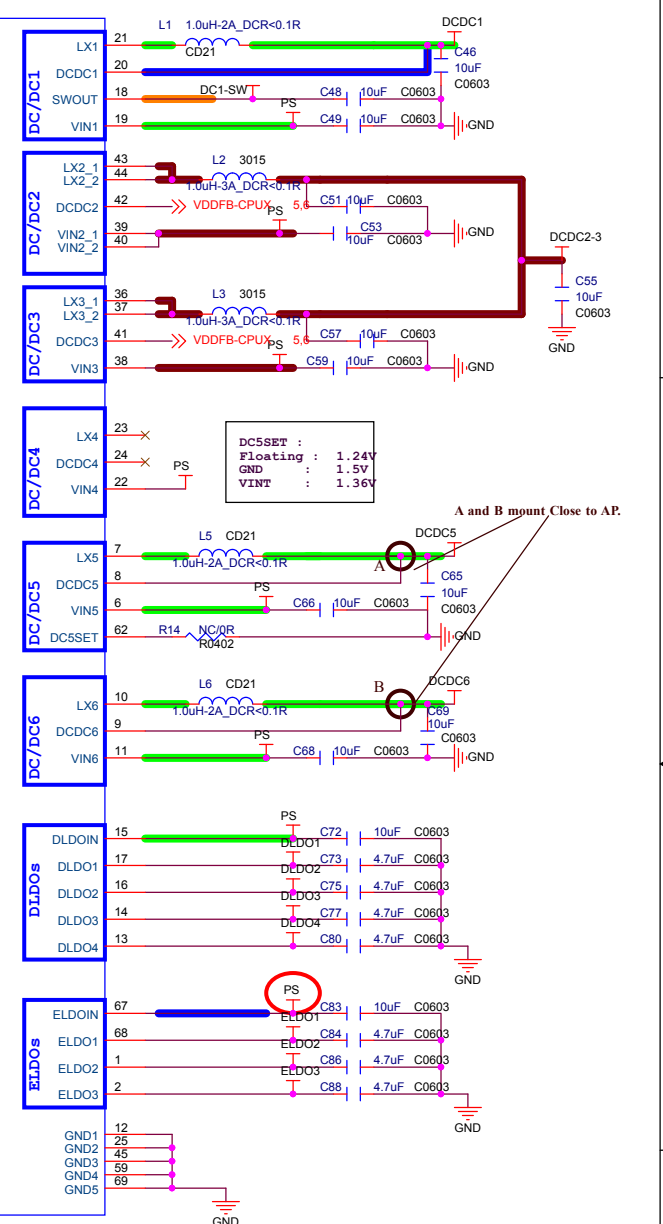
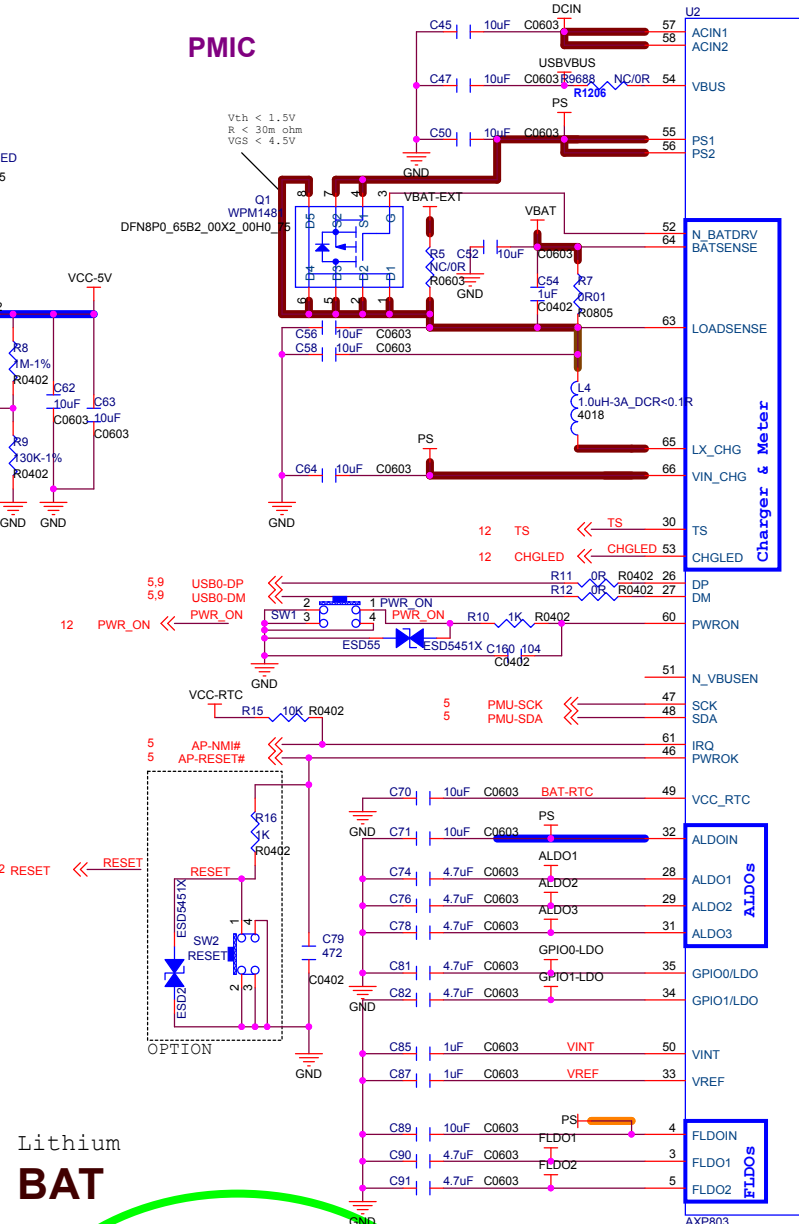


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Power

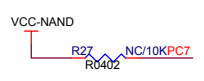
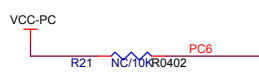
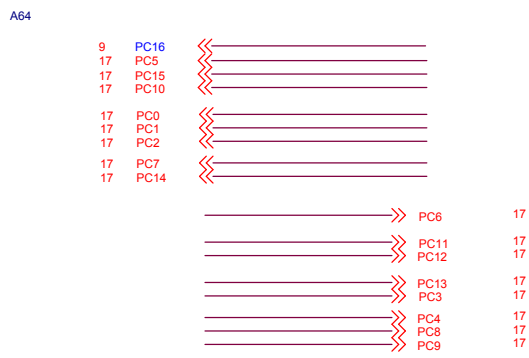
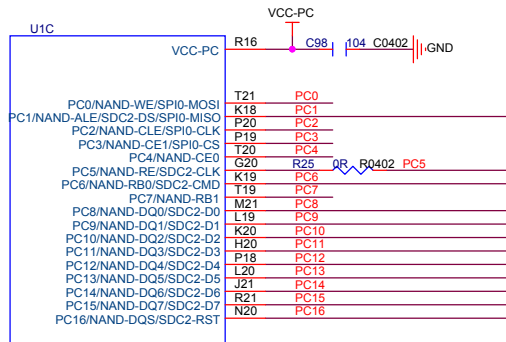


PMIC



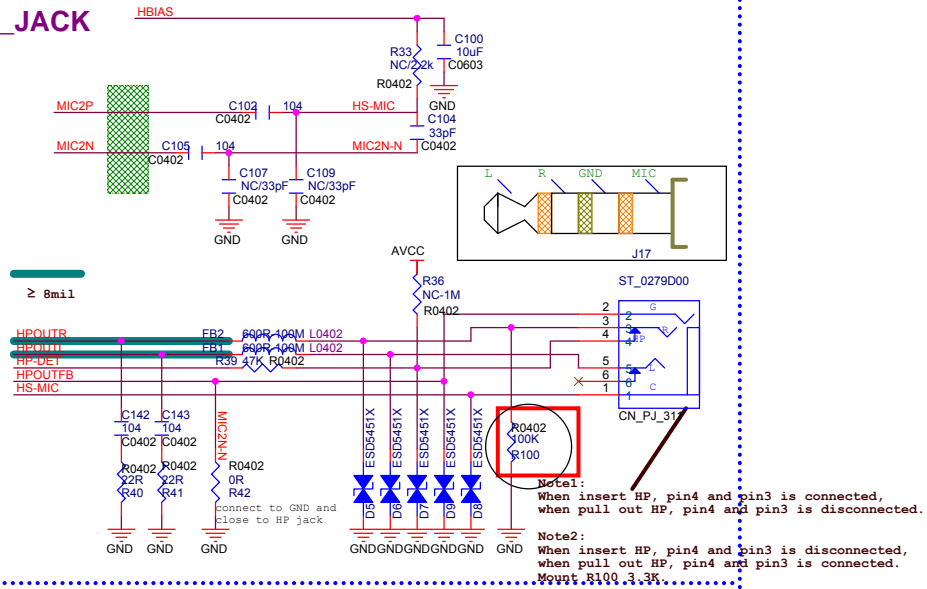
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NAND/eMMC



AUDIO

HP_JACK



- 5 HBIAS << _____
- 5 HP-DET << _____
- 5 HPOUTLFB << _____
- 5 HPOUTL << _____
- 5 HPOUTR << _____
- 5 MIC2N << _____
- 5 MIC2P << _____
- 5 HS-MIC << _____

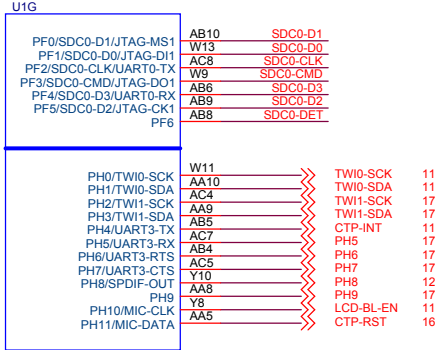
- 5 EAROUTP << _____
- 5 EAROUTN << _____

AVCC _____

VCC-5V _____

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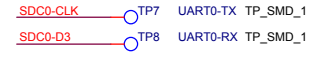
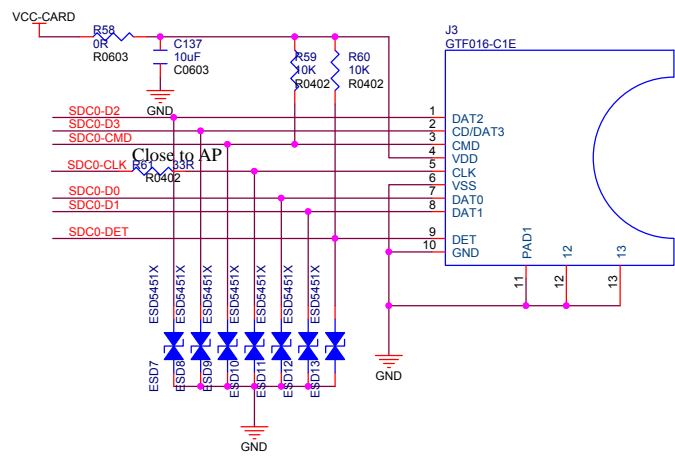
T-CADD/USB



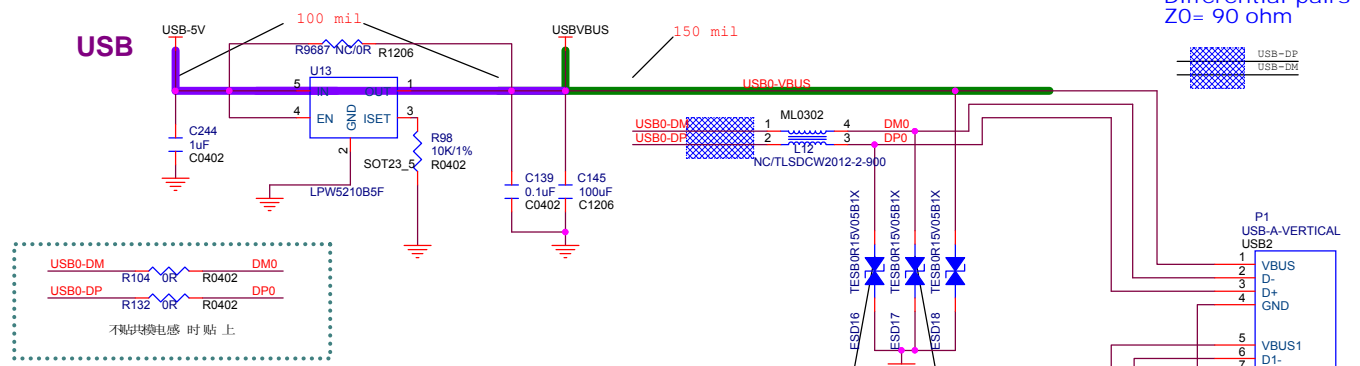
A64

VCC-CARD

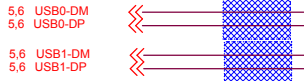
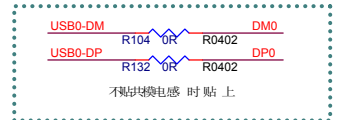
T-CARD



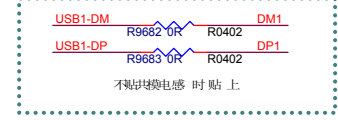
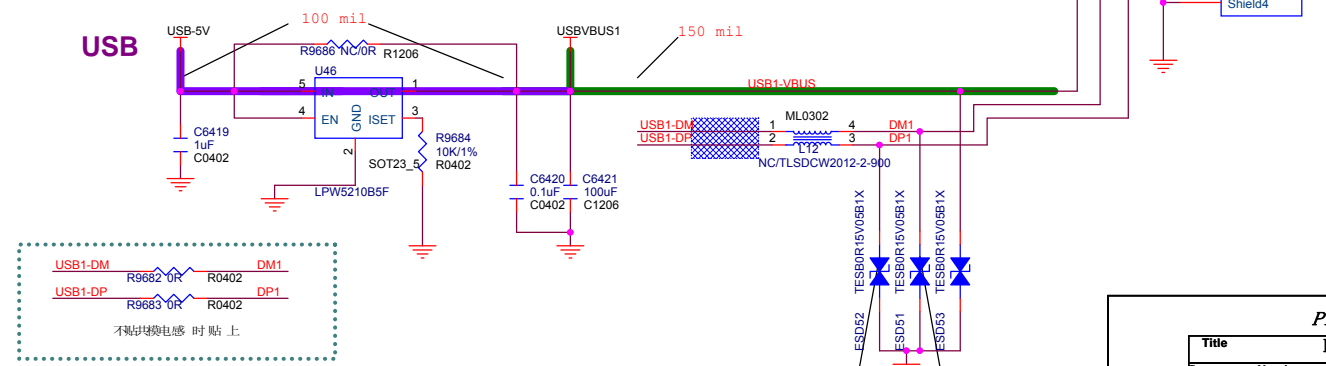
USB



Differential pairs
ZO= 90 ohm



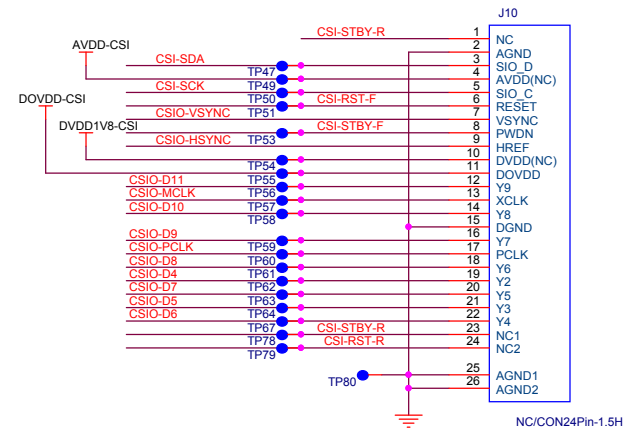
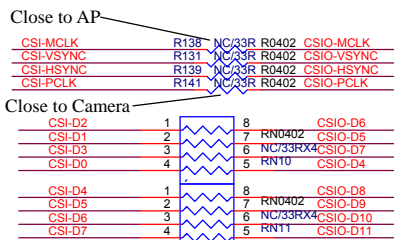
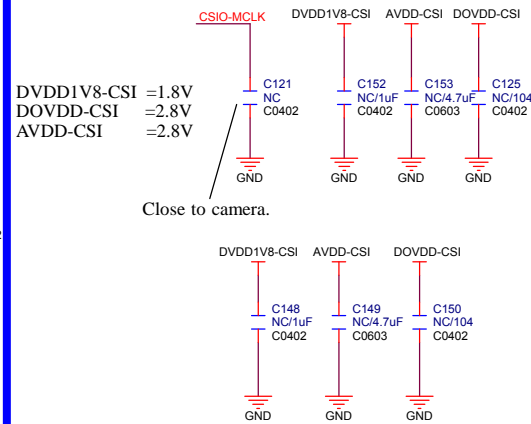
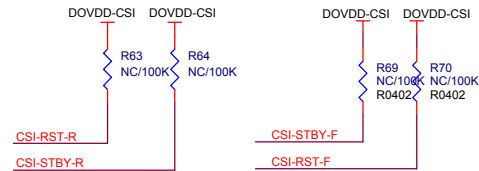
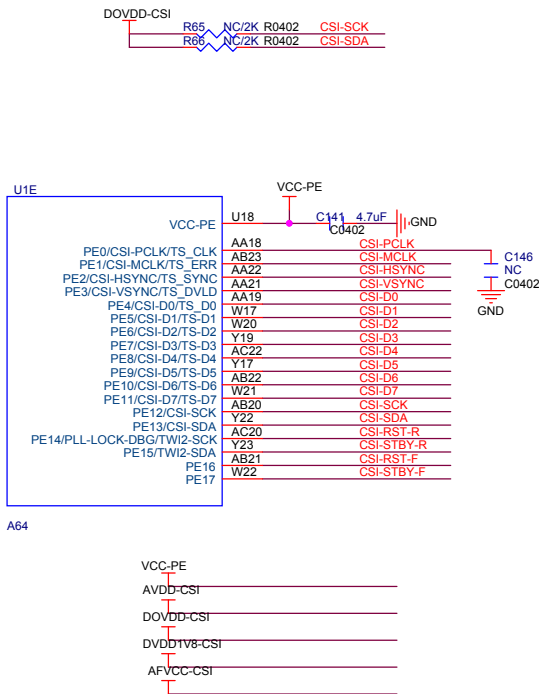
USB



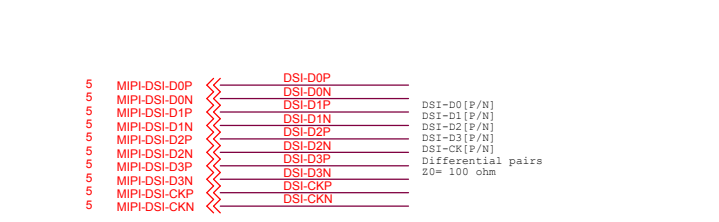
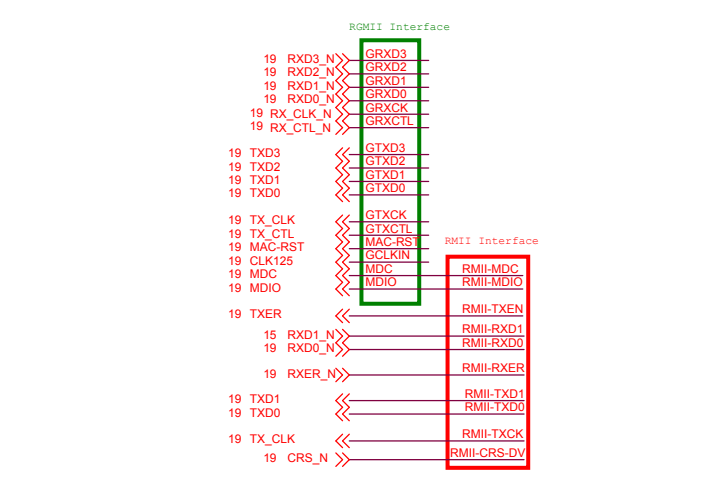
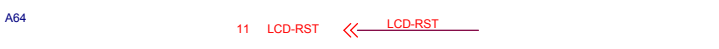
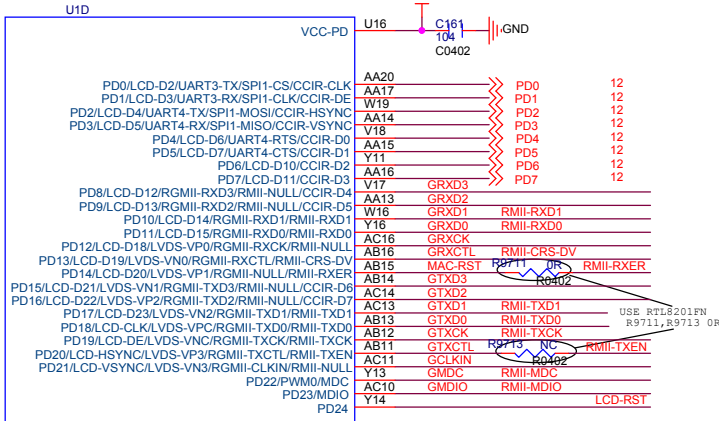
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The ESD part's parasitic capacitance < 5pF.

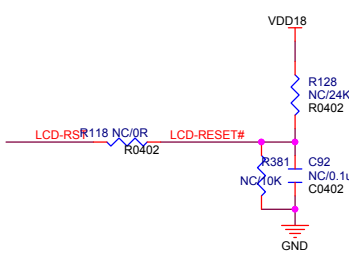
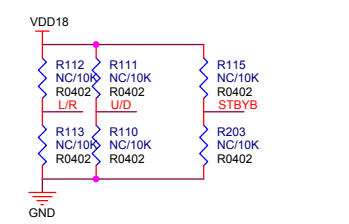
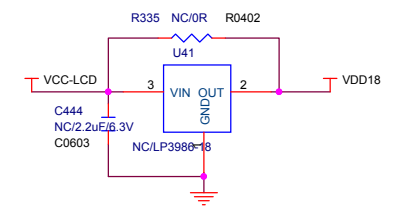
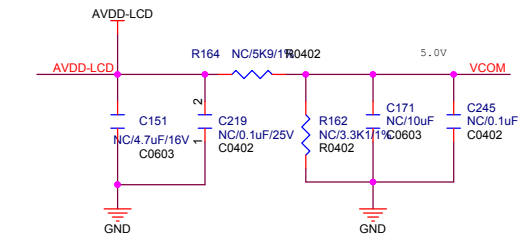
CAM9R5



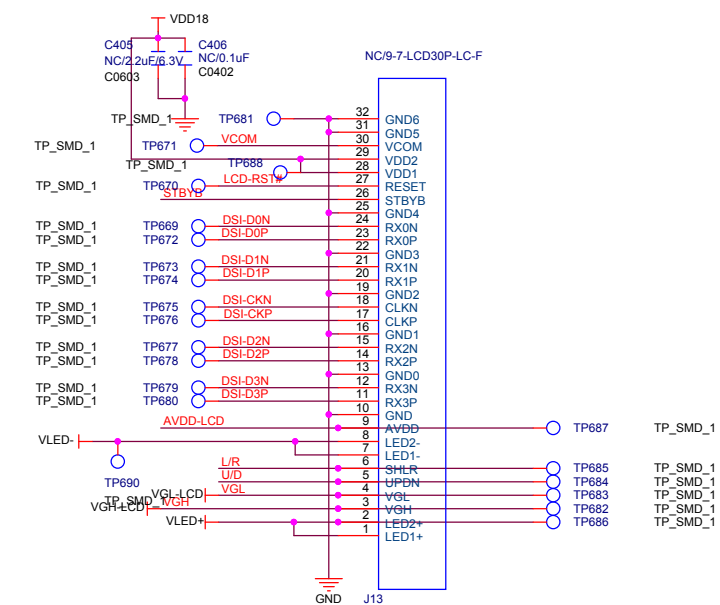
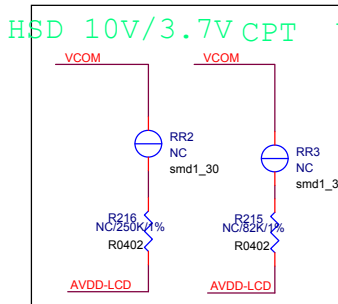
LCD



MIPI-LCD

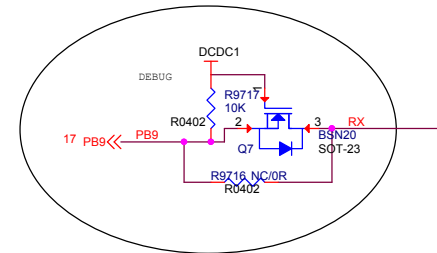
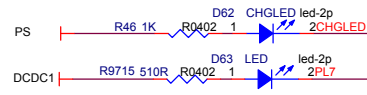
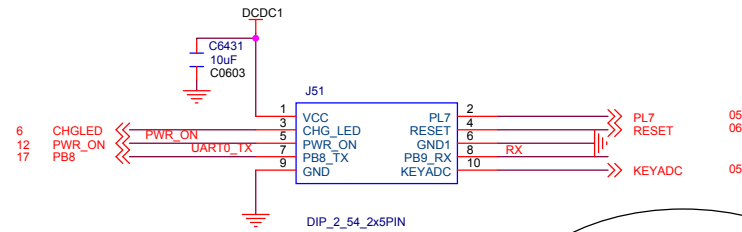
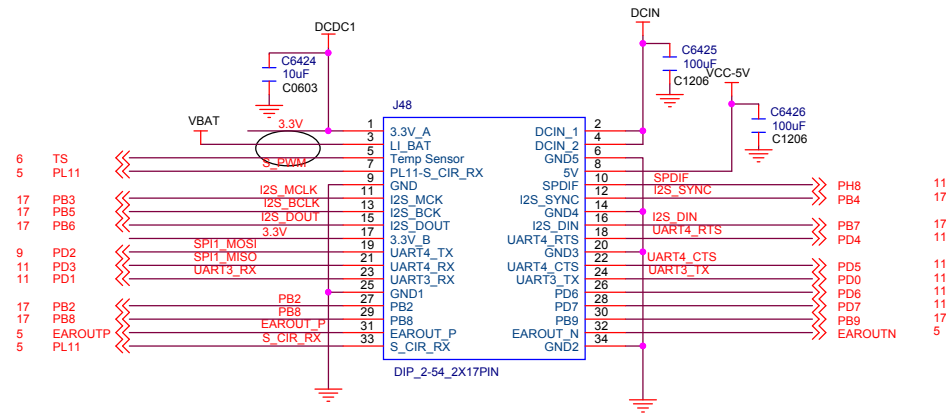


HSD 10V/3.7V CPT Vcom=4.3V



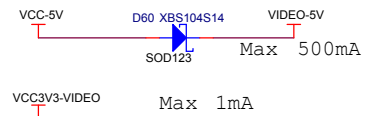
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Euler bus

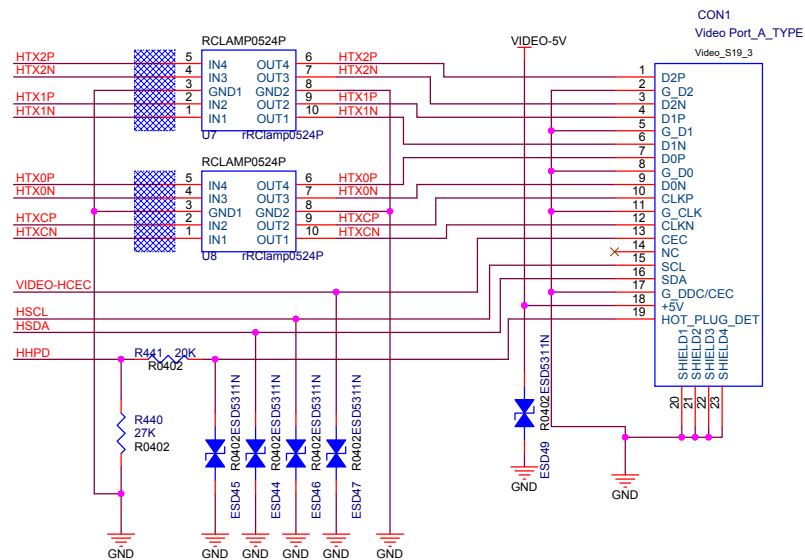
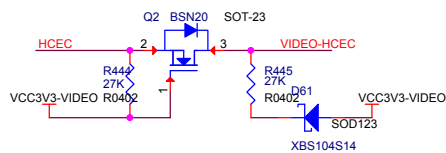
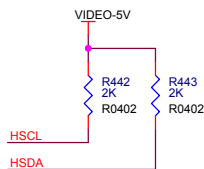


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Video

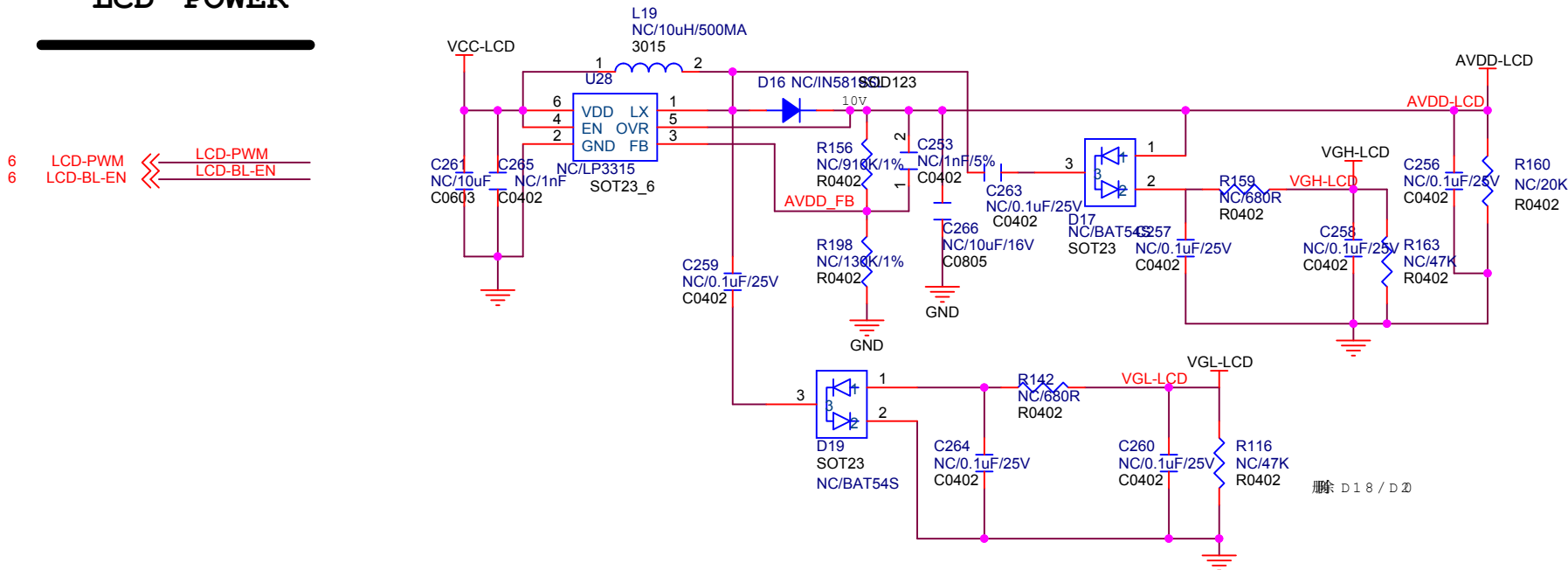


Differential pairs
Z0= 100 ohm

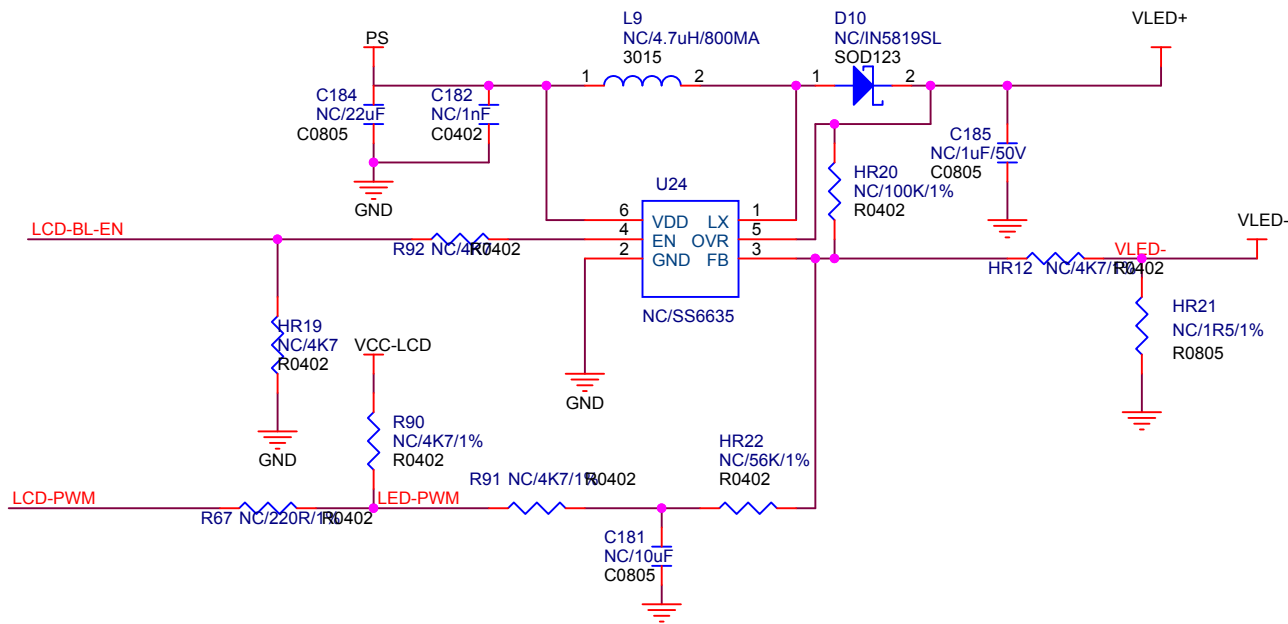


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LCD POWER



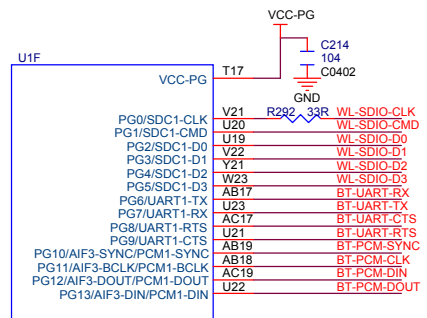
Backlight



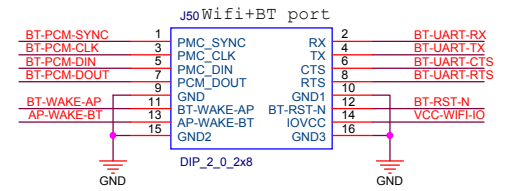
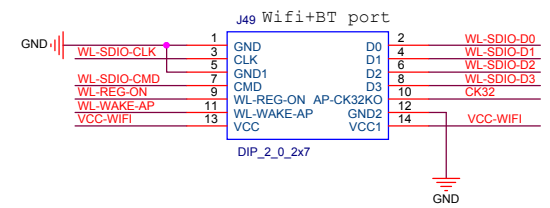
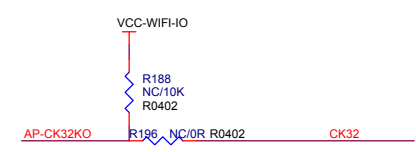
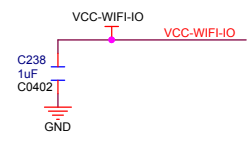
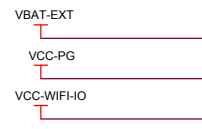
删除 D18 / D20

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WIFI+BT

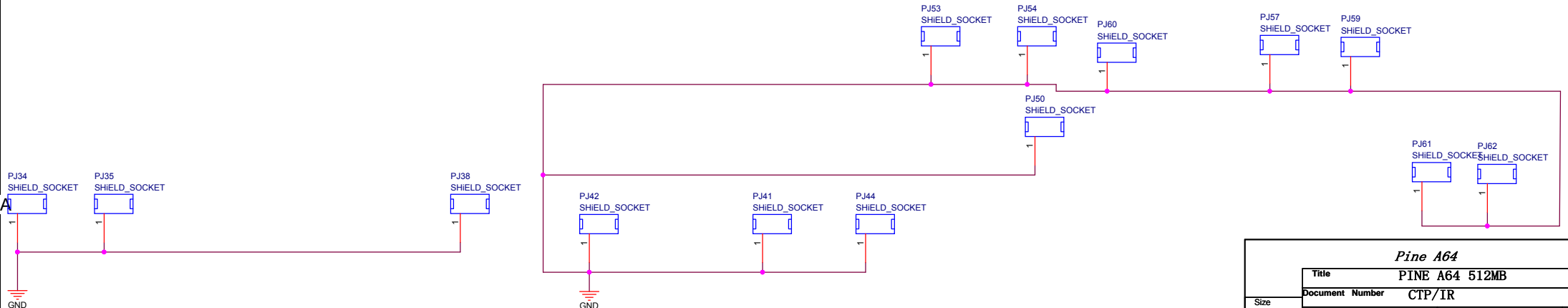
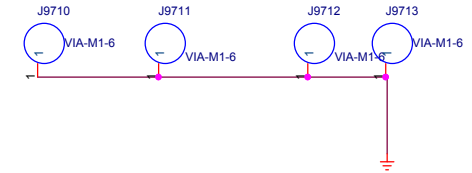
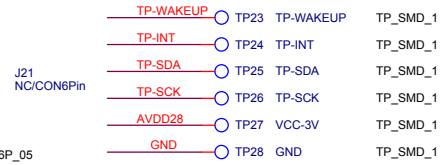
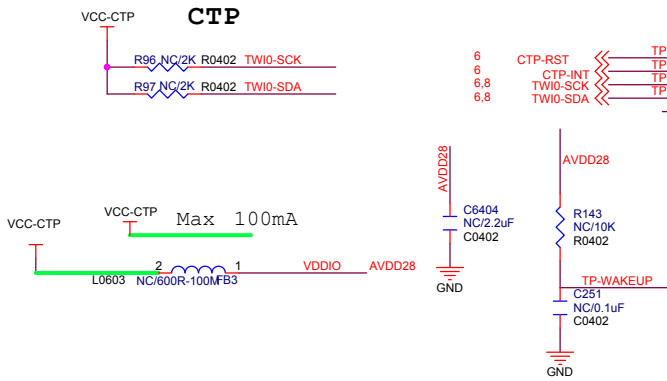
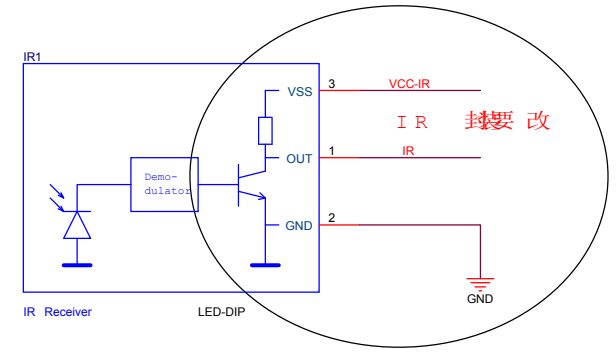
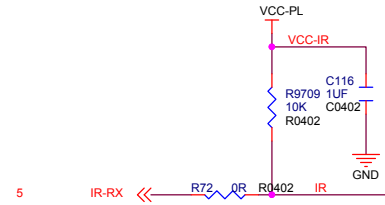


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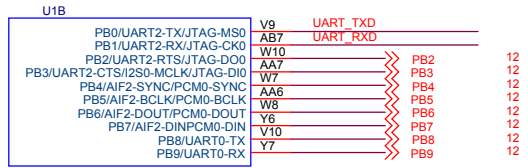
CTP

IR

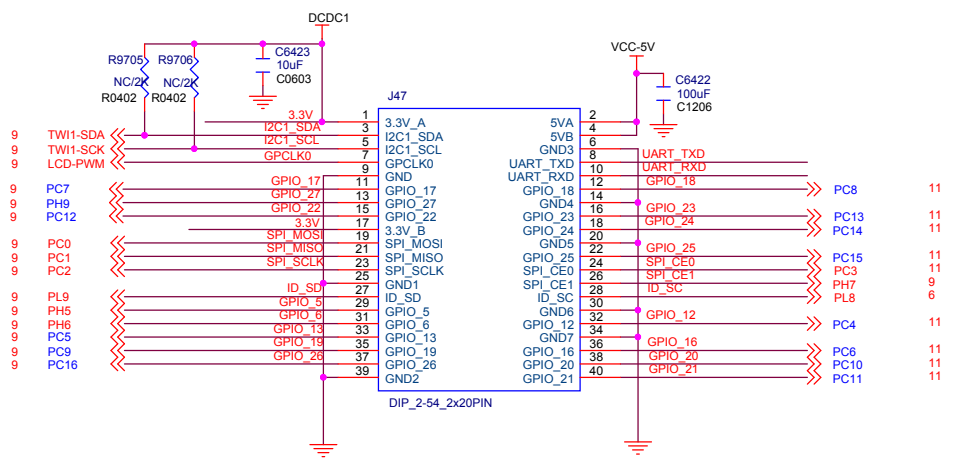


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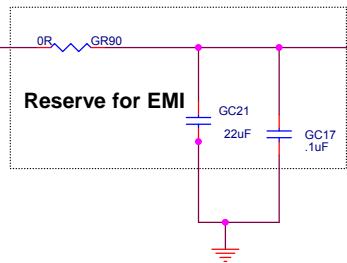
PI-2 bus



A64

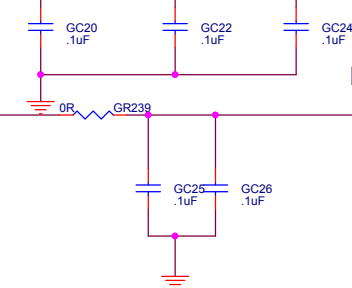


GMAC-3V



PHY_VDD33

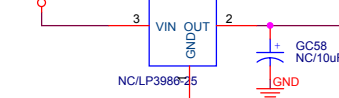
PHY_AVDD33



3.3/2.5V RGMII Power

PHY_VDD33

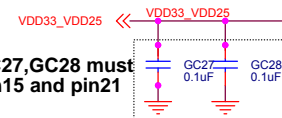
PHY_VDD25



Reserve for 2.5V RGMII power (if MAC support 2.5V RGMII)

R80 for 3.3V RGMII
R81 for 2.5V RGMII (From 3.3-2.5V LDO)
R82 for 2.5VRGMII (From ACR 2.5V)
RTL8201FN/EN:GR81(NC) GR82(NC)

For EMI GC27,GC28 must close to pin15 and pin21

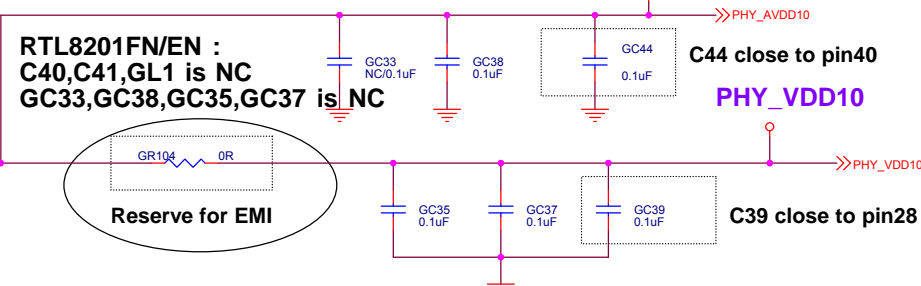


PHY_VDD33

PHY_VDD25

VDD25

PHY_AVDD10



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

C44 close to pin40

PHY_VDD10

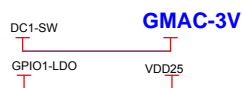
C39 close to pin28

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.

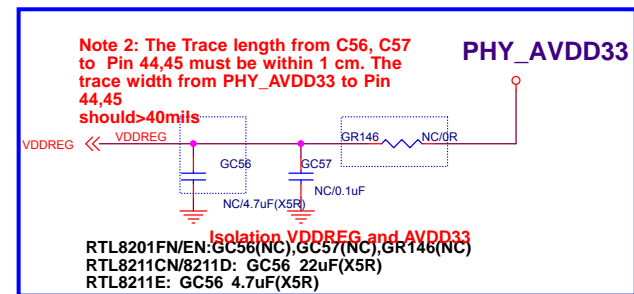
RTL8211D/8211CN:GC40 22uF(X5R)
RTL8211E: GC40 4.7uF(X5R)

C40 close to L1



VDDREG

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



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

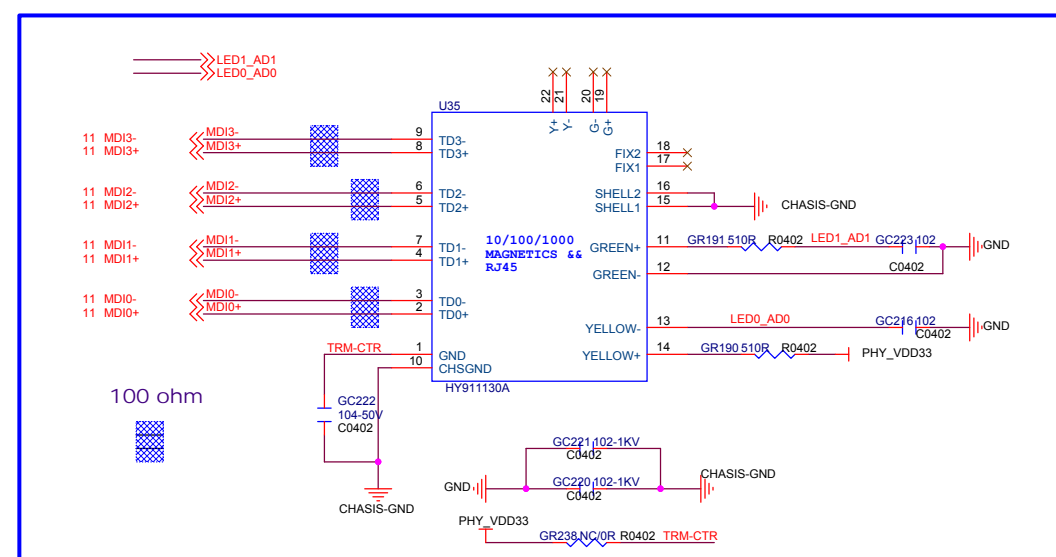
PHY_AVDD33

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.

RESERVE



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