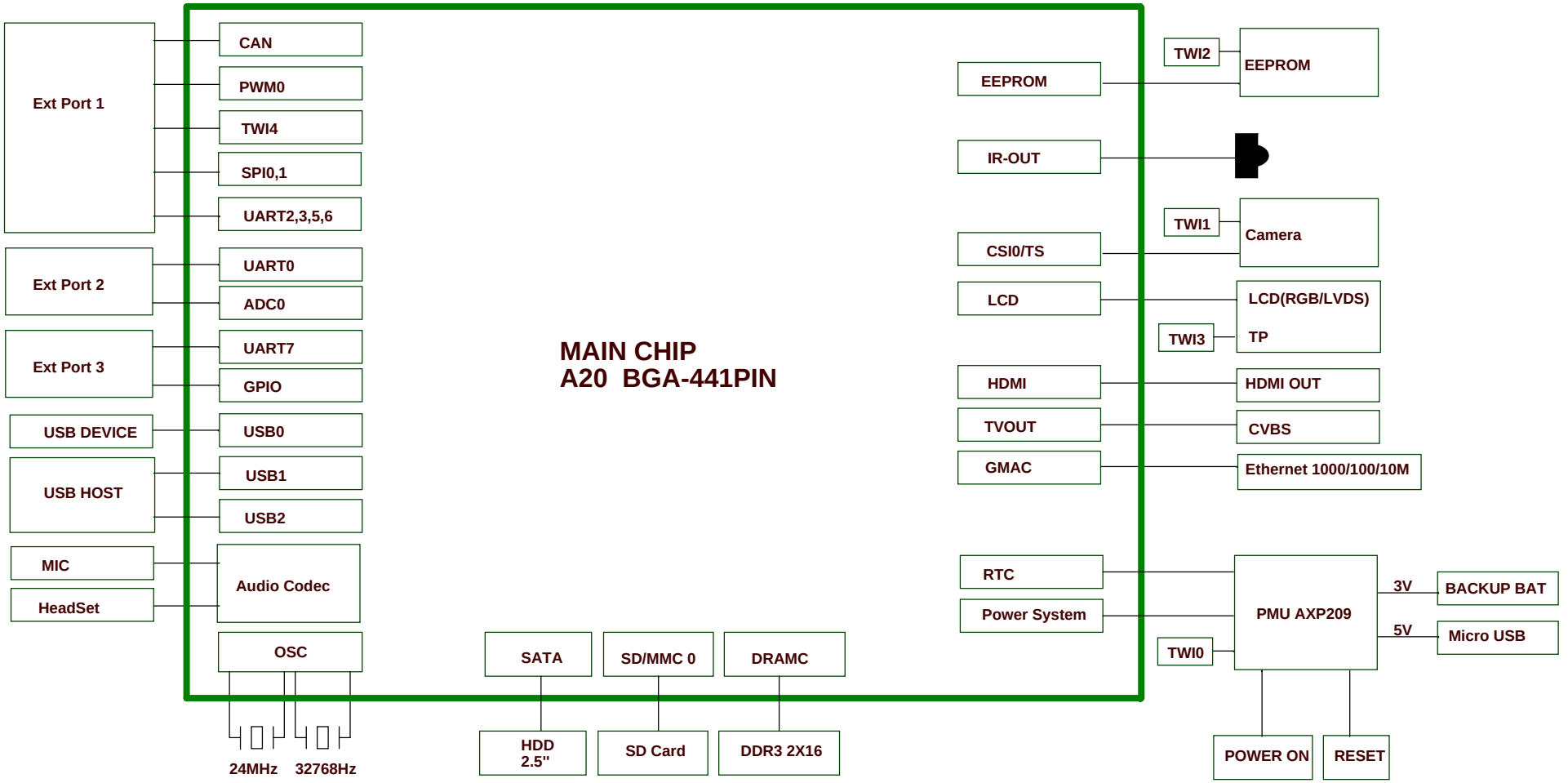
BLOCK



Differential pairs
Z0= 100ohm +/-5 ohm

Differential pairs
Z0= 90 ohm +/-5 ohm

Z0= 50ohm +/-5 ohm

Design Name	A20_Banana_Pi
Size A3 / Page Name	BLOCK
Rev	1.4
Date:	Monday, December 16, 2013
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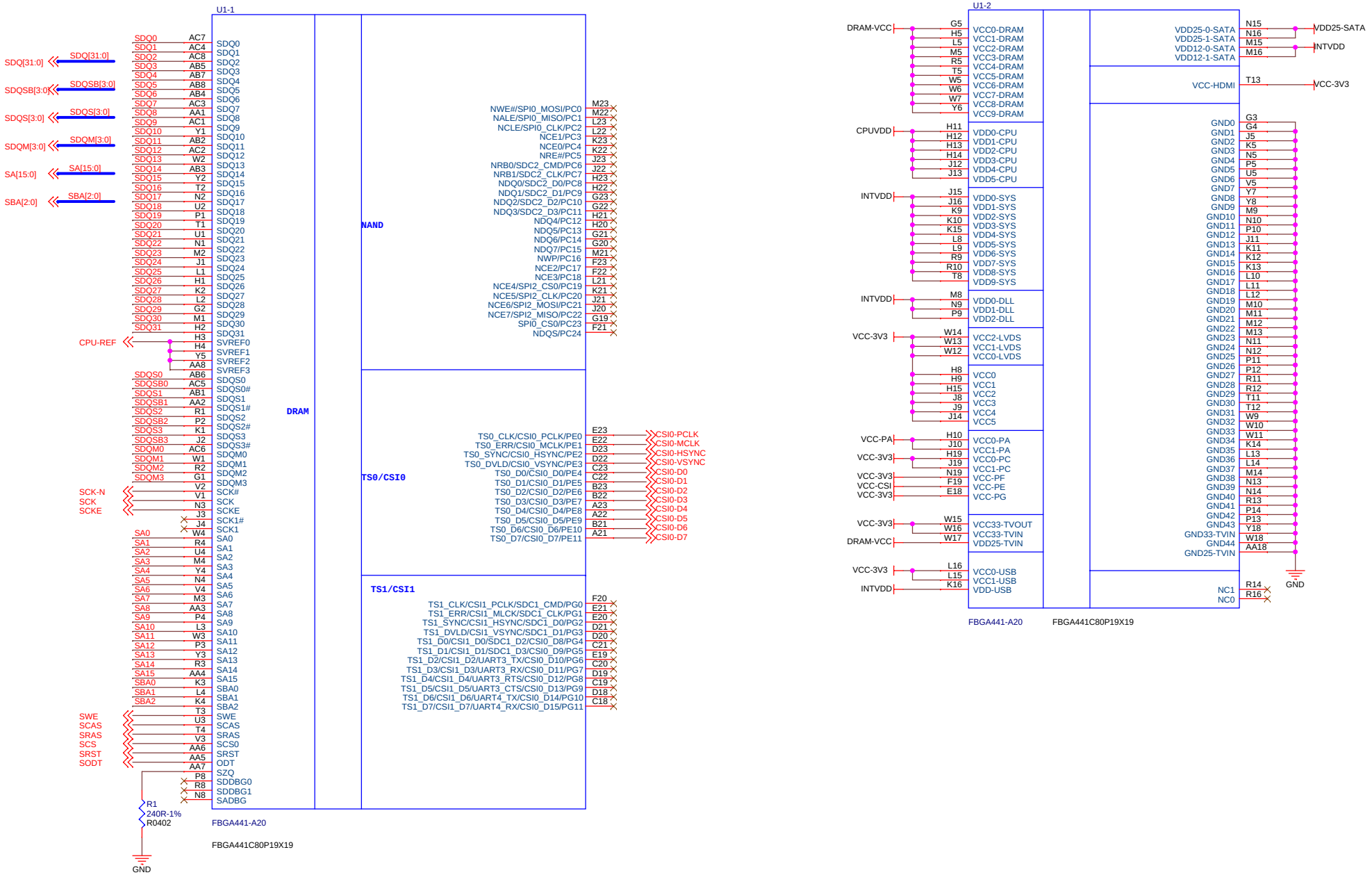
CPU1



H1 H2 H3 H4

Design Name	A20_Banana_Pi
Size A3 / Page Name	CPU1
Rev	1.4
Date:	Monday, December 16, 2013
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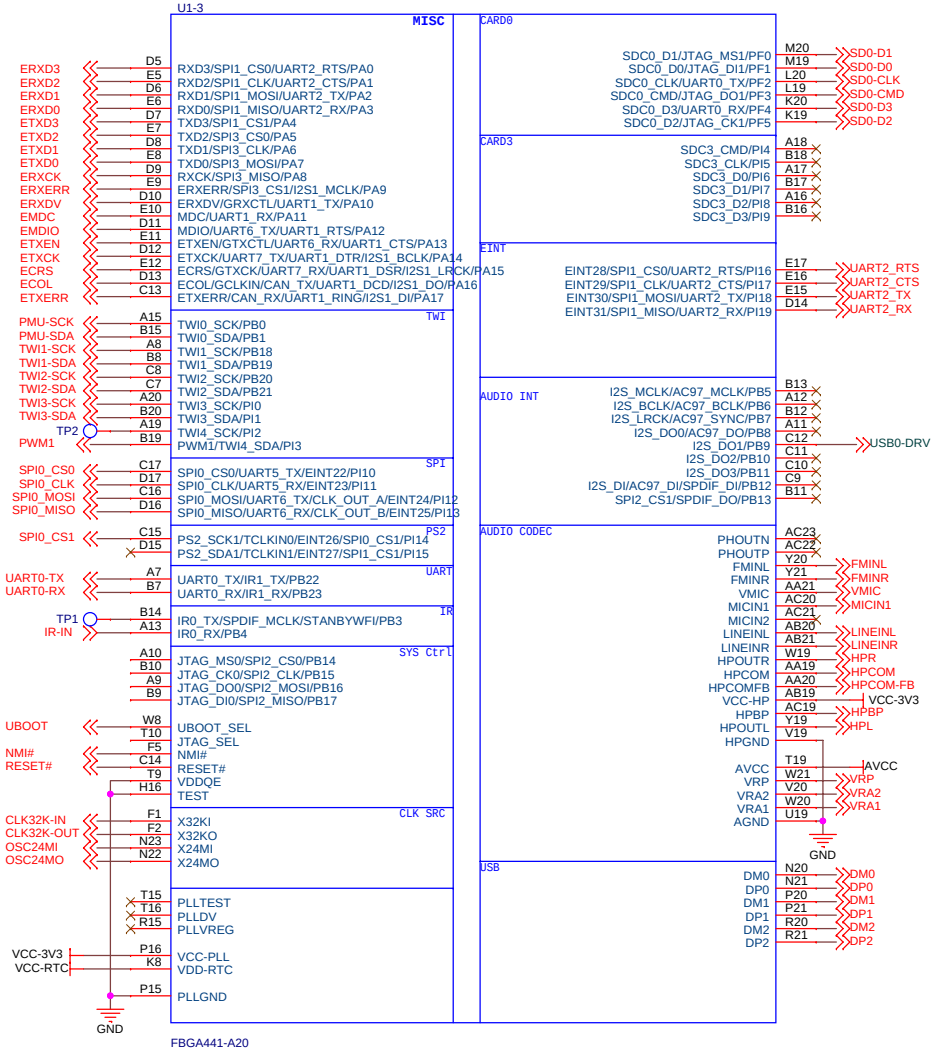
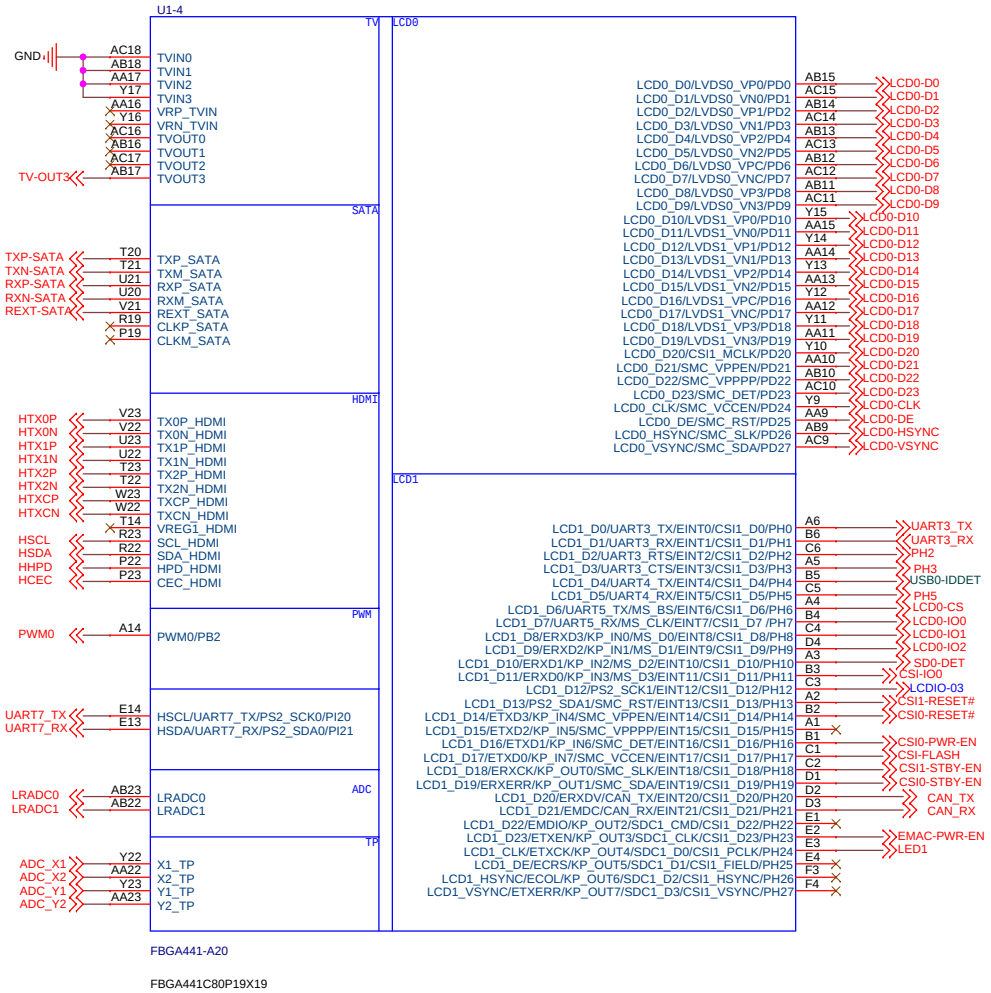
CPU2





Design Name	A20_Banana_Pi	
Size A3	Page Name CPU2	Rev 1.4
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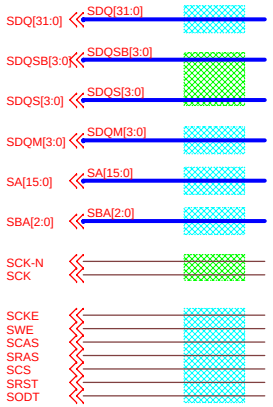
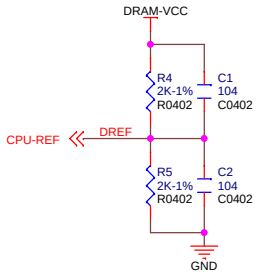
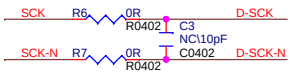
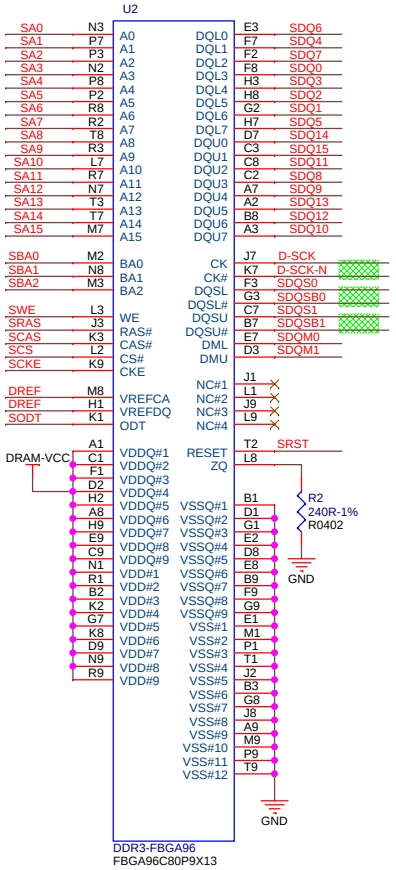
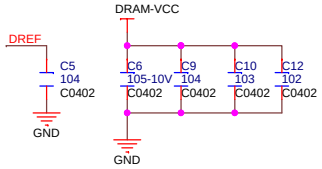
DDR3-16BITX2

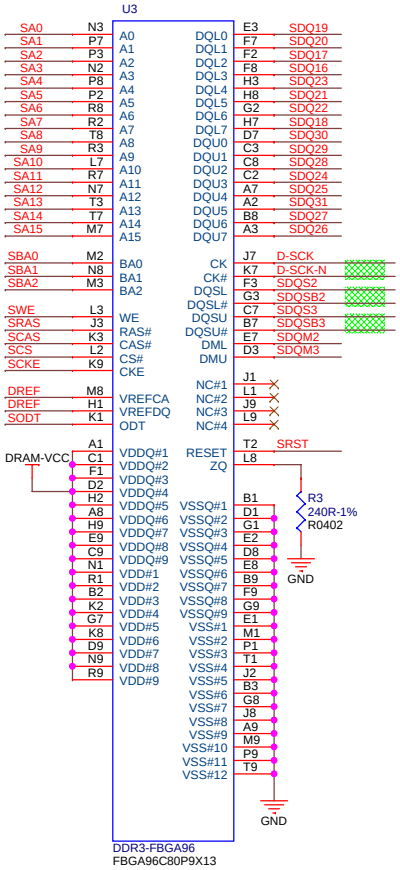


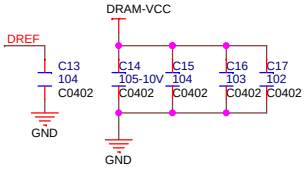












Design Name: A20_Banana_Pi		
Size: A3	Page Name: DDR3-16BITX2	Rev: 1.4
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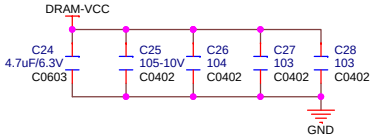
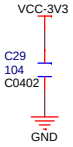
BESIDE CPU

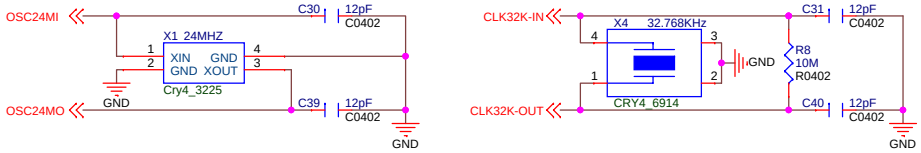
DRAM



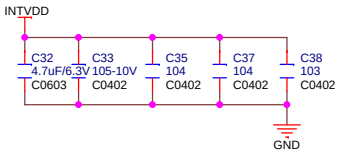
PLL



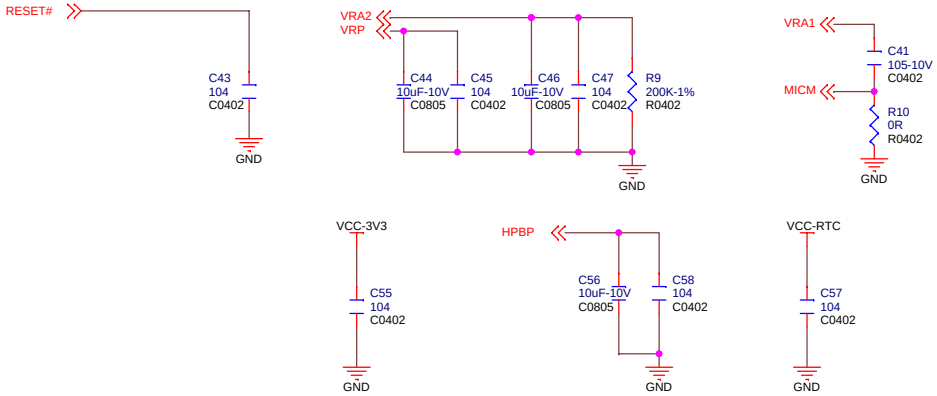
Crystal



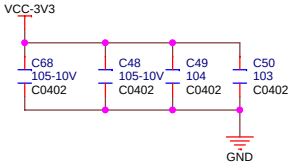
CORE



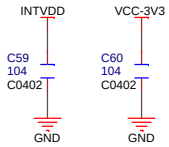
AUDIO&SYS



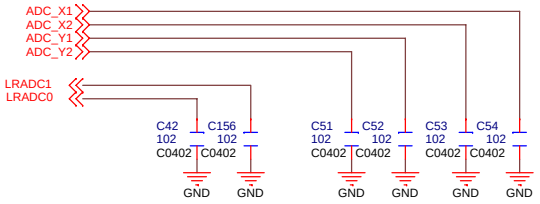
PIO-INTFACE



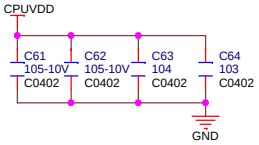
USB



ADC

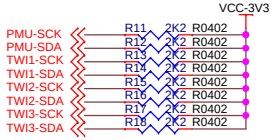


CPU&TV



SATA

TWI-PULLUP



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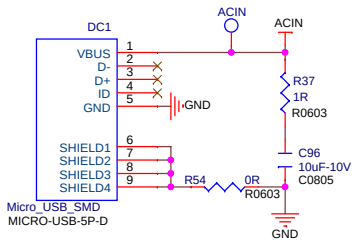
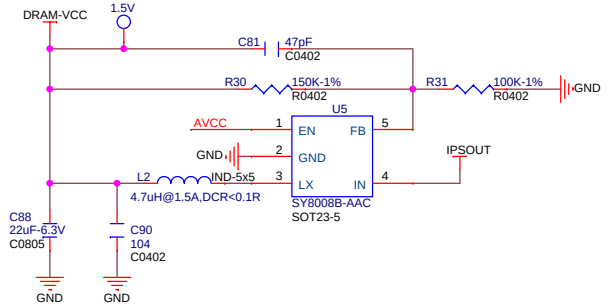
Power

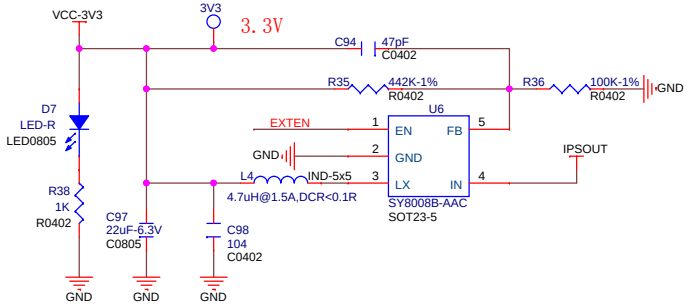
DC-IN



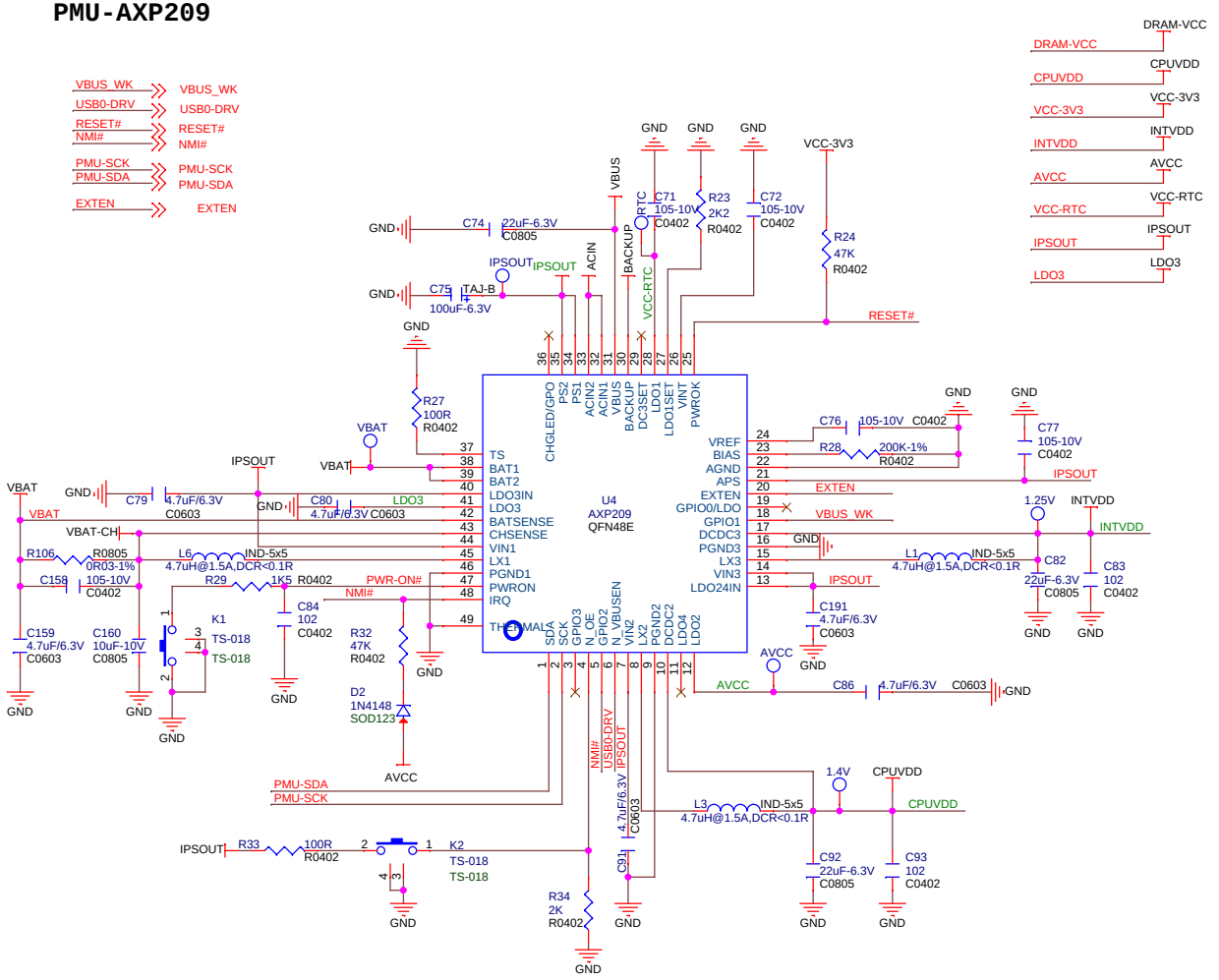
DRAM-VCC



VCC-3V3



PMU-AXP209



Design Name	A20_Banana_Pi	
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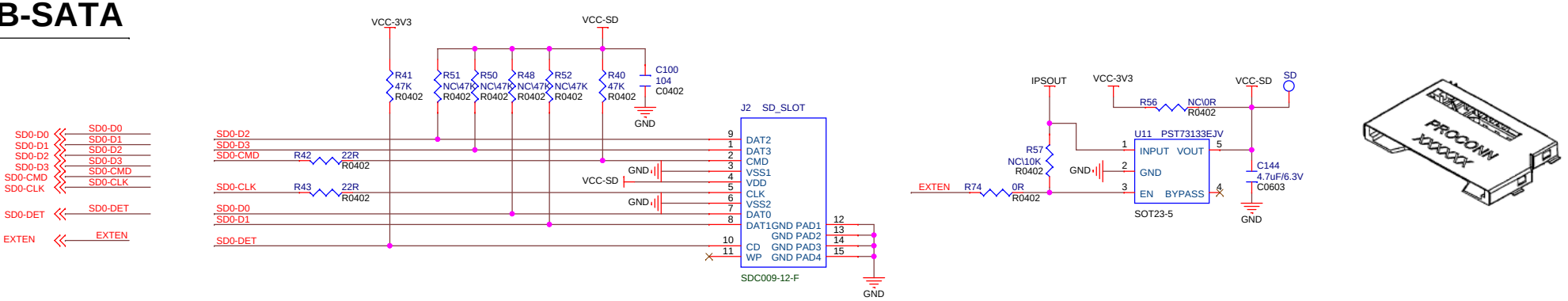
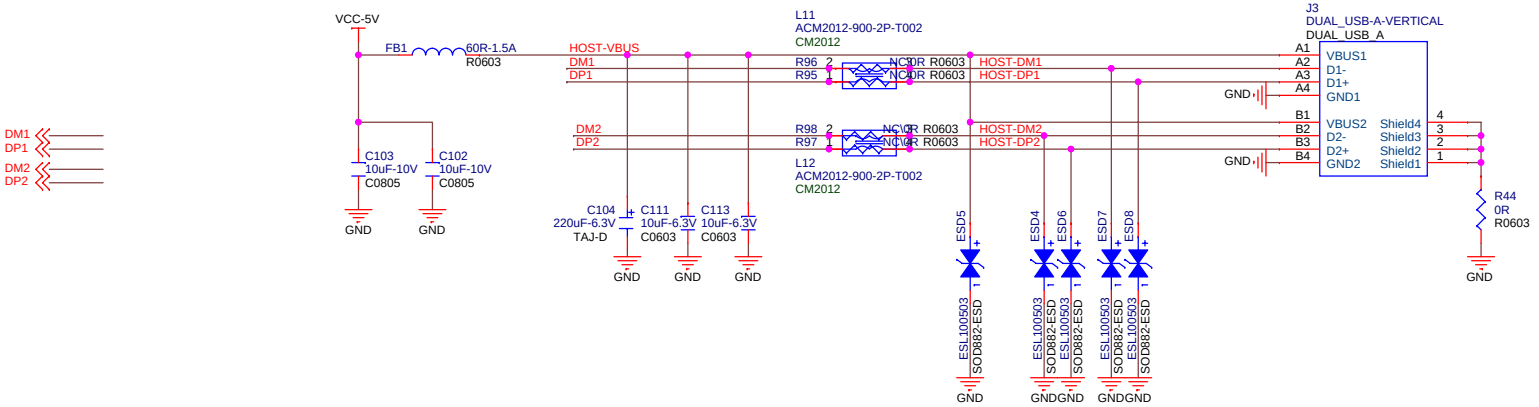
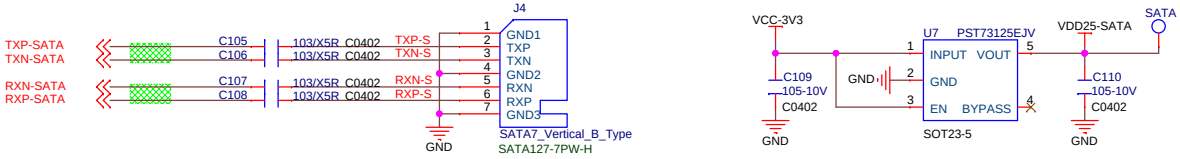
SD-USB-SATA

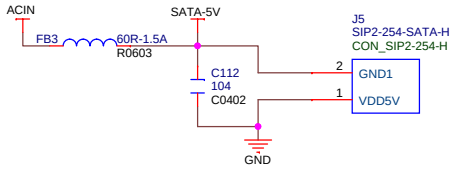


USB HOST



SATA





Design Name	A20_Banana_Pi
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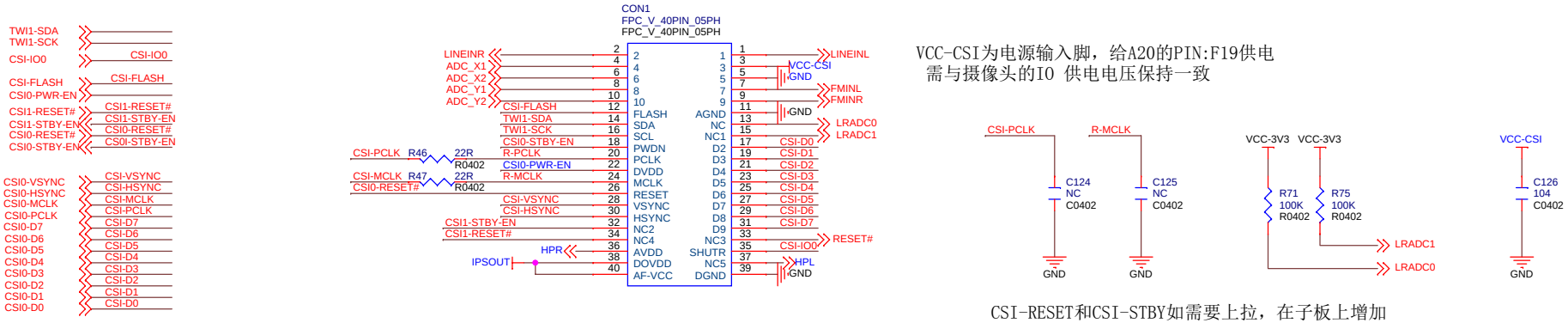
CSI-HDMI

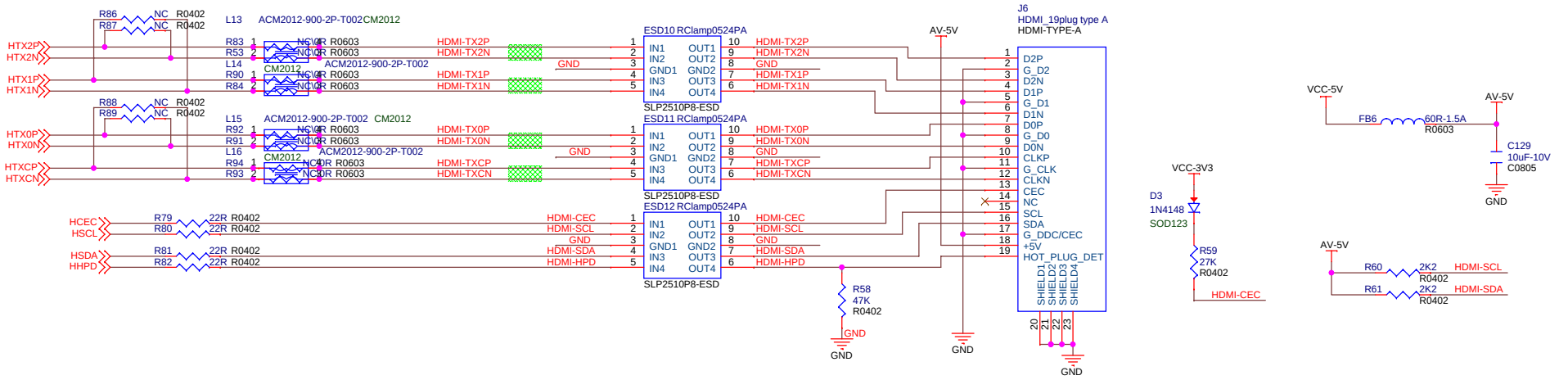
CSI



VCC-CSI为电源输入脚，给A20的PIN:F19供电
需与摄像头的IO 供电电压保持一致

CSI-RESET和CSI-STBY如需要上拉，在子板上增加

HDMI



Design Name	A20_Banana_Pi		
Size A3	Page Name CSI-HDMI		Rev 1.4
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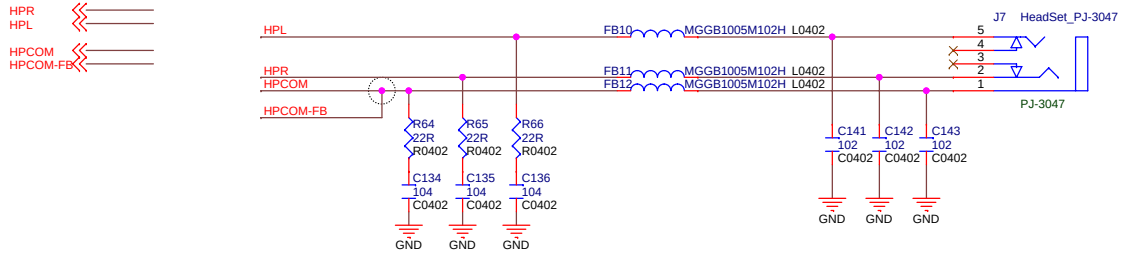
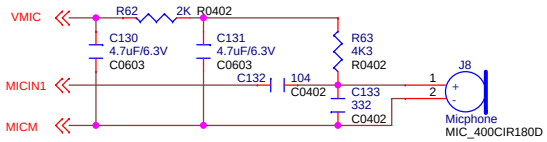
AUDIO-LCD-EEPROM

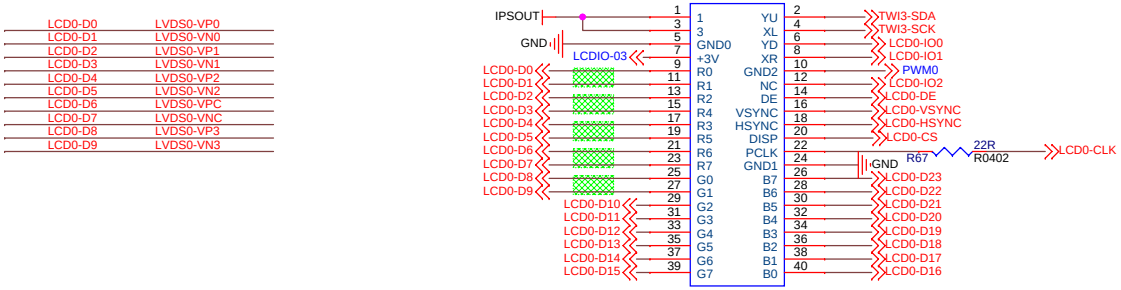
HeadSet



Microphone



LCD



Design Name	A20_Banana_Pi		
Size A3	Page Name AUDIO-LCD-EEPROM		Rev 1.4
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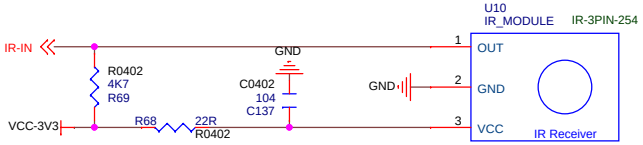
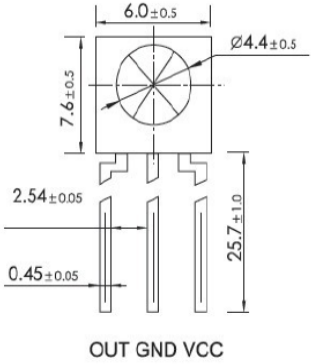
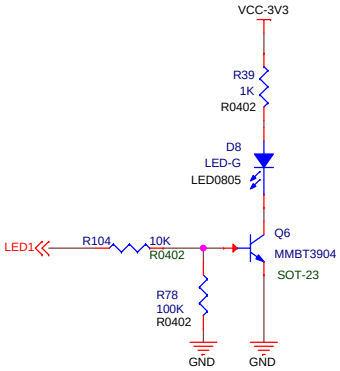
IR-CVBS-ExtPort

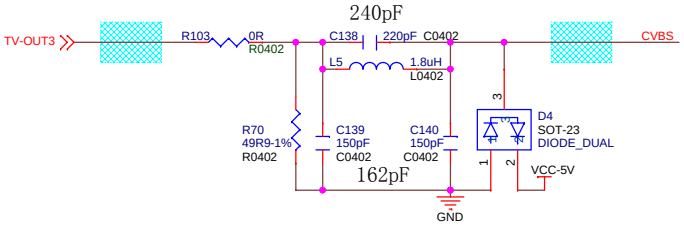
IR MODULE

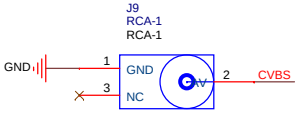




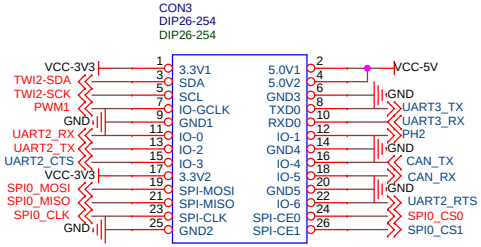


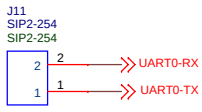
CVBS

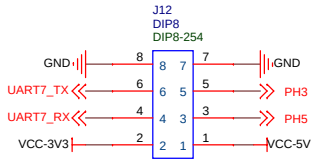


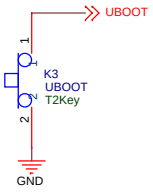


Ext Port









Design Name	A20_Banana_Pi
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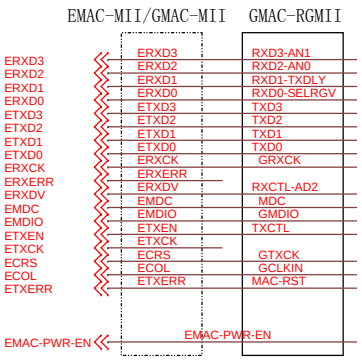
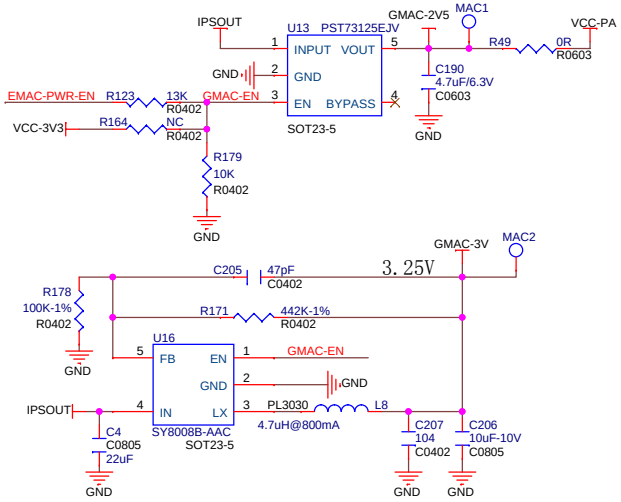
GMAC

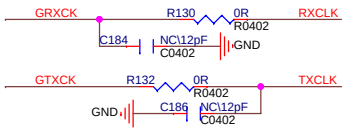
10/100/1000 RGMII Ethernet PHY

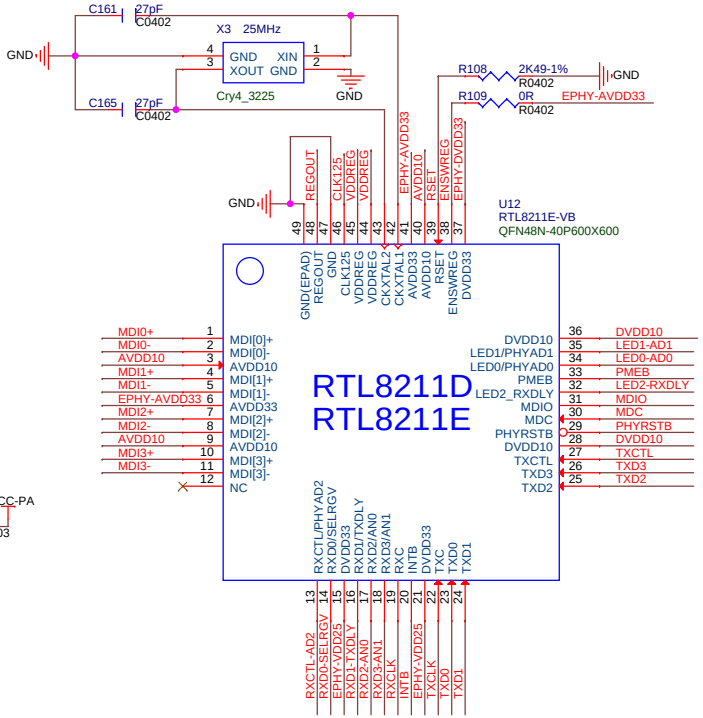


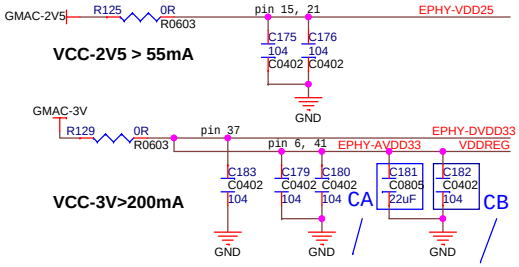


Place filter network close to CLK125.
Reserved for EMI

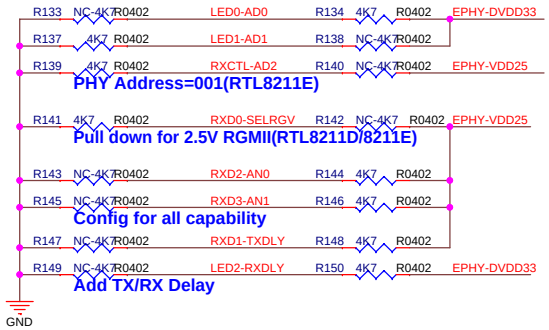
Place filter network close to RX_CLK.
Reserved for EMI



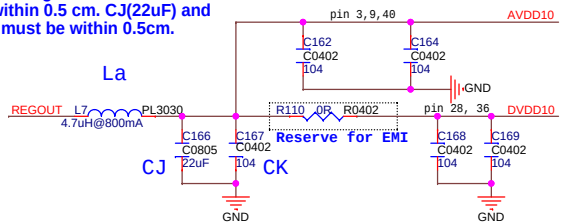


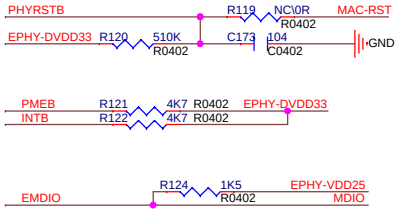


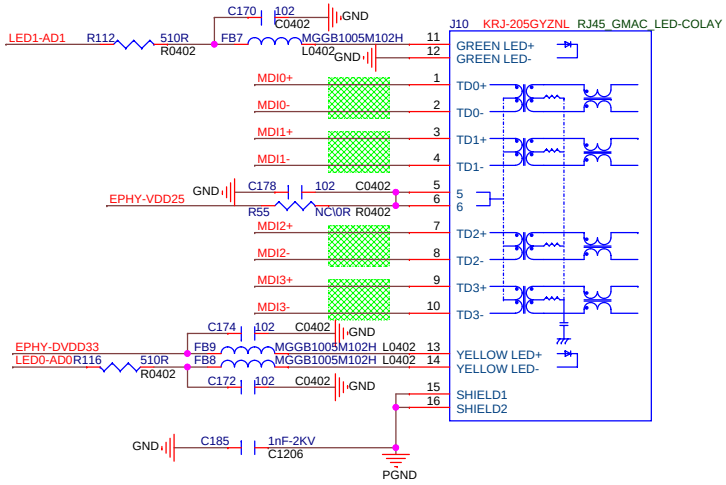
Note 2: The Trace length from CA(22uF),CB(0.1uF) to Pin 44,45(VDDREG) must bewithin 0.5 cm. The trace width from AVDD33 to Pin 44,45 should>40mils.



Note 1: The Trace length between La and PHY's Pin48 must be within 0.5 cm. CJ(22uF) and CK(0.1uF) to La must be within 0.5cm.







LED0:Blinking=Transmitting or Receiving.
LED1:Link Up/Down

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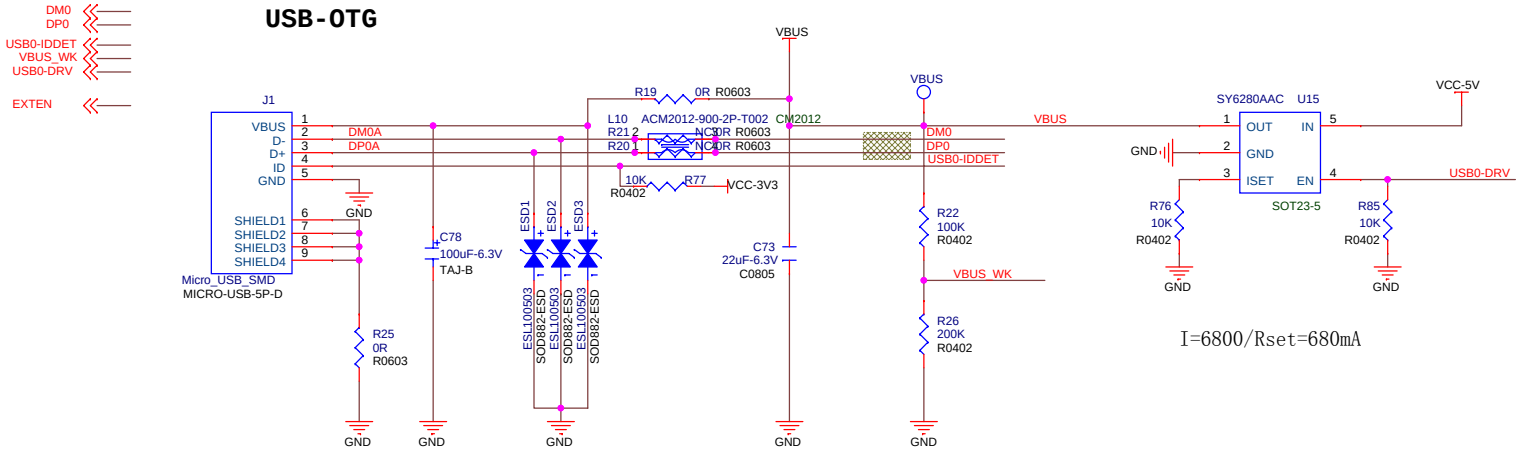
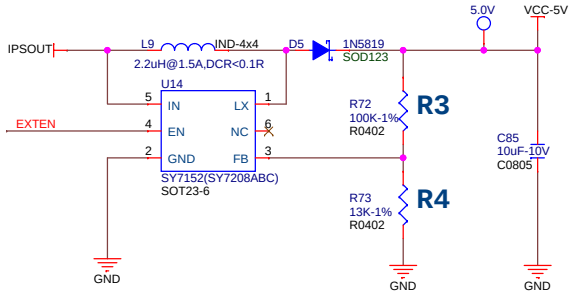
USB_OTG



VCC-5V



Vout = 0.6*(1+R3/R4)

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V1.00

1. 第一版

V1.01

1.调整J10 Transformer线路

2.U1的PIN：H10、J10供电由VCC-3V3改为VCC-PA

V1.2

1.GMAC-3V改为DC-DC供电(U16)

2.增加FB7～FB9（网口灯EMI滤波）

3.C178改为102（原来104）

4.增加C185，1nf-2KV

5.IR-IN修正为连接IRO-RX

6.R49改为0603封装（原0402）

7.增加FB10～FB12及电容（耳机EMI滤波）

8.增加U11（SD卡3.3VLDO）

9.SATA座子改为弯插

10.增加USB供电座子DC1

11.SATA供电改为ACIN，
只有接DC电源时才能用SATA

12.J3增加OTG功能，增加相应DC-DC升压电路（U14、U15），
删除Q1（VBUS连ACIN的MOS管）

13.HDMI供电改为VCC-5V

14.CON3，J12的VBUS改为VCC-5V

15.SD卡删除WP，增加DET

16.ACIN的滤波电容C96增加1R电阻

V1.3

1.CON1改为40PIN，增加ADC和AUDIO部分功能口

2.J3供电改为VCC-5V

V1.4

1.去掉Camera的电源LDO
2.CON1的PIN22、36、37、38、40、3、5
分别改为CSIO-PWR-EN、HPR、HPL、IPSOUT、IPSOUT、VCC-CSI、GND
3.CVBS增加串联电阻R103,R70改为49.9欧姆
4.CON2的PIN7、10分别改为LCDIO-03、PWM0
5.EMAC-PWR-EN增加下拉电阻R179，R123改为13K
6.J3供电合并为一路，增加220uF钽电容
7.增加电源指示灯D7,IO灯D8
8.R75改为100uF钽电容
9.C73、C74、C97、C88、C82、C92改为22uF-6.3V
10.增加C78
11.USB和HDMI增加共模滤波器
12.SD卡数据线预留上拉电阻
13.HDMI差分线预留并联电阻位置

A20	PIN	使用	不使用
HDMI	T13	VCC-3V3	VCC-3V3
SATA 2.5V	N15,N16	2.5V	DRAM-VCC(1.5V)
CSI0	F19 (VCC-PE)	VCC-2.8	VCC-2.8
CSI1	E18 (VCC-PG)	VCC-2.8	VCC-3V3
TVIN 2.5V	W17	2.5V	DRAM-VCC(1.5V)
TVIN 3.3V	W16	VCC-3V3	VCC-3V3
TVOUT 3.3V	W15	VCC-3V3	VCC-3V3
LVDS IO	W12,W13,W14	VCC-3V3	VCC-3V3
EMAC IO	J10，H10 (VCC-PA)	3.0V/2.5V	VCC-3V3
NAND IO	J19，H19 (VCC-PC)	VCC-3V3	VCC-3V3
SD IO	N19 (VCC-PF)	VCC-3V3	VCC-3V3
USB VDD	K16	INTVDD(1.2V)	VCC-3V3
USB VCC	L15,L16	VCC-3V3	VCC-3V3

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