

The diagram illustrates the pin configuration and power supply circuit for the HI3751 chip. The chip is represented by a central blue box labeled "N1C" and "HI3751".

**Pin Connections:**

- Left Side:**
  - AMP\_MUTE (AL2)
  - I2C0\_SCL (AK3)
  - I2C0\_SDA (AL3)
  - AM1 (crossed out)
  - AN2 (crossed out)
  - AN3 (crossed out)
  - AM3 (crossed out)
  - AL5 (crossed out)
  - I2S1\_BCLK (AJ1)
  - I2S1\_DOUT (AJ3)
  - I2S1\_MCLK/BOOT (AK1)
  - I2S1\_WS (AJ2)
- Right Side:**
  - JTAG\_SEL (AJ9)
  - LINEIN\_L1 (AN31)
  - LINEIN\_R1 (AM31)
  - AN32 (crossed out)
  - AM32 (crossed out)
  - AJ29 (crossed out)
  - AL30 (crossed out)
  - LINEOUT\_L1 (AL31)
  - LINEOUT\_R1 (AM33)
  - LINEOUT\_L2 (AL32)
  - LINEOUT\_R2 (AL33)
  - LINEOUT\_L3 (AK30)
  - LINEOUT\_R3 (AK33)
  - AK32 (crossed out)
  - AK31 (crossed out)
  - MIC\_P (crossed out)
  - MIC\_N (crossed out)

**VDD\_AMP Circuit Detail:**

A detailed view of the VDD\_AMP power supply circuit is shown in a dashed red box. It includes:

- Input: VCC-A
- Inductors: L40, L61, L62, L63
- Capacitors: C749, C750
- Resistors: R2, R18
- Transistors: M18P, M12P
- Output: VDD\_AMP
- Ground connections: 10u/25V

**Power On Mute**

+12V\_in R434 0R/NC  
VCC-A R437 0R/NC

R440 1k/NC  
VD25 1N4148W/NC  
C500 10u/16V/NC  
R456 1M/NC  
VZ1 LM3Z10VT1G/NC  
R439 1k/NC  
VD24 1N4148W/NC  
R443 100k/NC  
MMBT3906LT1/NC  
V28  
R449 0R/NC  
VD27 1N4148W/NC  
R457 100k  
3V3\_SB  
R458 4.7k  
AMP\_MUTE

**MUTE**

0: Normal  
1: Shutdown

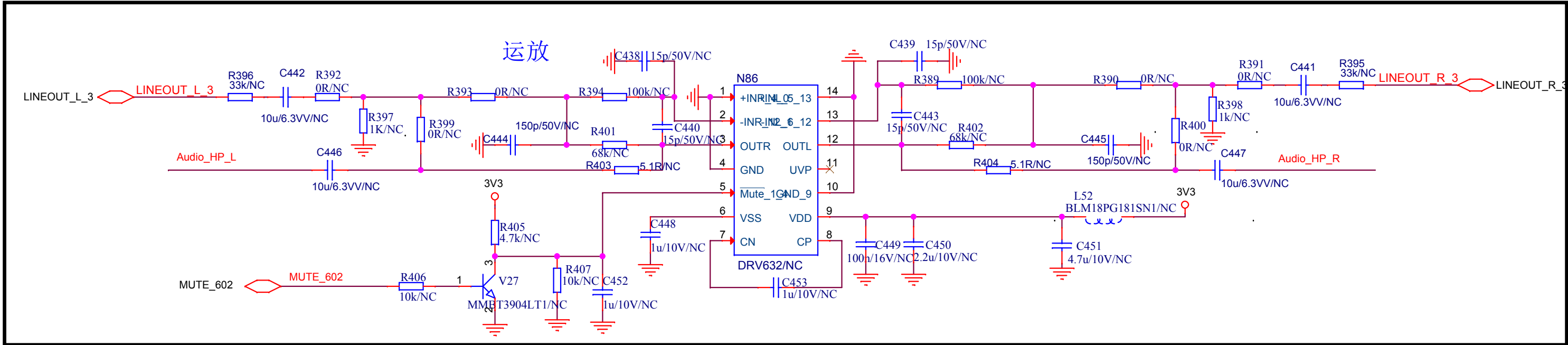
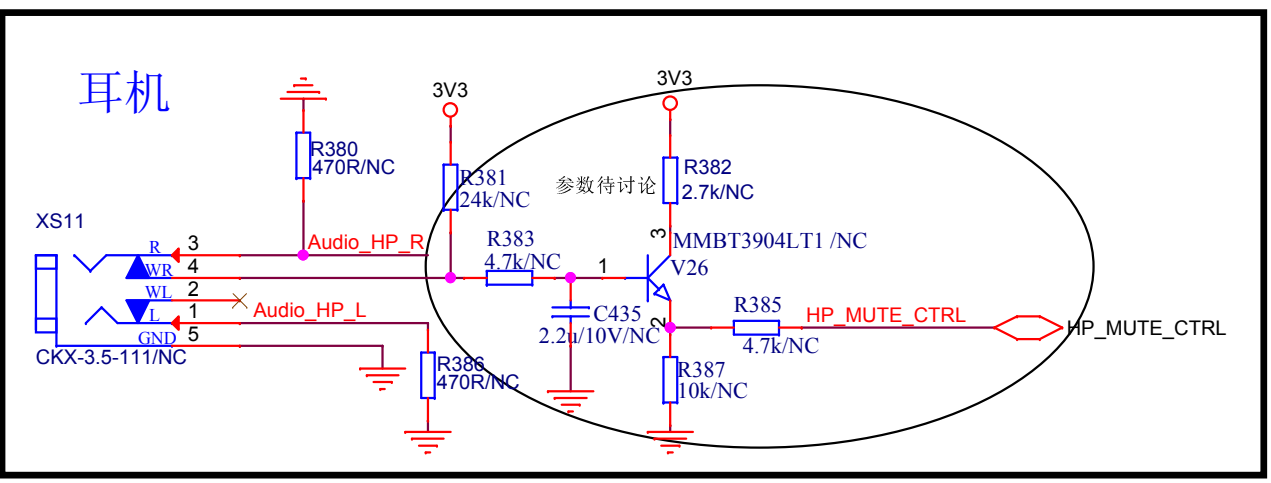
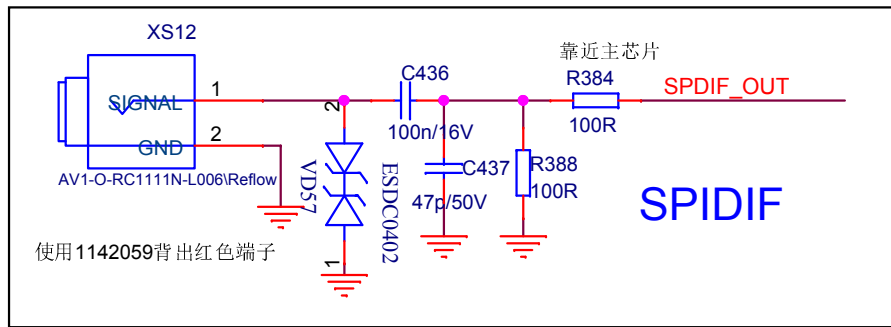
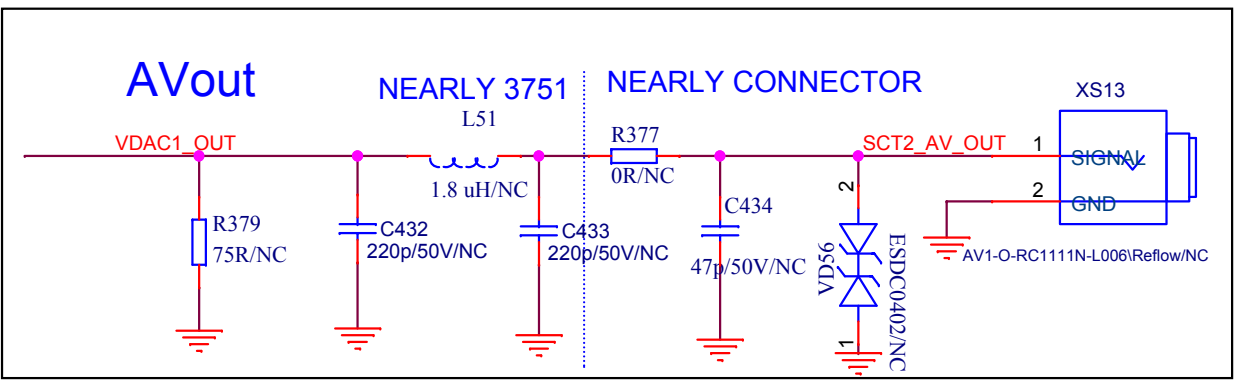
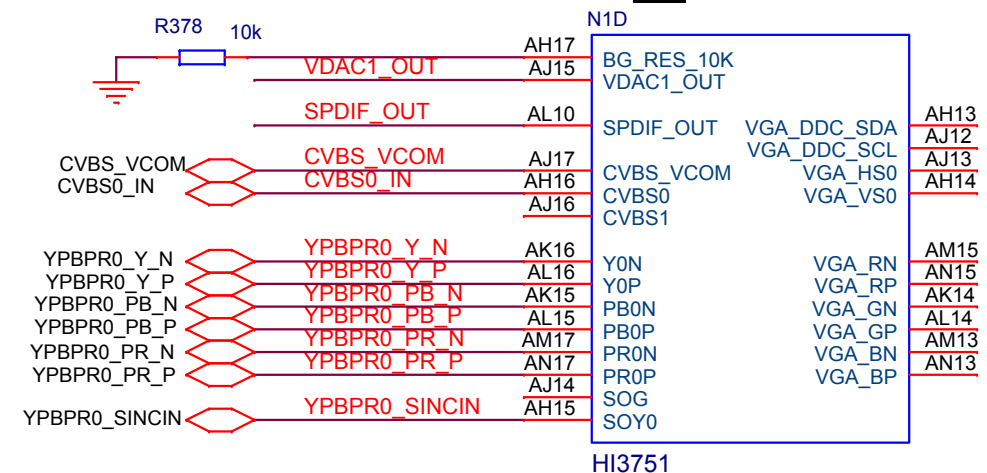
5V  
R435 0R  
R441 4.7k  
R442 4.7k/NC  
R446 0R  
R447 4.7k/NC  
R448 10k/NC  
C498 2.2u/10V/NC  
MUTE\_602

**Power Off Mute**

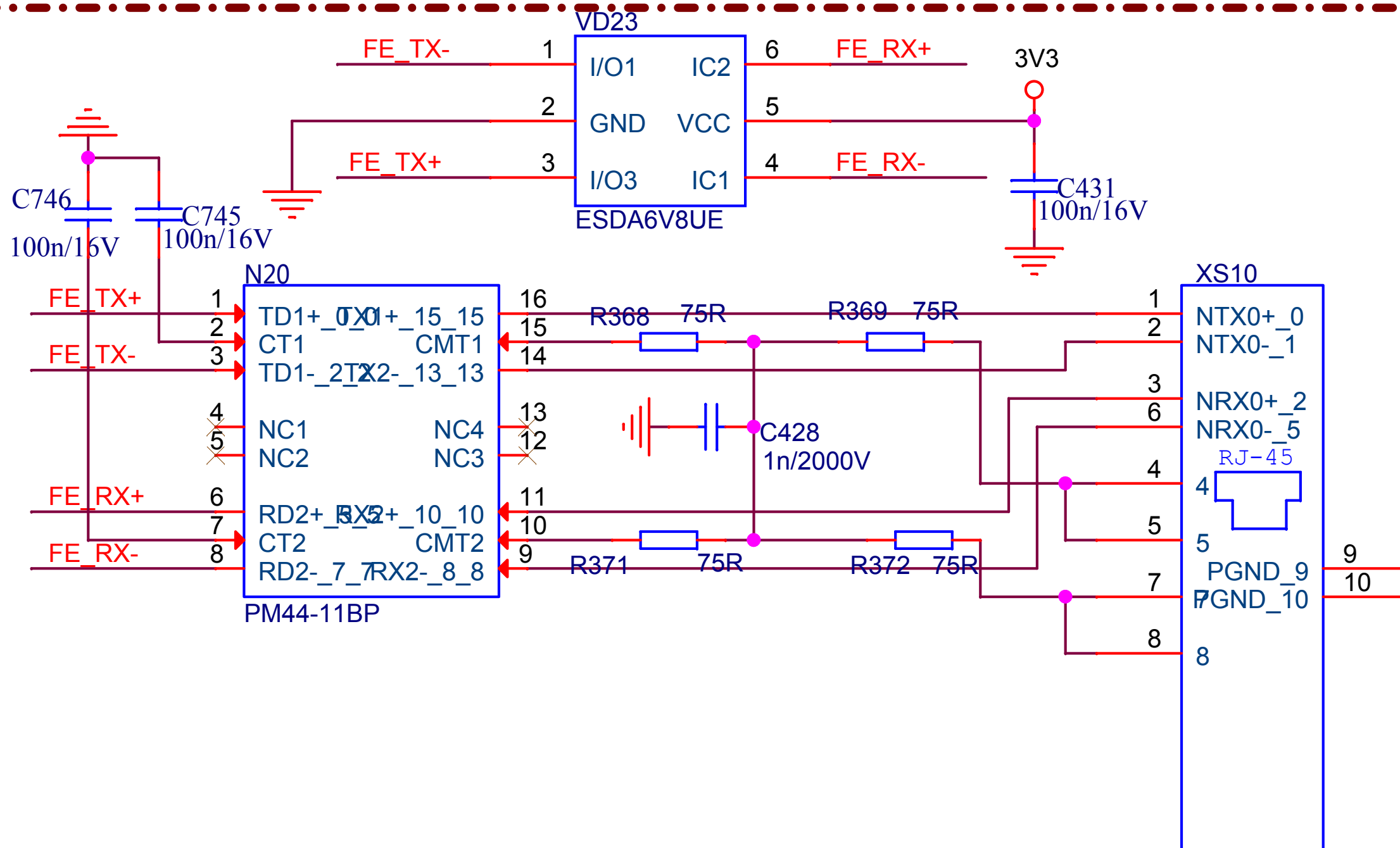
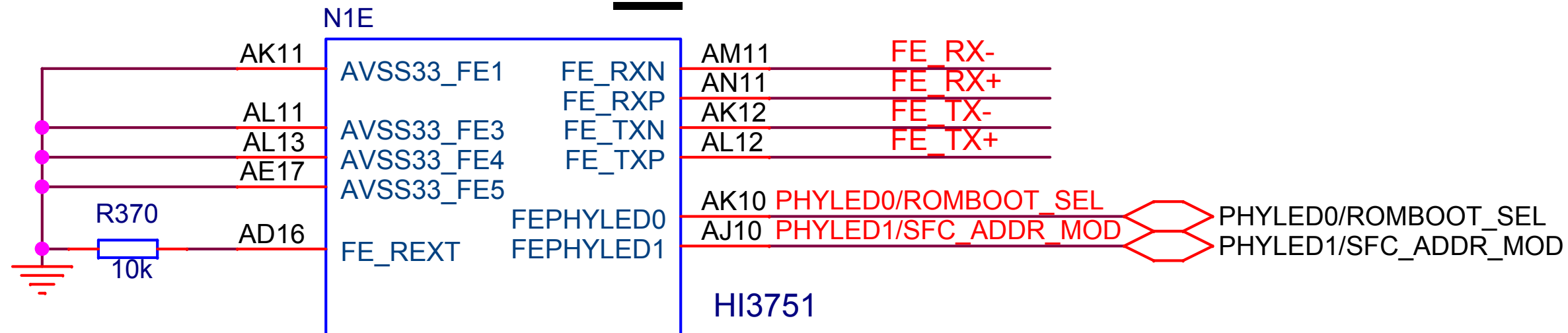
VD26  
R450 10k  
V30 MMBT3904LT1  
AMP\_MUTE\_OUT  
MUTE\_602

[illegible]

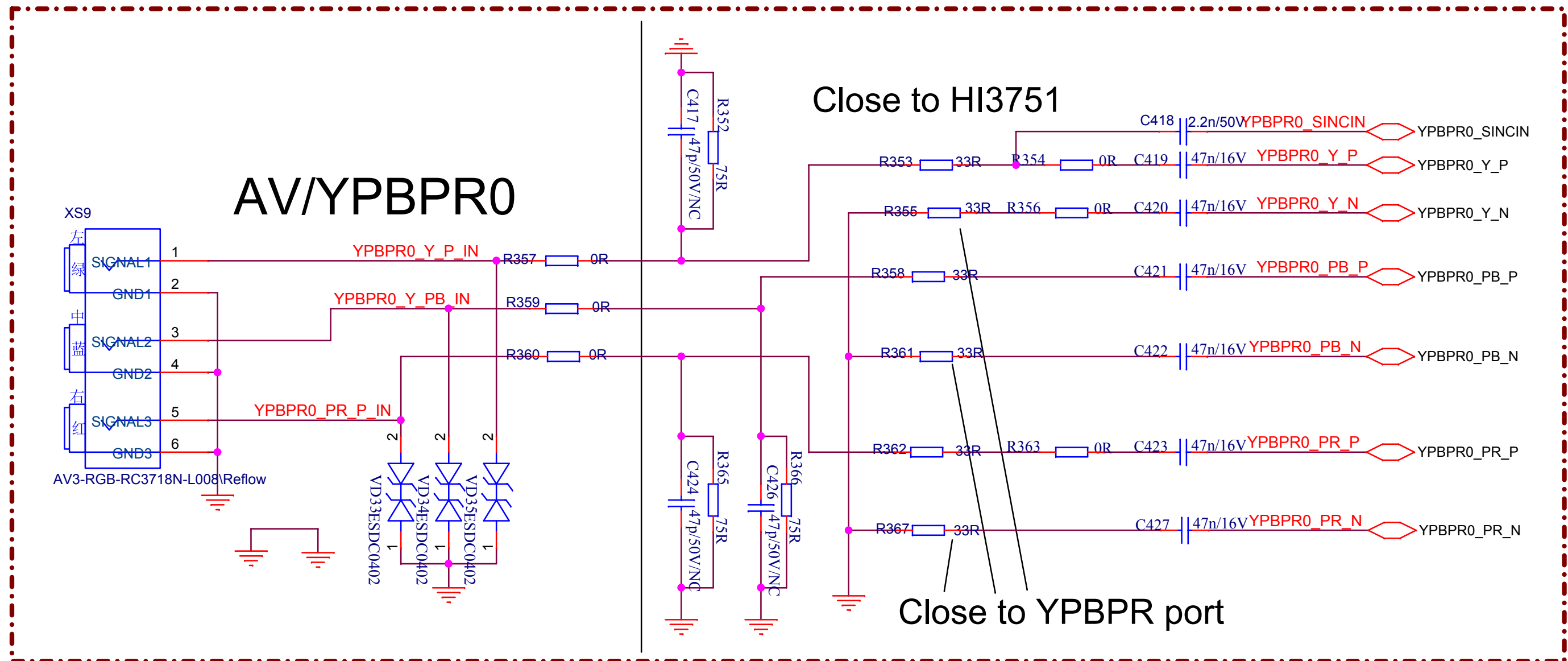
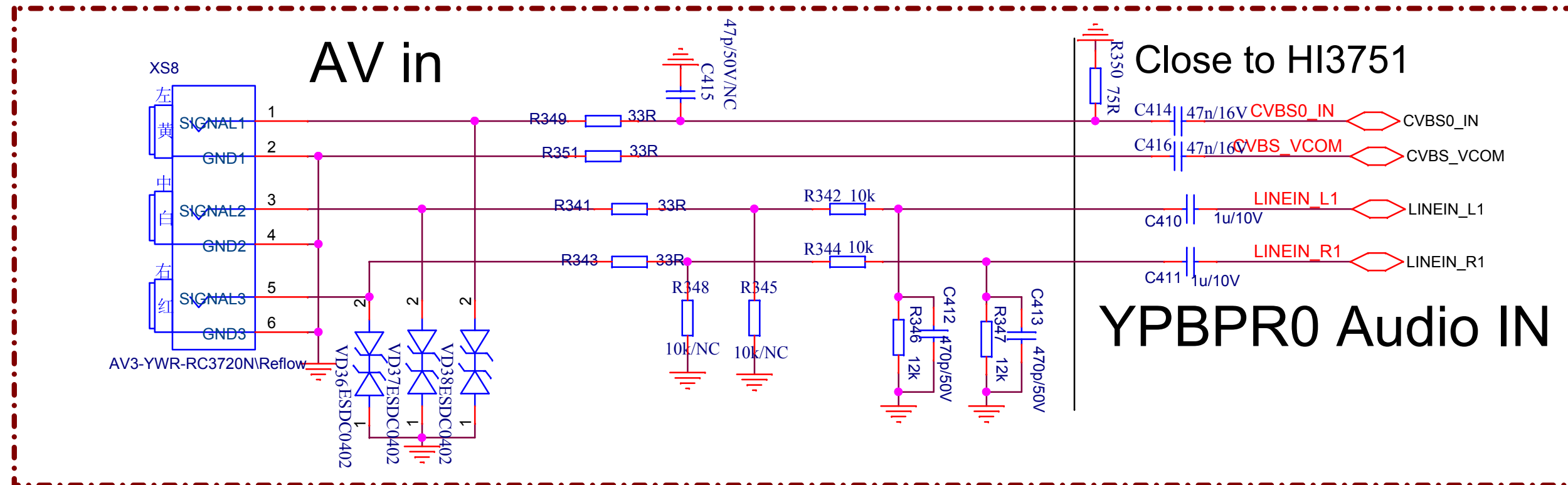
# HI3751\_AFE



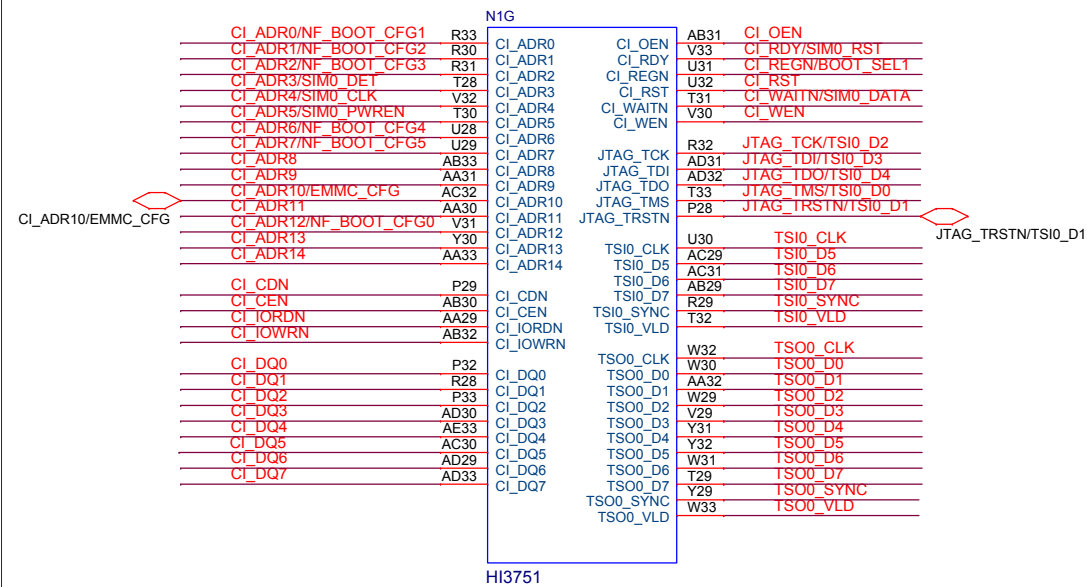
# HI3751\_FE



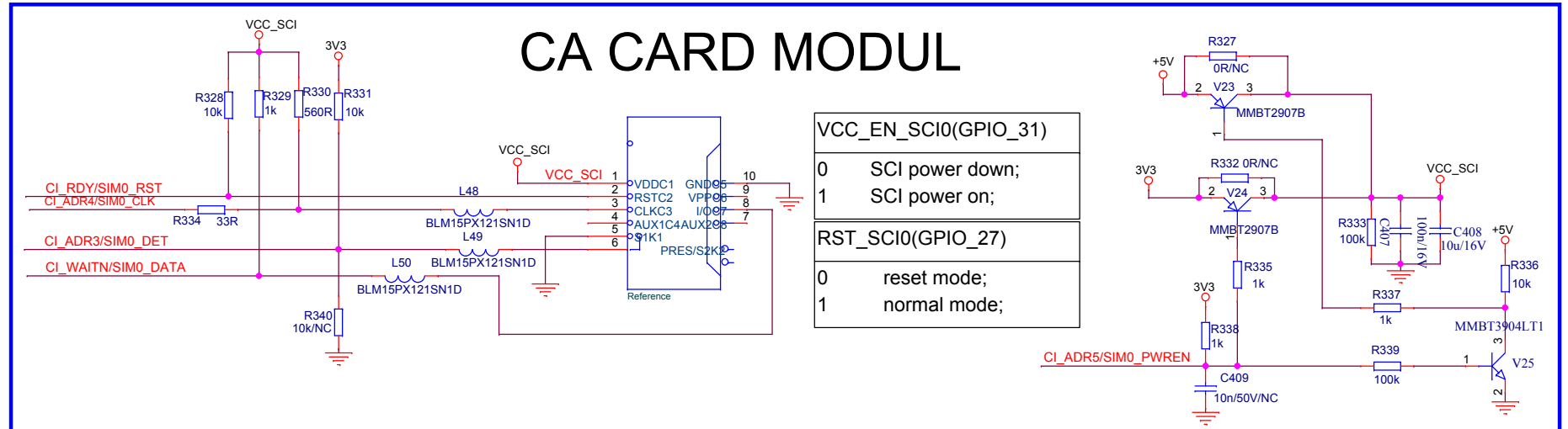
# YPBPR & AV input



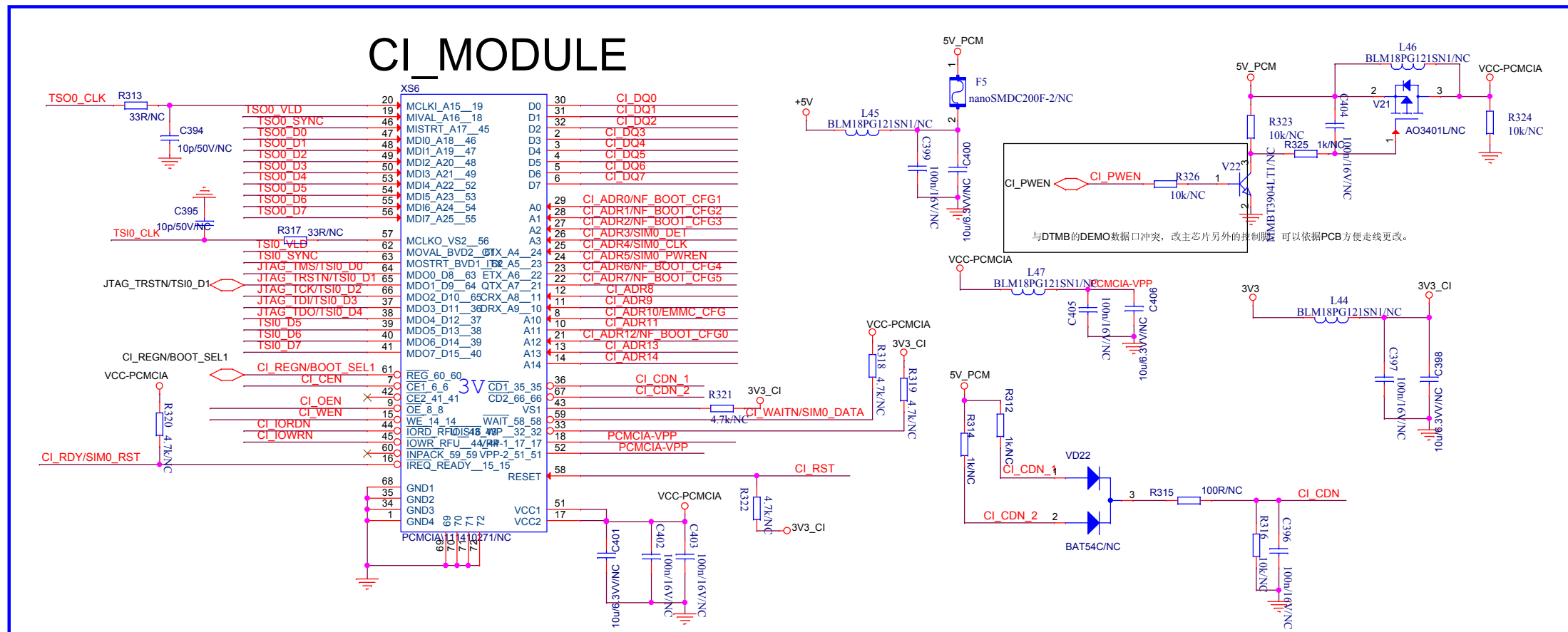
# HI 3751



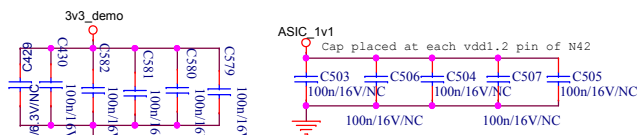
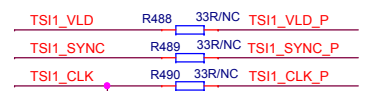
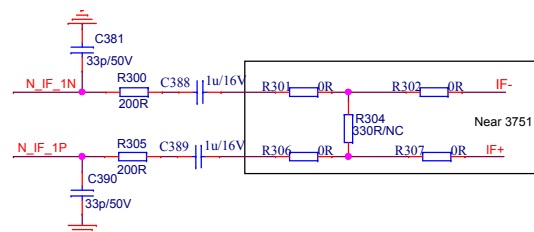
# CA CARD MODUL



# CI\_MODULE

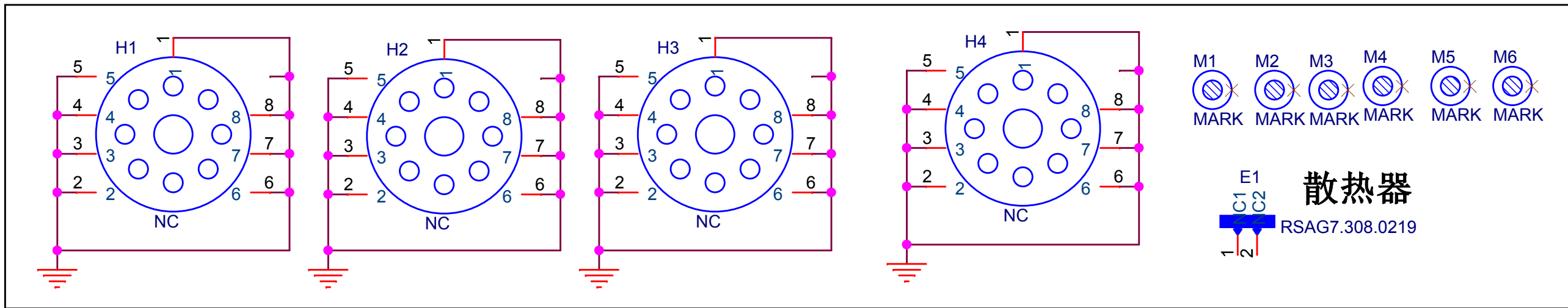
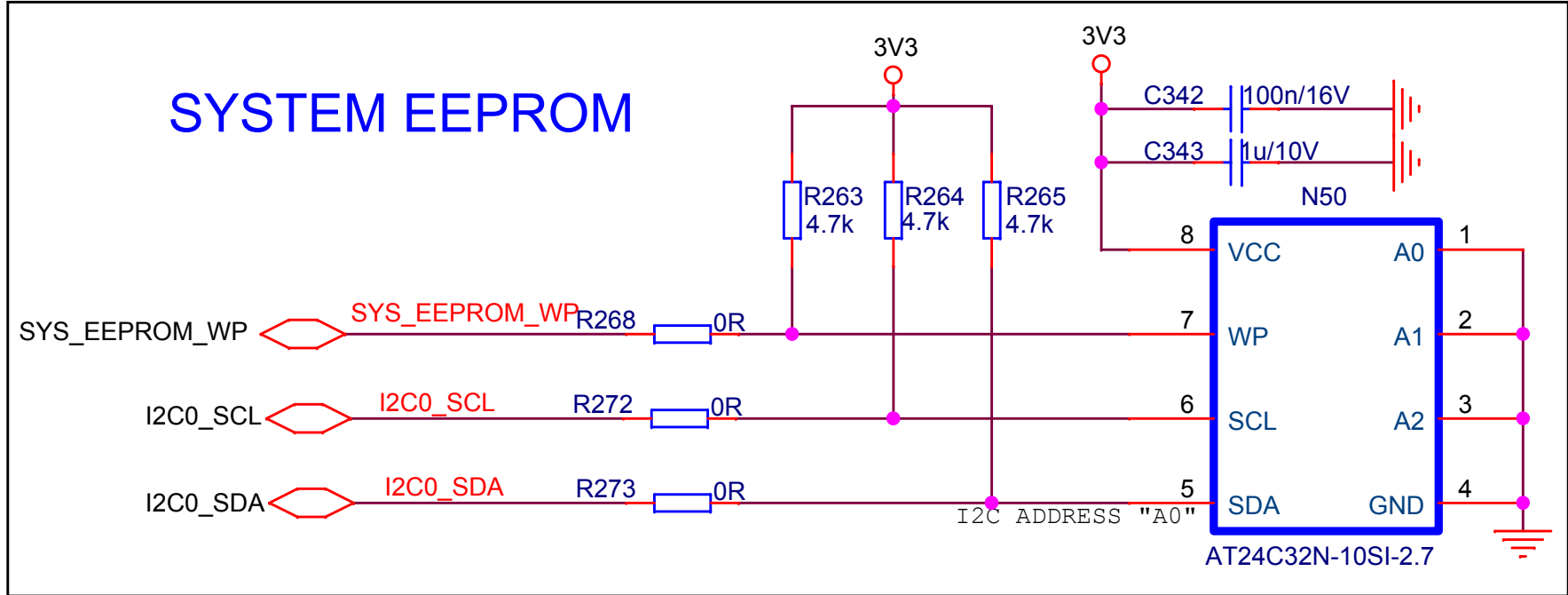


N1F			
TS1H_D3	AE29	TS1H_D3	AG30
TS1H_D4	AE30	TS1H_D4	AG31
TS1H_D5	AF32	TS1H_D5	AG32
TS1H_D6	AE31	TS1H_D6	AG33
TS1H_D7	AE32	TS1H_D7	AG32
TS1H_SYNC	AF29	TS1H_SYNC	AG31
TS1H_VLD	AH30	TS1H_VLD	AG29
TUNER_SCL	AH31	TUNER_SCL	AF31
TUNER_SDA	AJ32	TUNER_SDA	AF30
SDIO0_CARD_DET_N	AG30	SDIO0_CARD_DET_N	



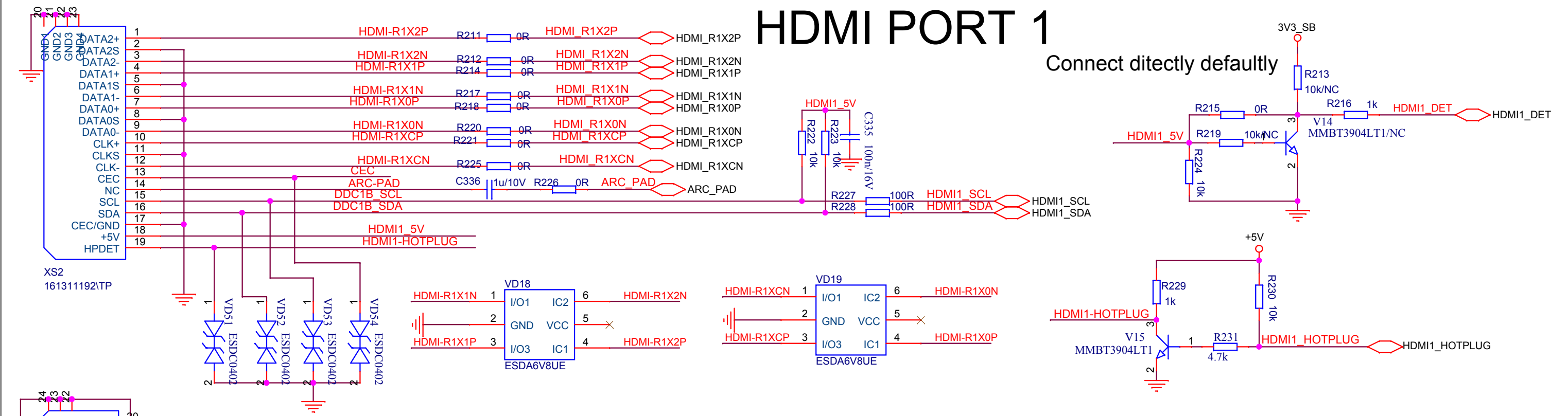


**24MHz CRYSTAL**



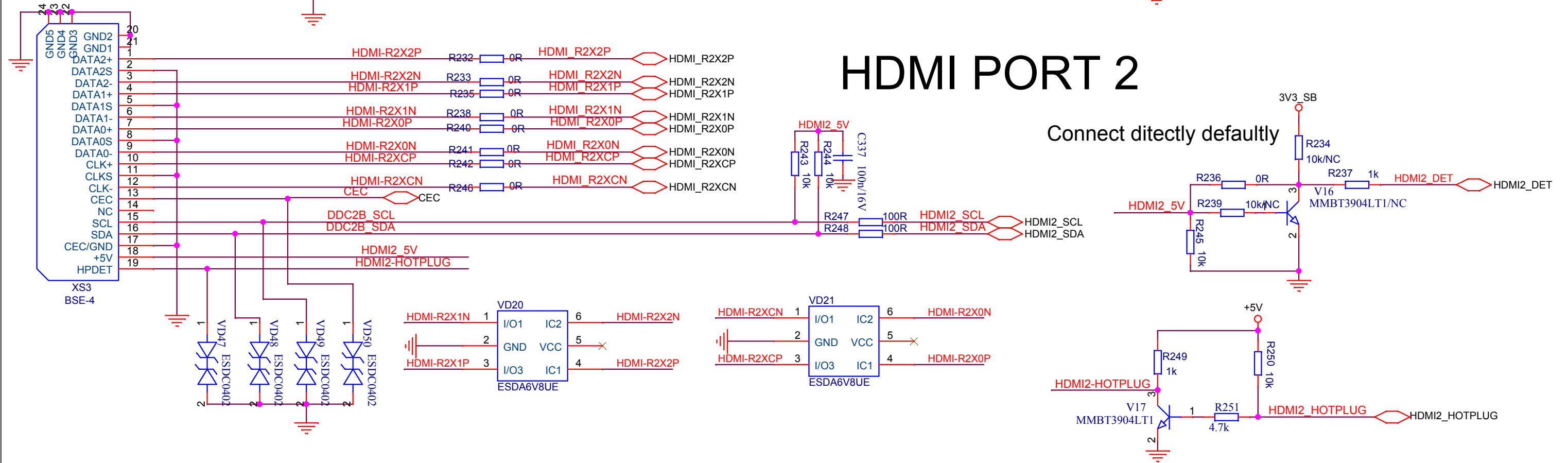
# HDMI PORT 1

Connect ditectly defaultly



# HDMI PORT 2

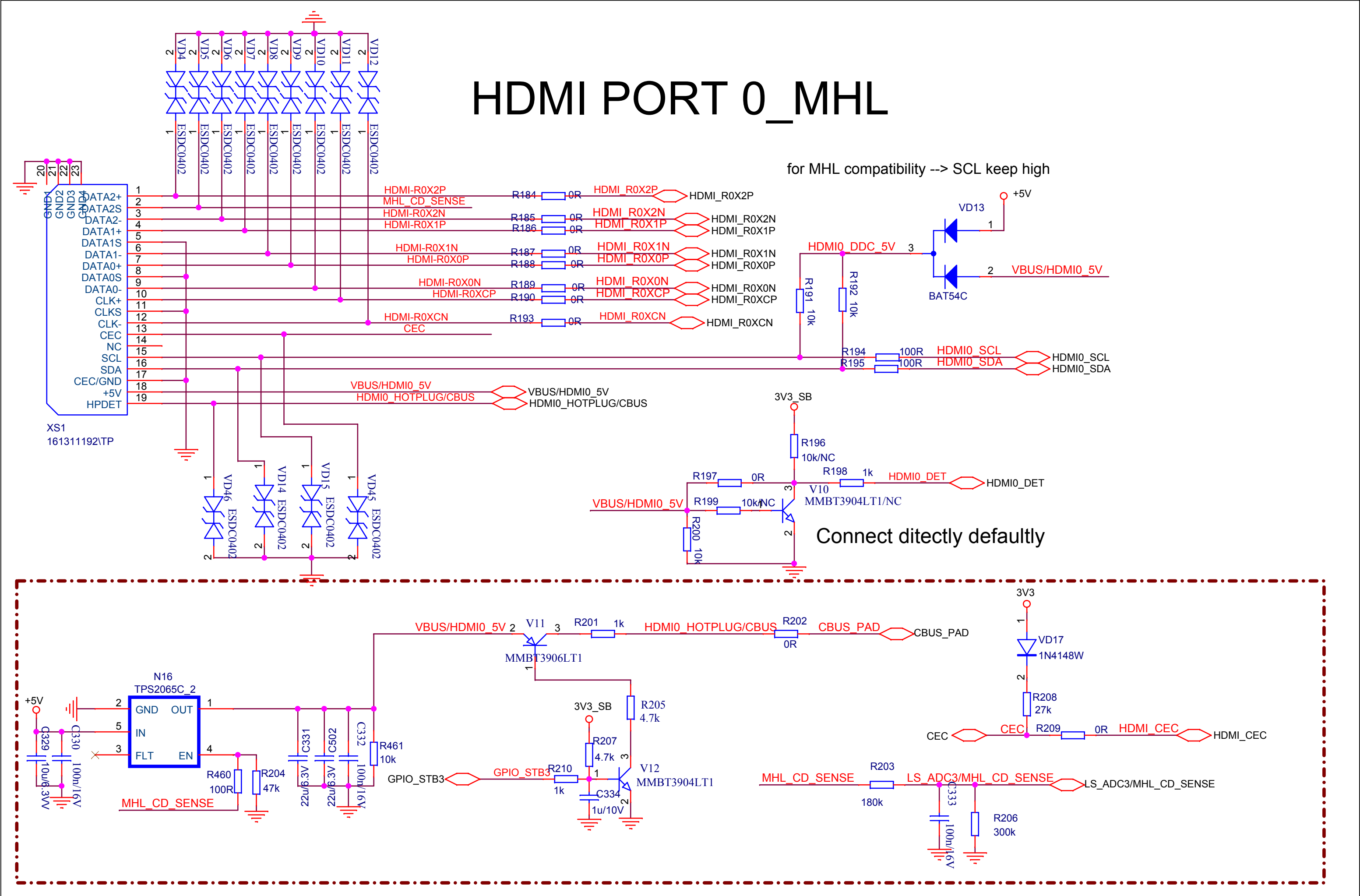
Connect ditectly defaultly



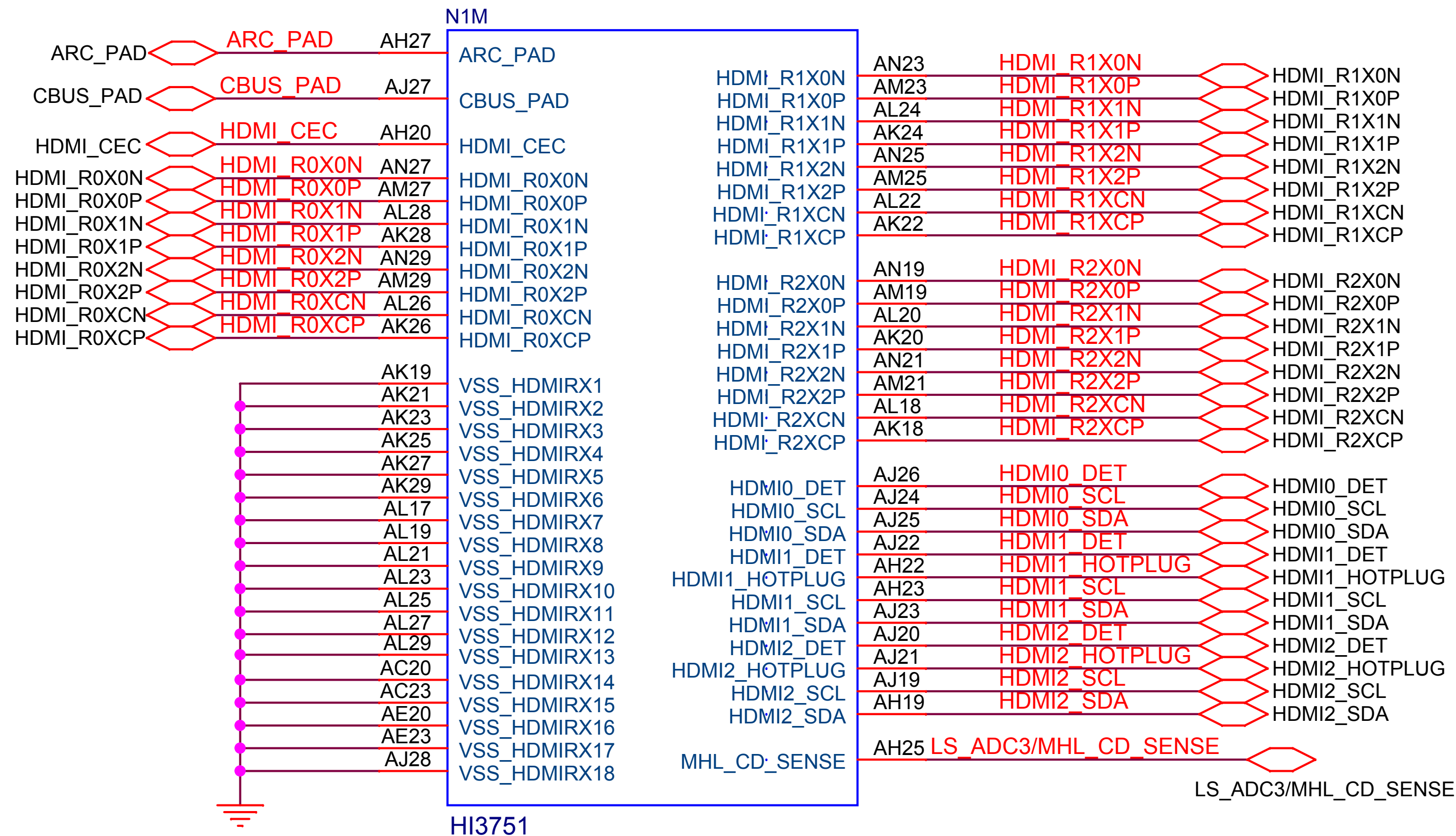


# HDMI PORT 0\_MHL

for MHL compatibility --> SCL keep high

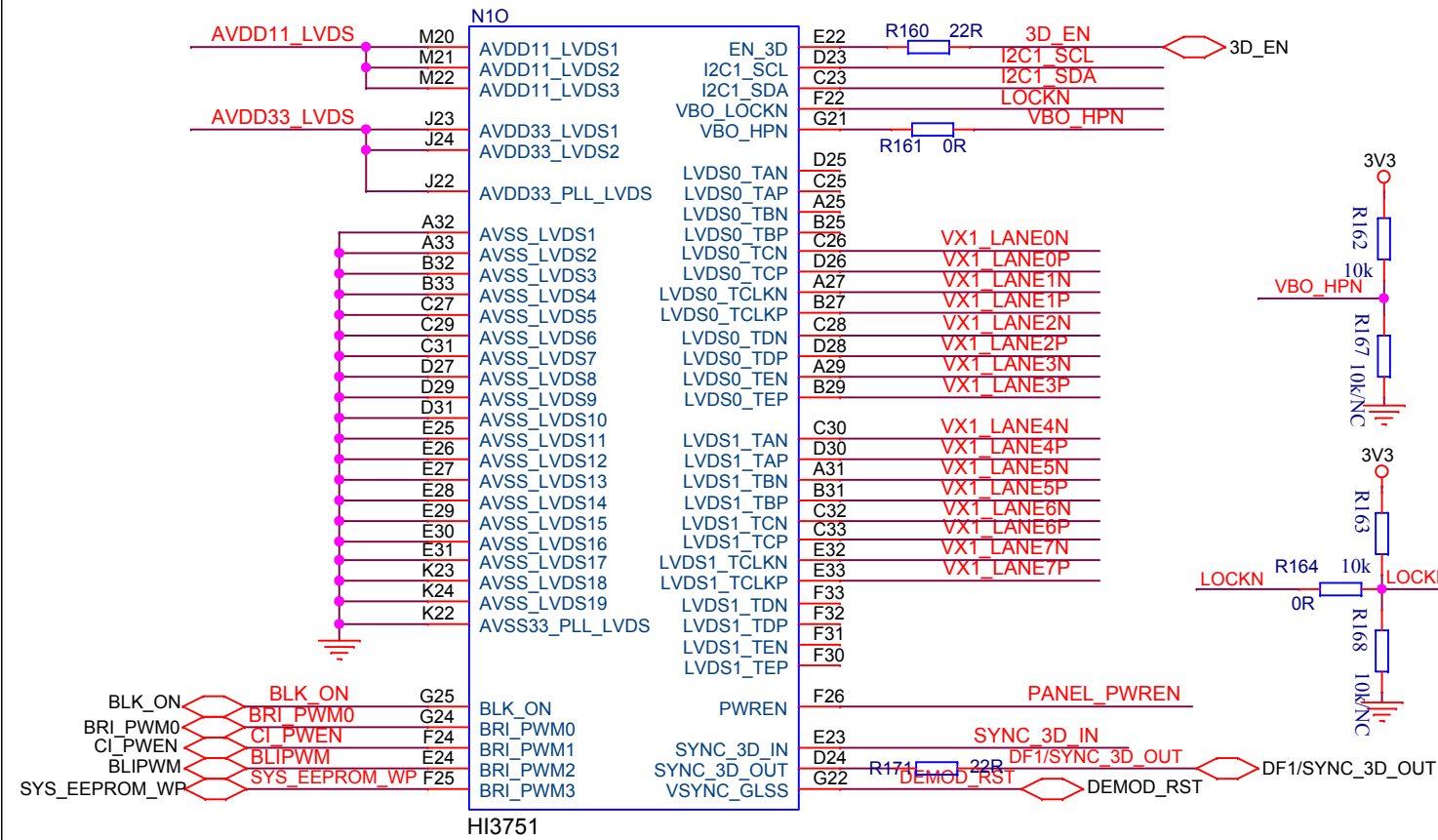


# HI3751\_HDMI

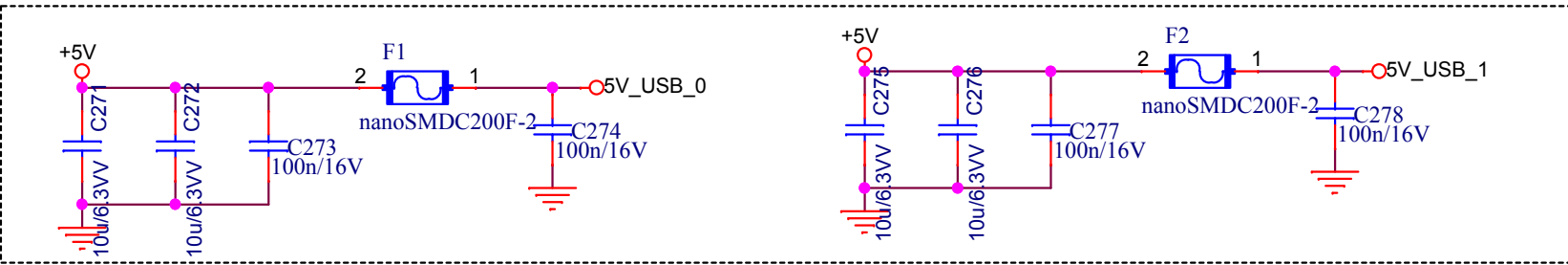
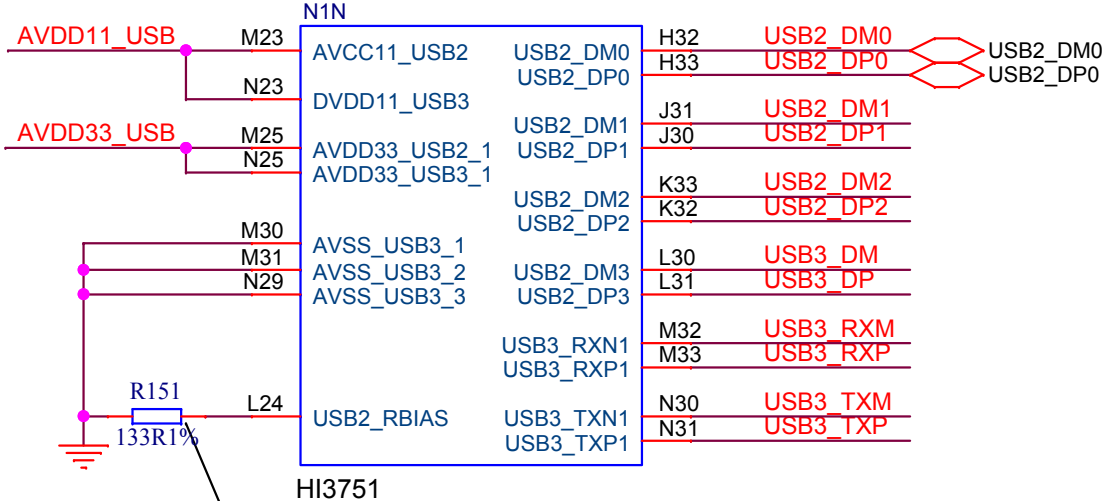


# HI3751 V-BY-ONE

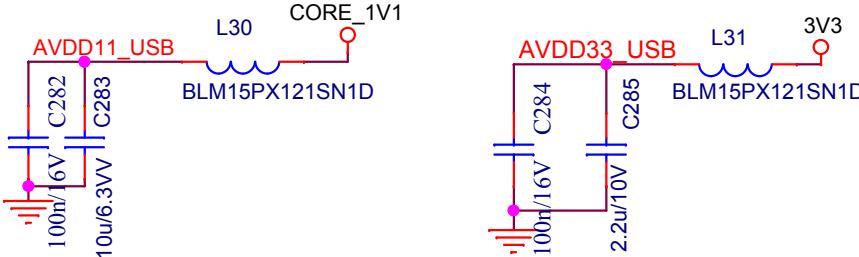
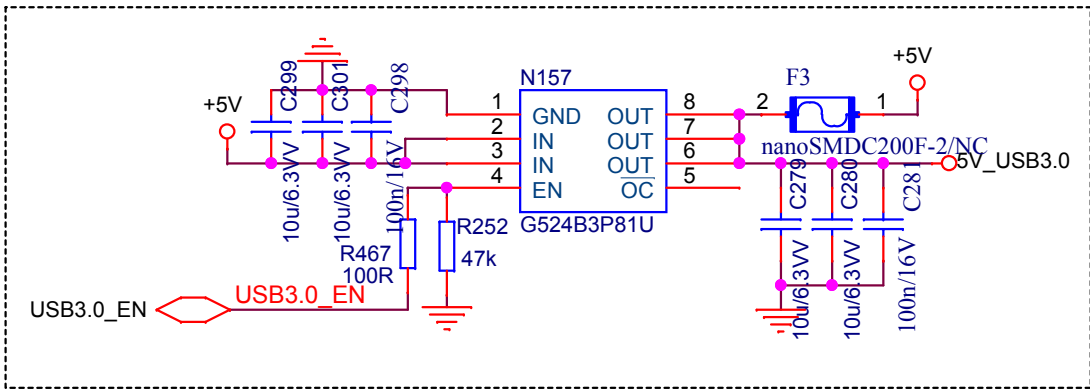
BOE  
接上去R633、R651  
去掉 R165、R646、R166、R172、R169、R170、R462、R174、R175、R463



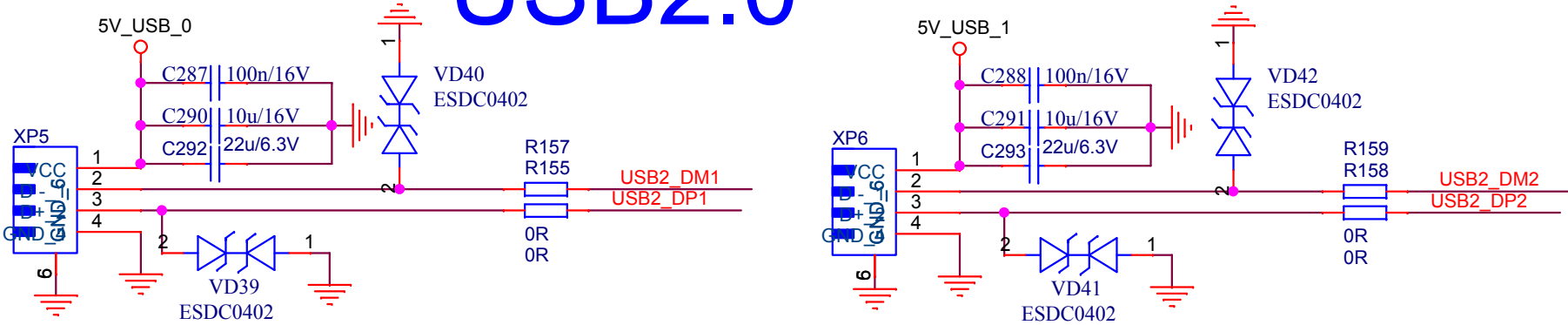
# HI3751\_USB



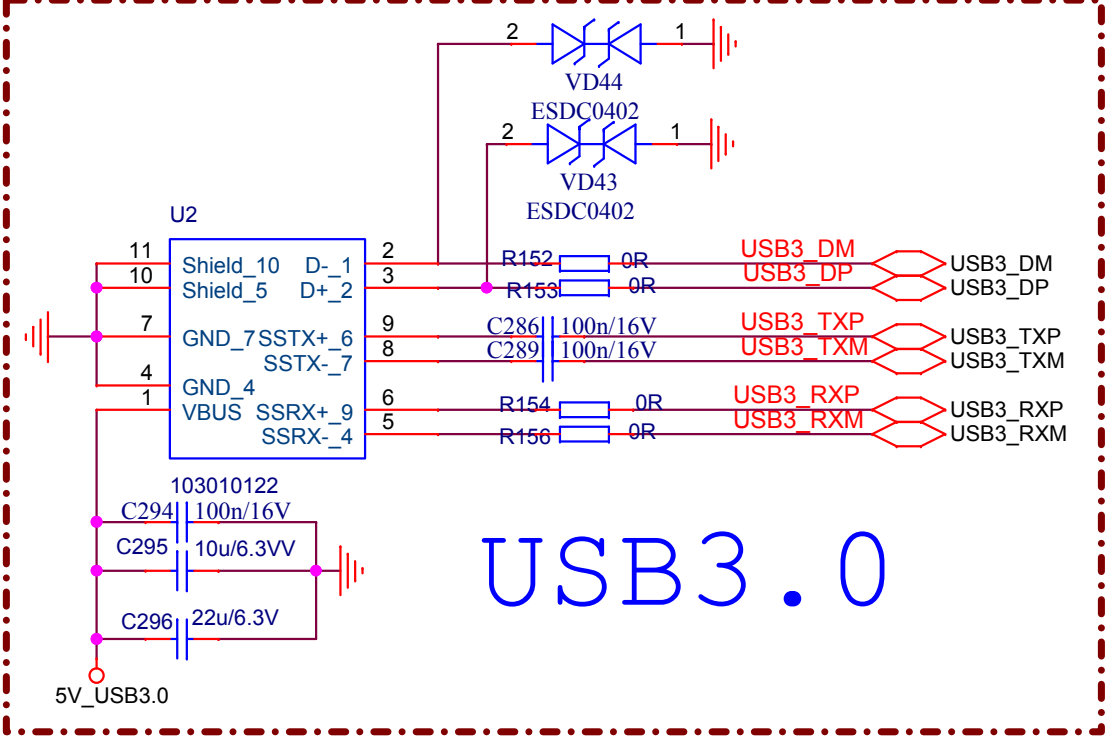
1% precision,0402 package,需要改为133R精密电阻，1142172,无库存



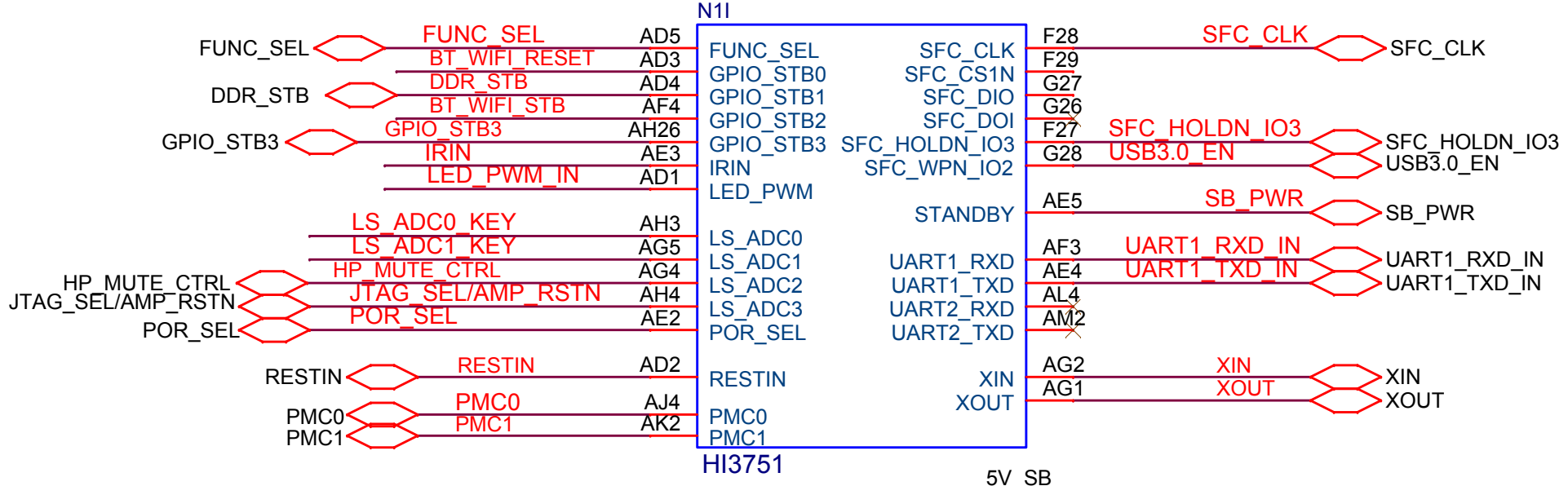
## USB2.0



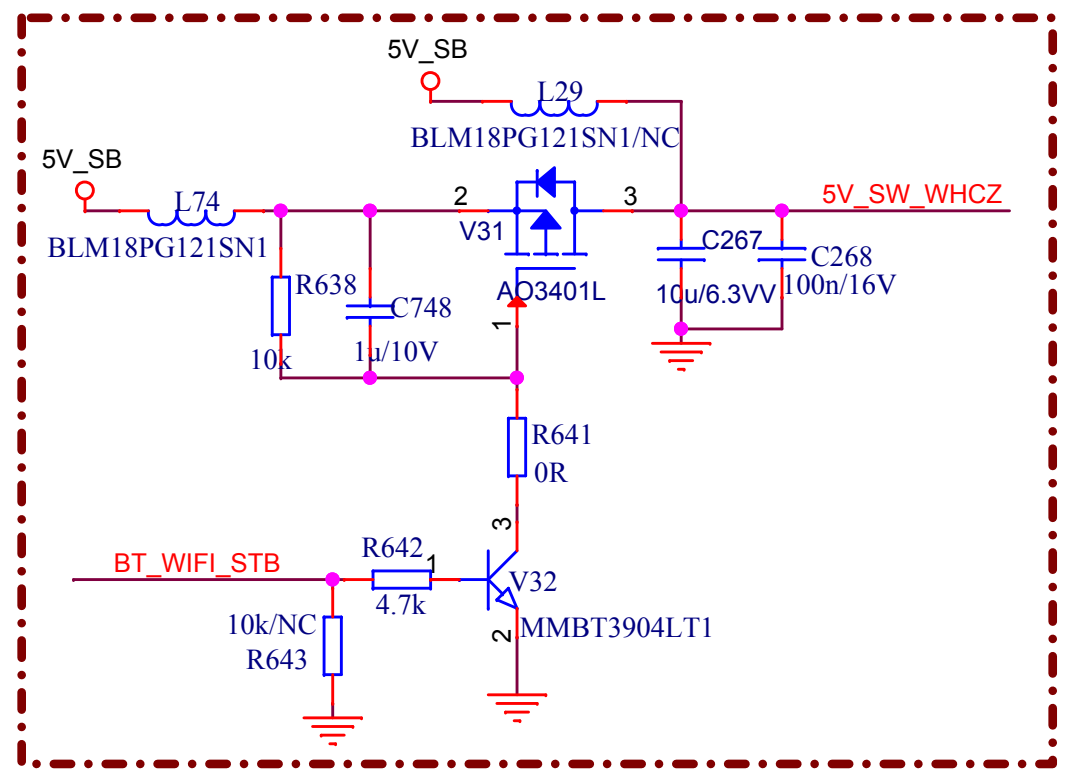
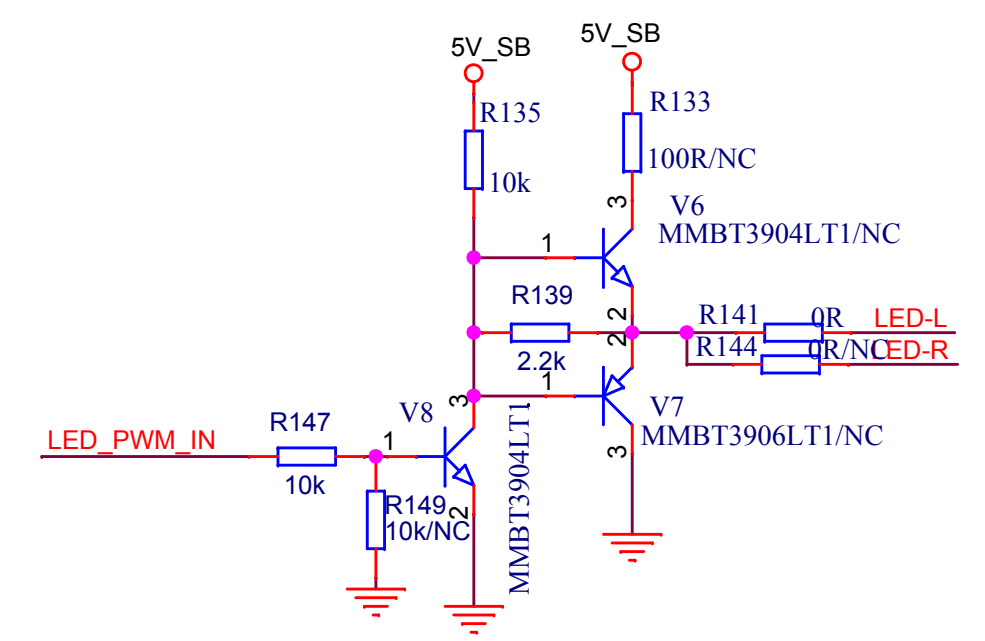
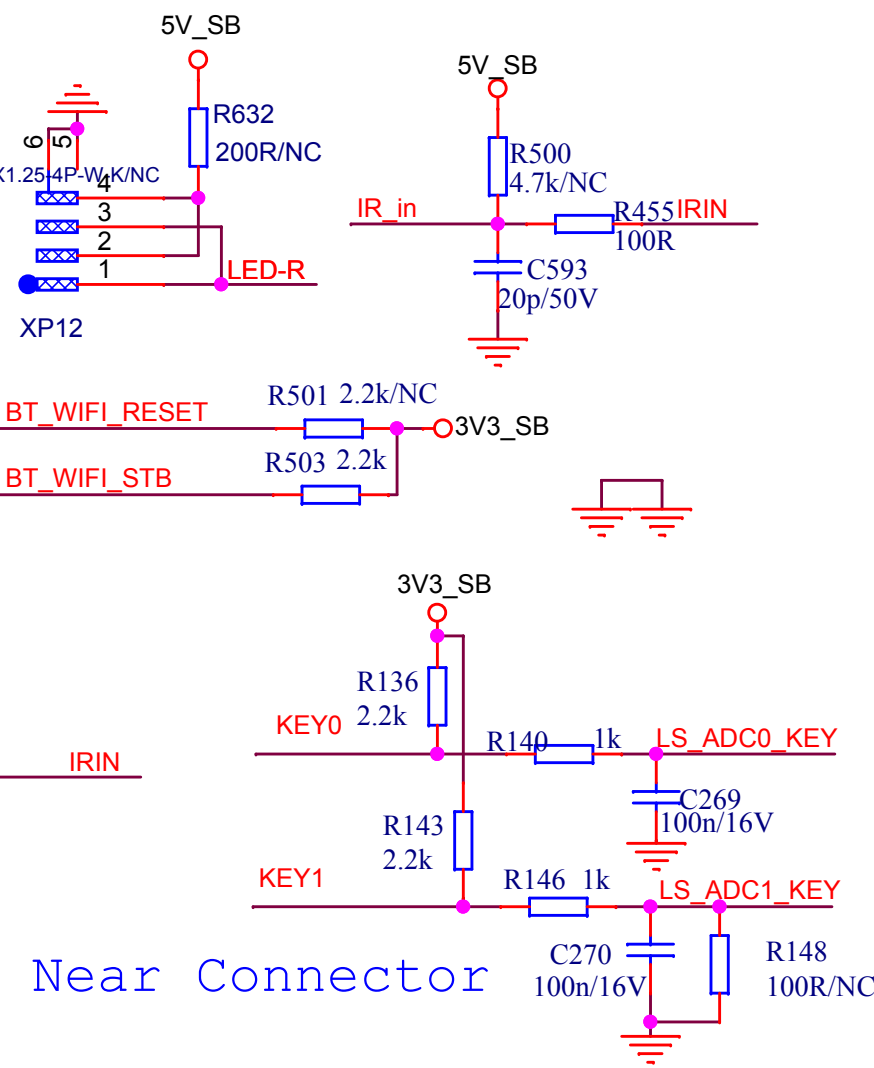
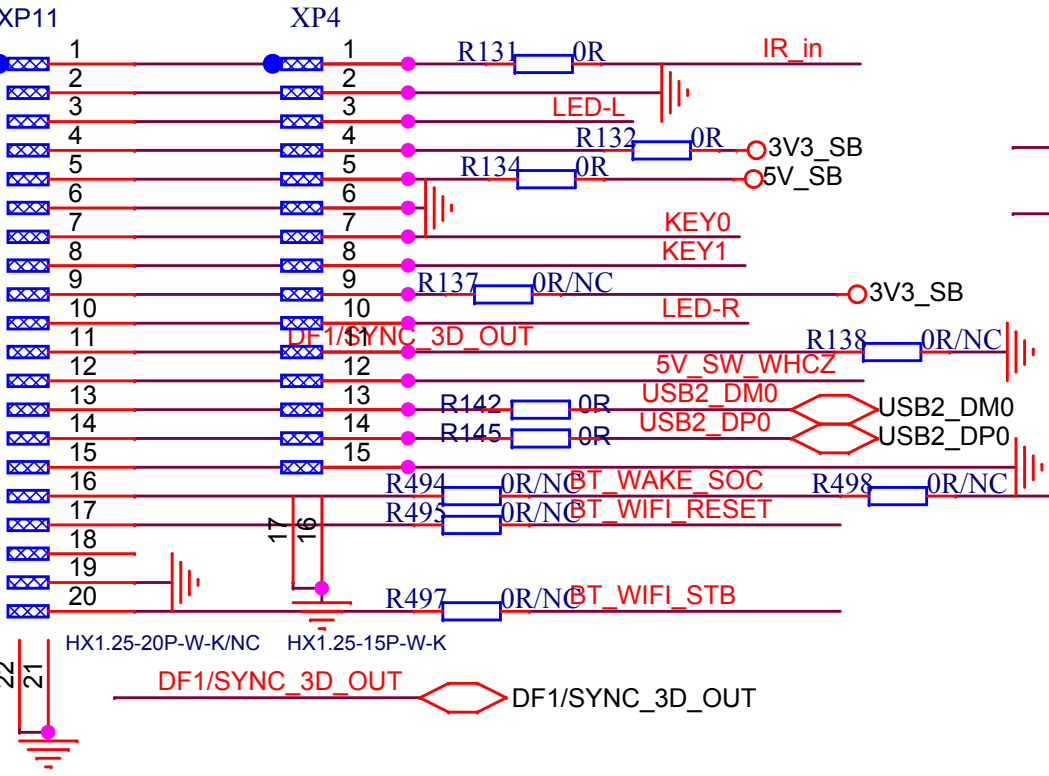
## USB3.0



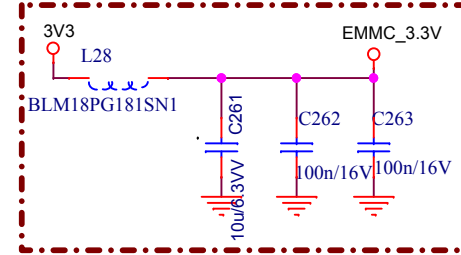
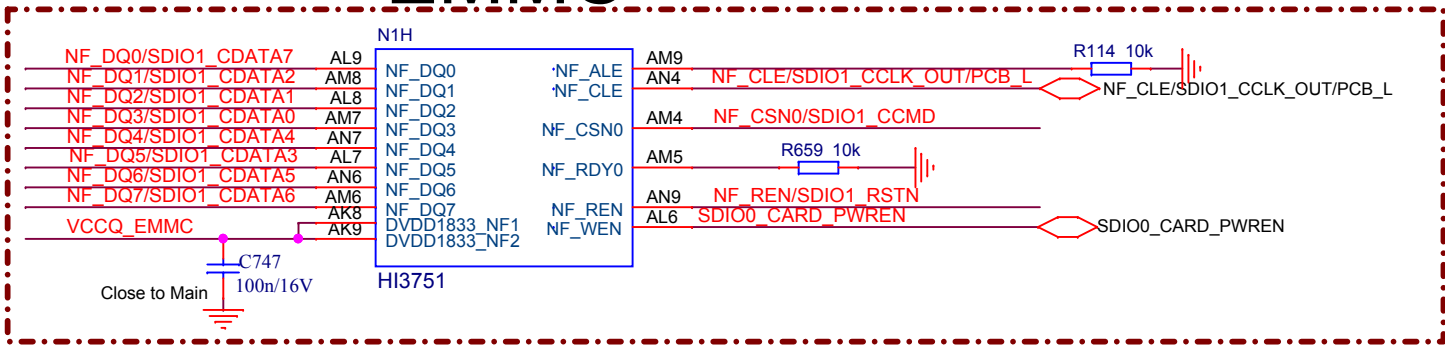




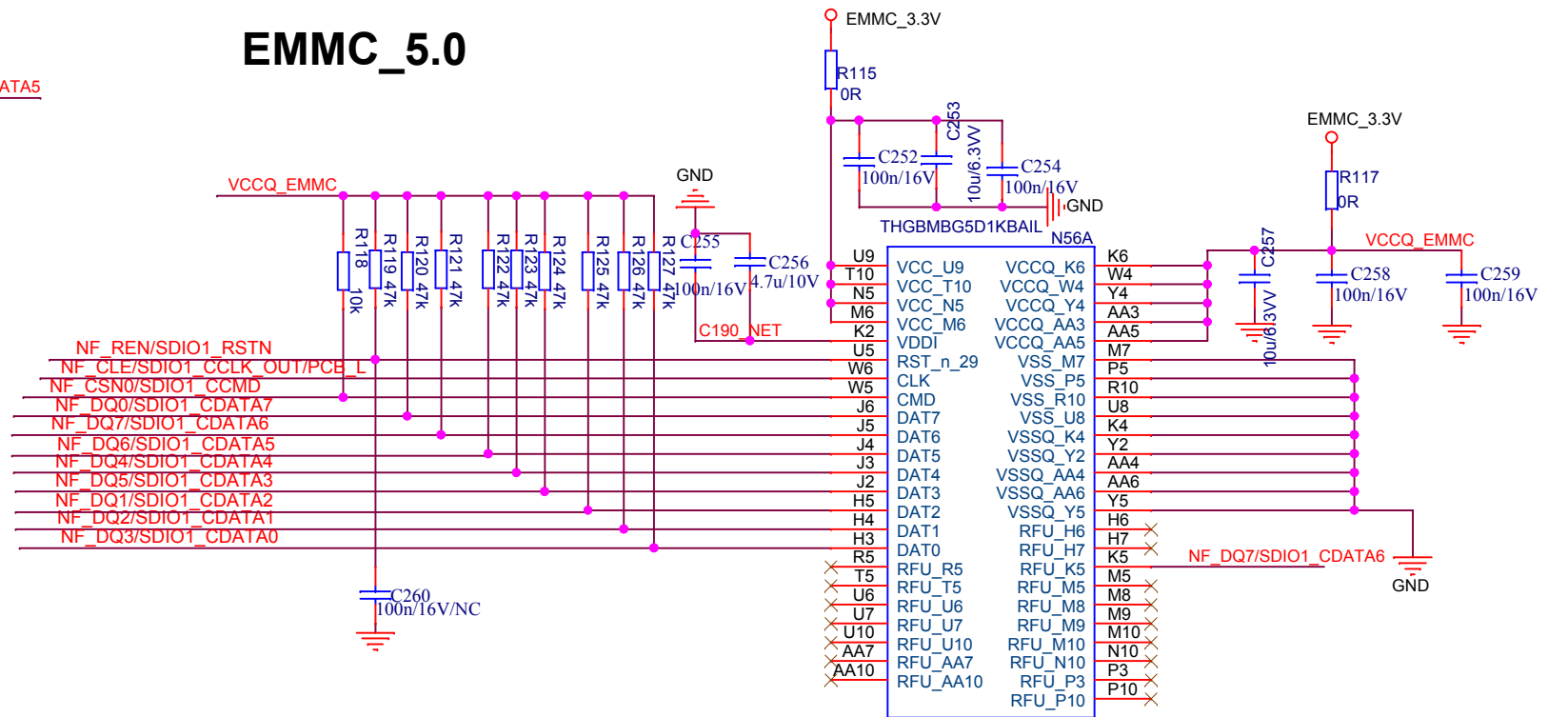
# BT&WIFI&AJ&IR



# EMMC

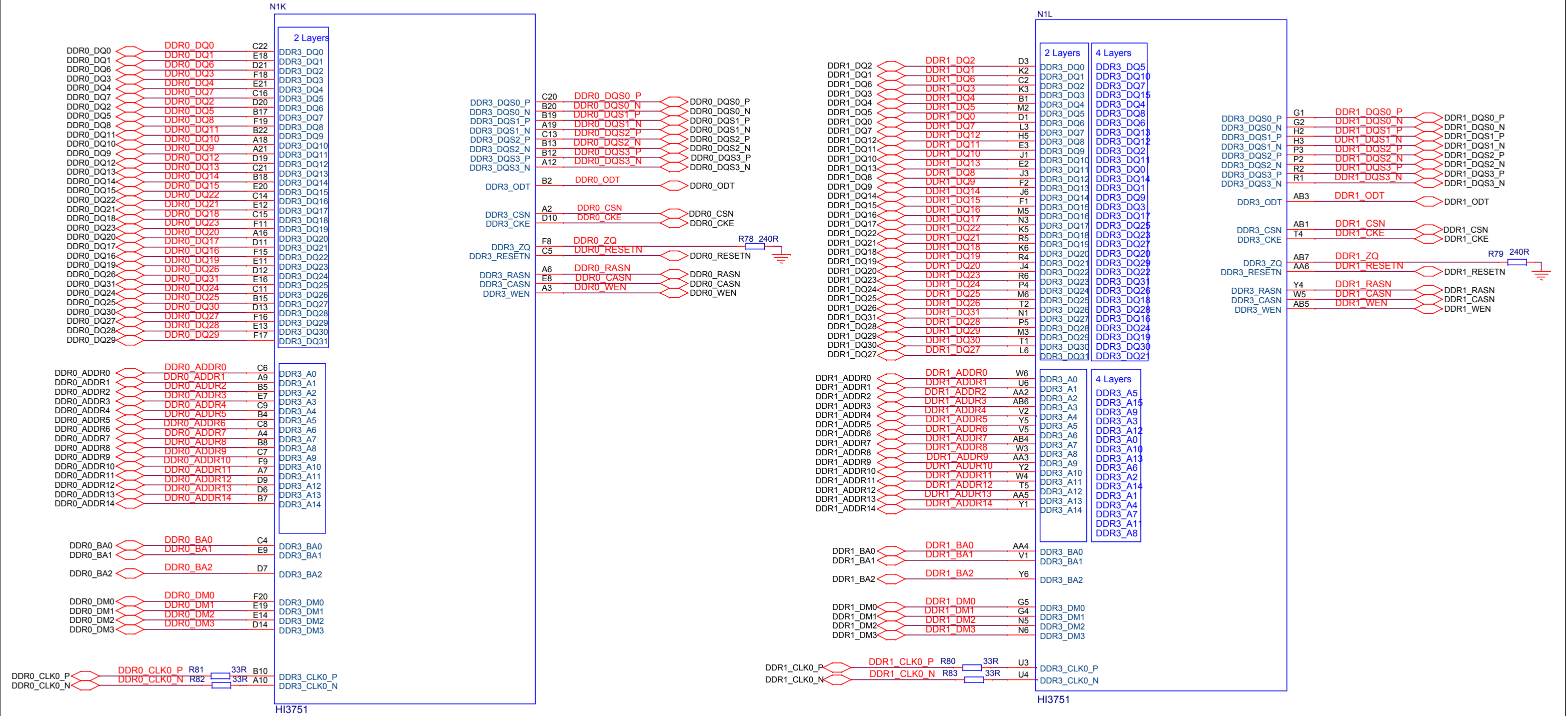


## EMMC\_5.0

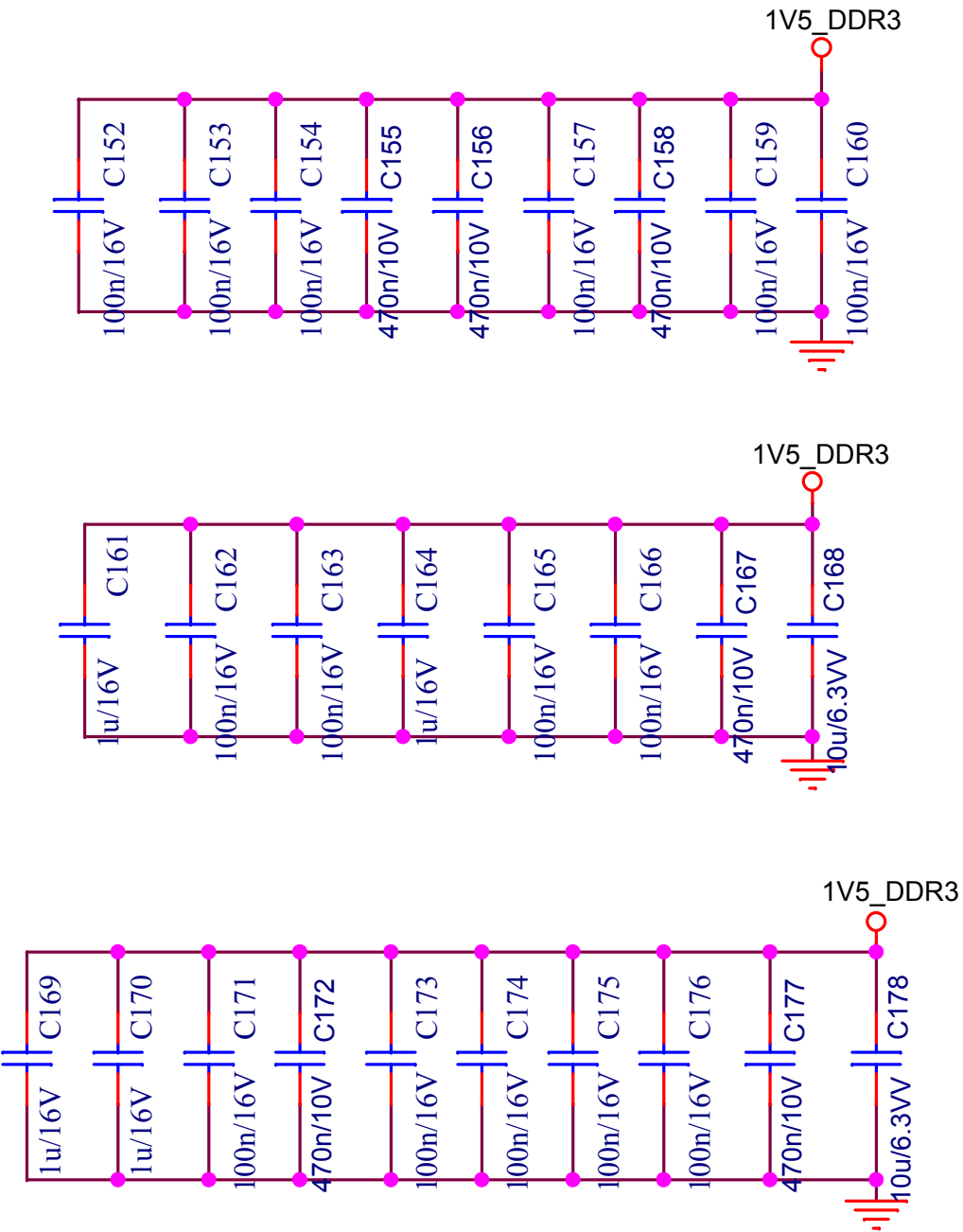
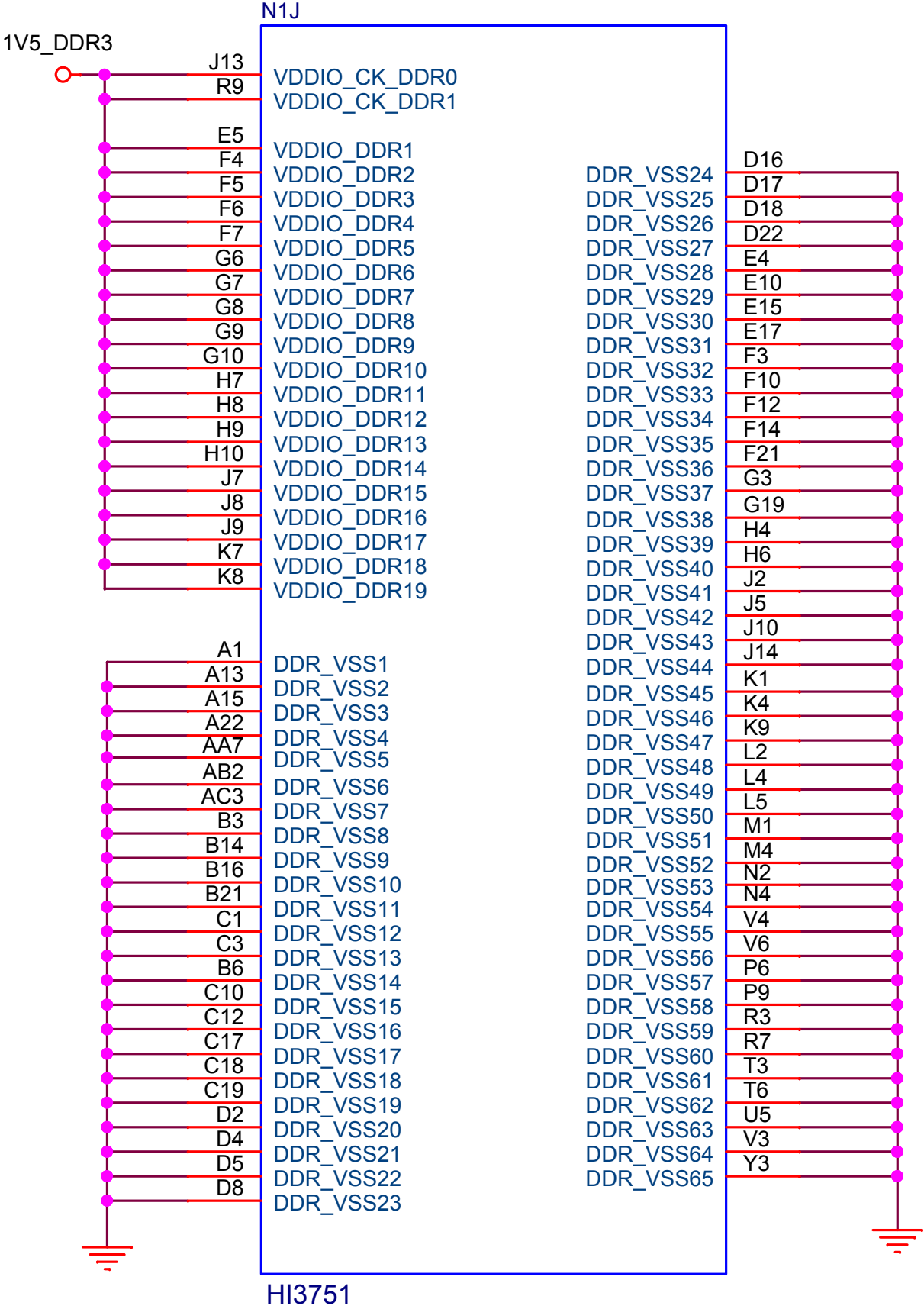




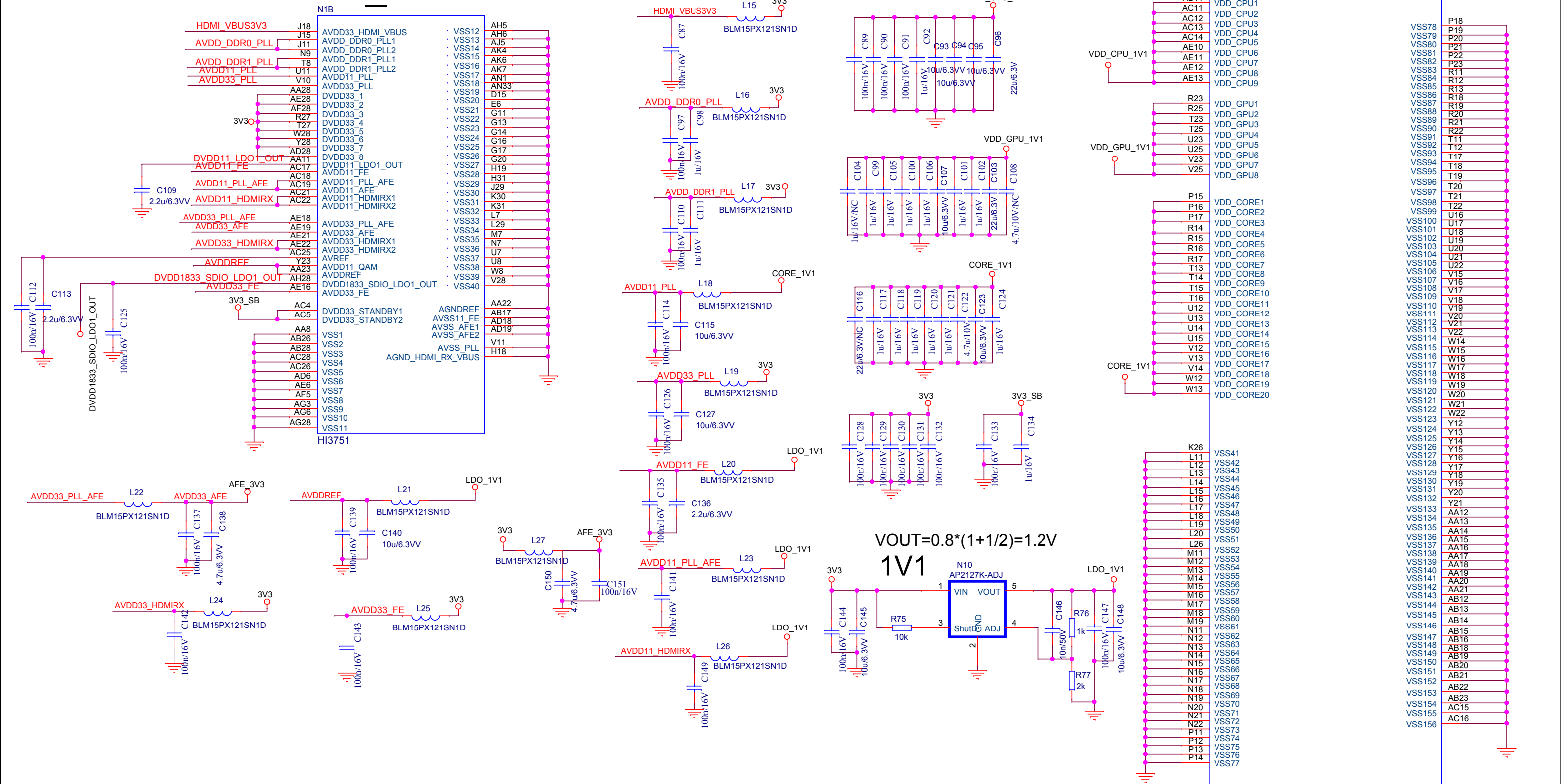
# HI3751\_DDR0 & HI3751\_DDR1



# HI3751\_DDRPWR

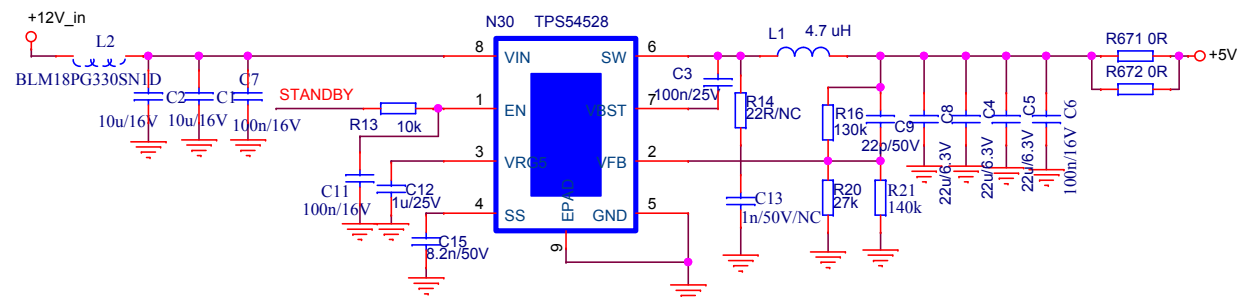


# HI3751 PWR

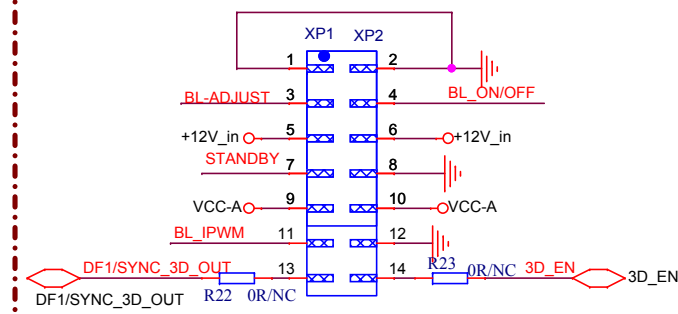


## +5V for USB MHL

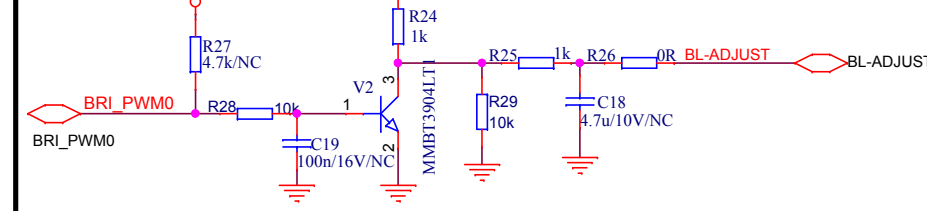
$$V_{OUT} = 0.765 \cdot (1 + R1/R2) = 5.16V$$



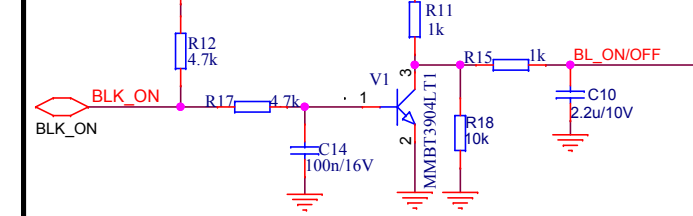
## POWER to MAIN



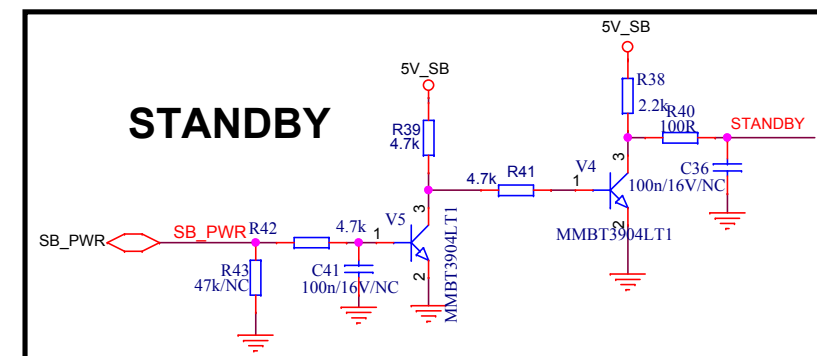
## BL-ADJUST



## BL\_ON/OFF

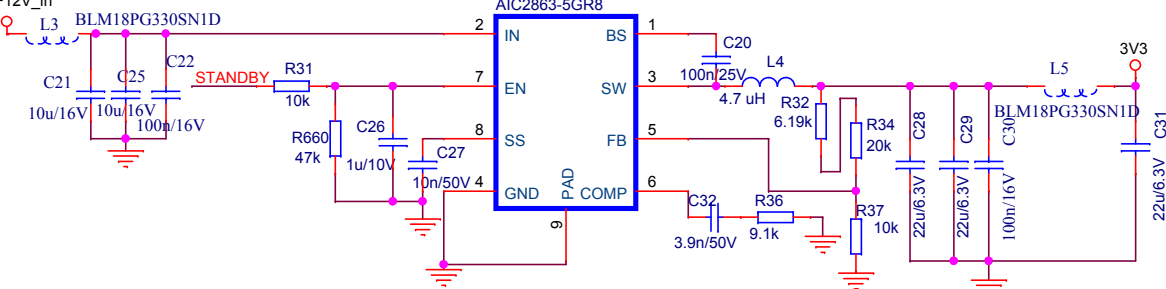


## STANDBY

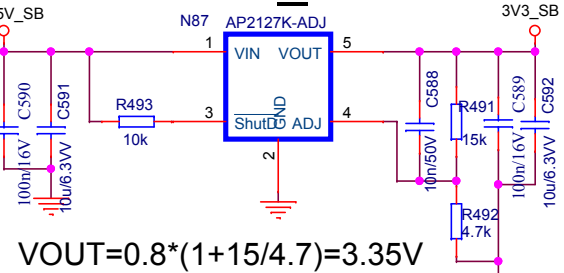


## 3V3

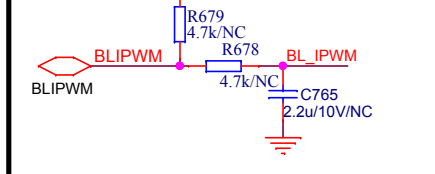
$$V_{OUT} = 0.925 \cdot (1 + R1/R2) = 3.34V$$



## 3V3\_SB



## BL\_IPWM



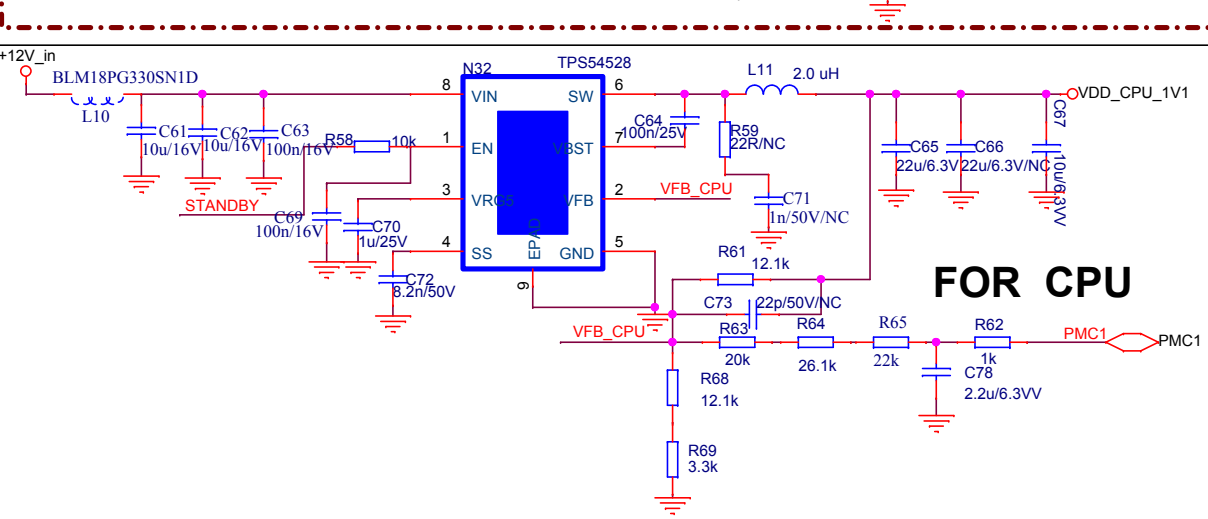
## 5V STB

$$V_{OUT} = 0.765 \cdot (1 + R1/R2) = 1.50V$$



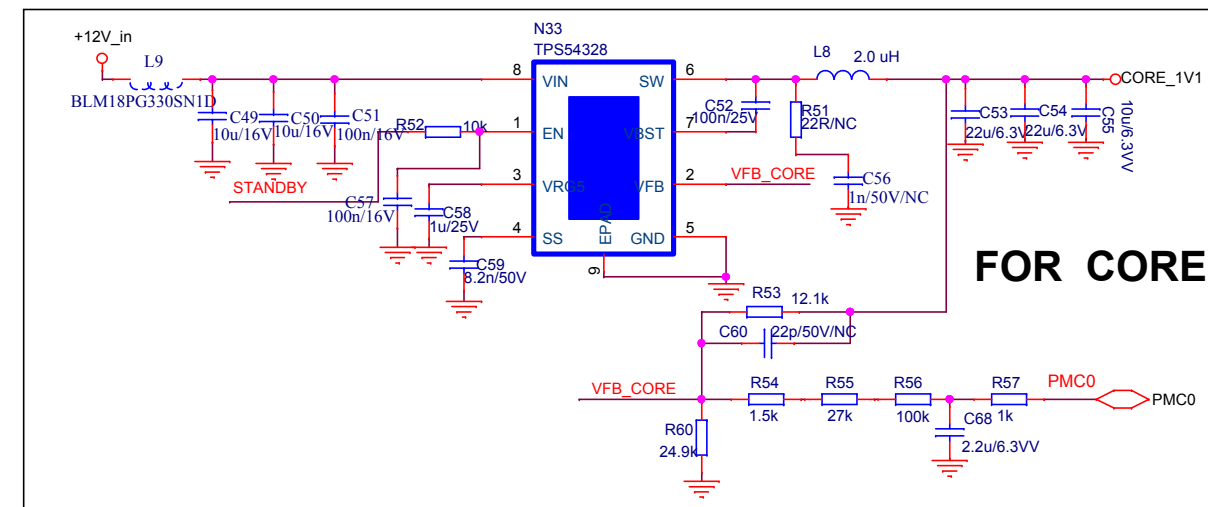
## DDR3 POWER

$$V_{OUT} = 0.765 \cdot (1 + R1/R2) = 1.50V$$

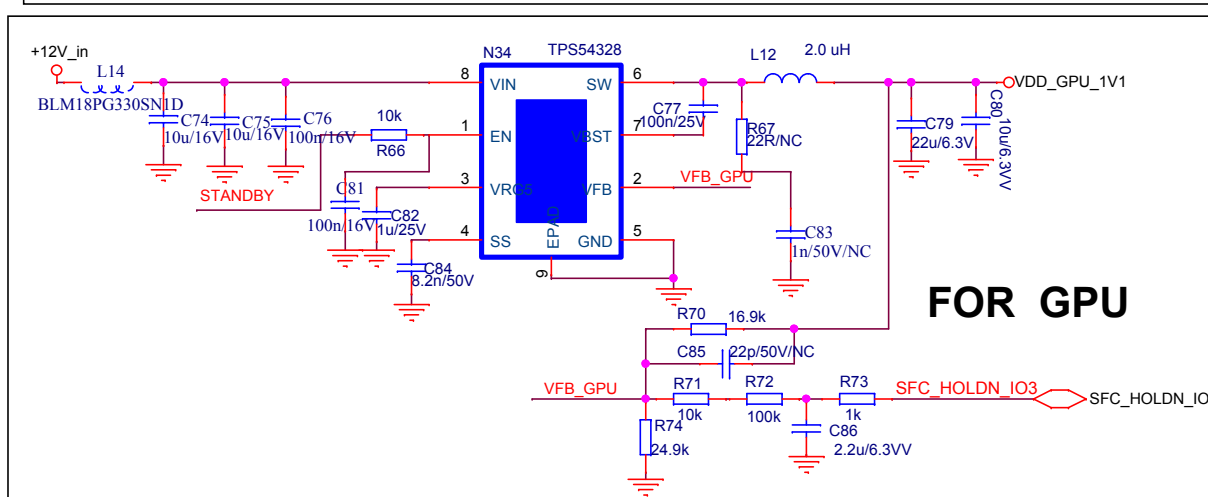


## FOR CPU

## FOR CORE



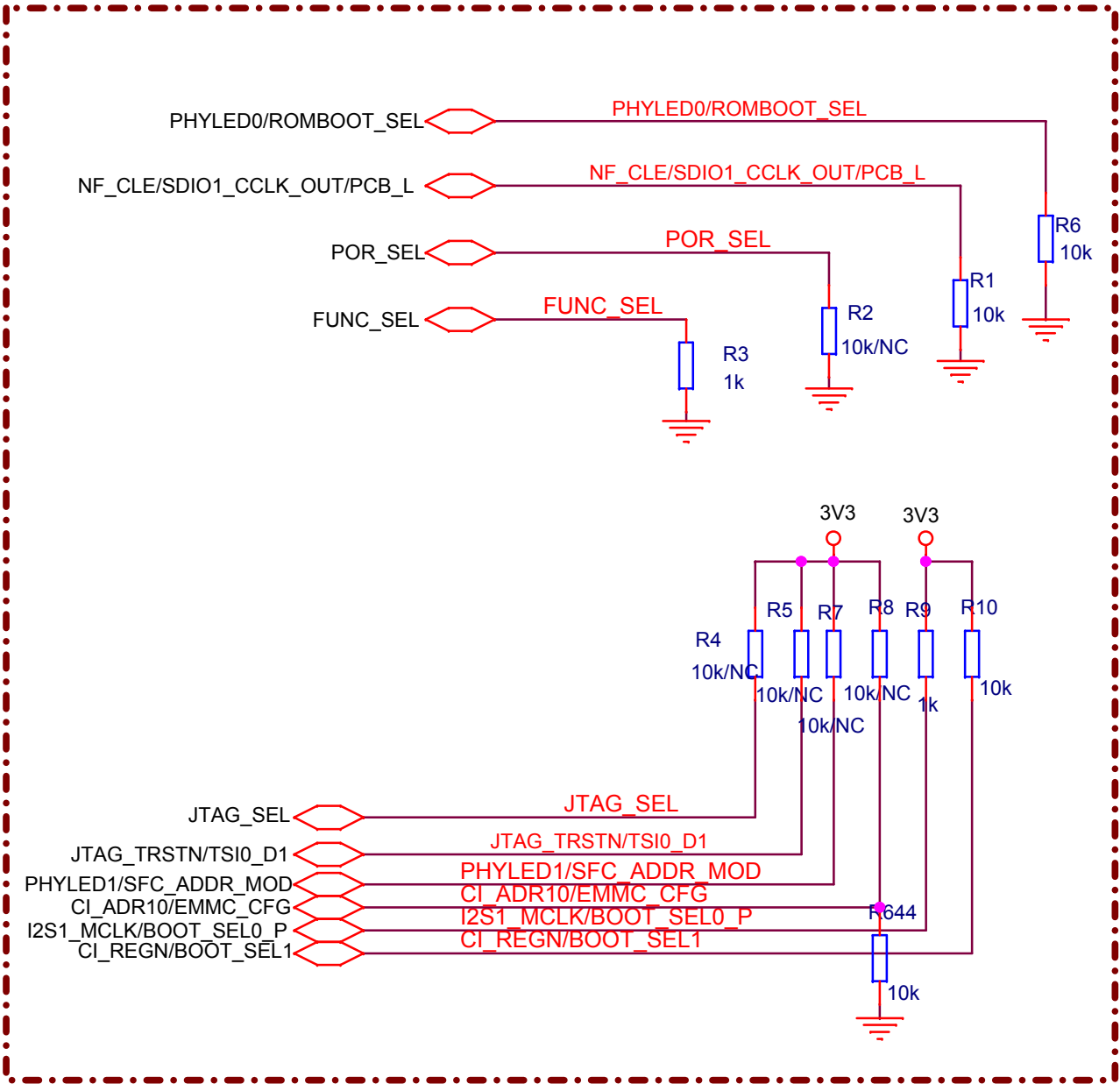
## FOR GPU



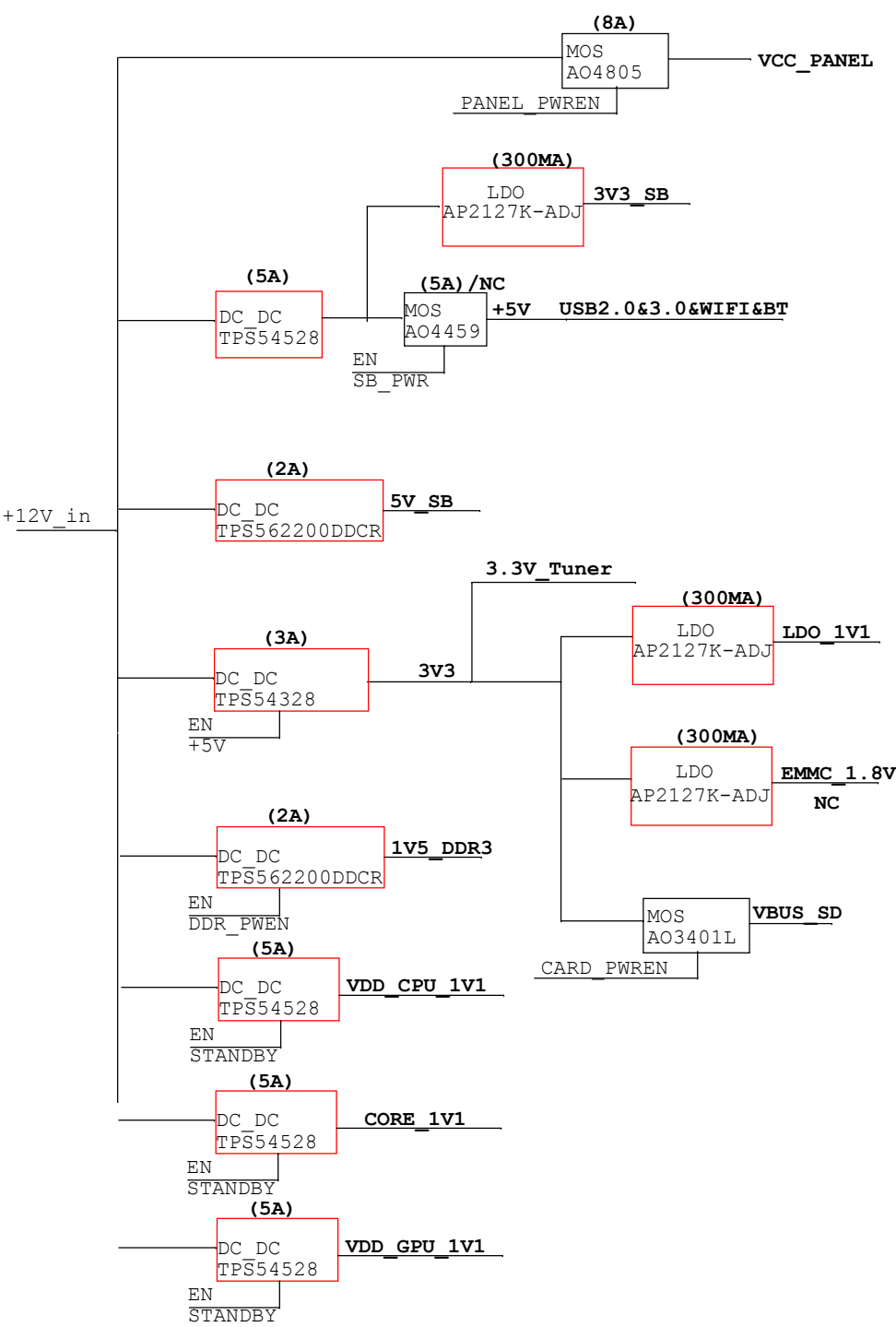
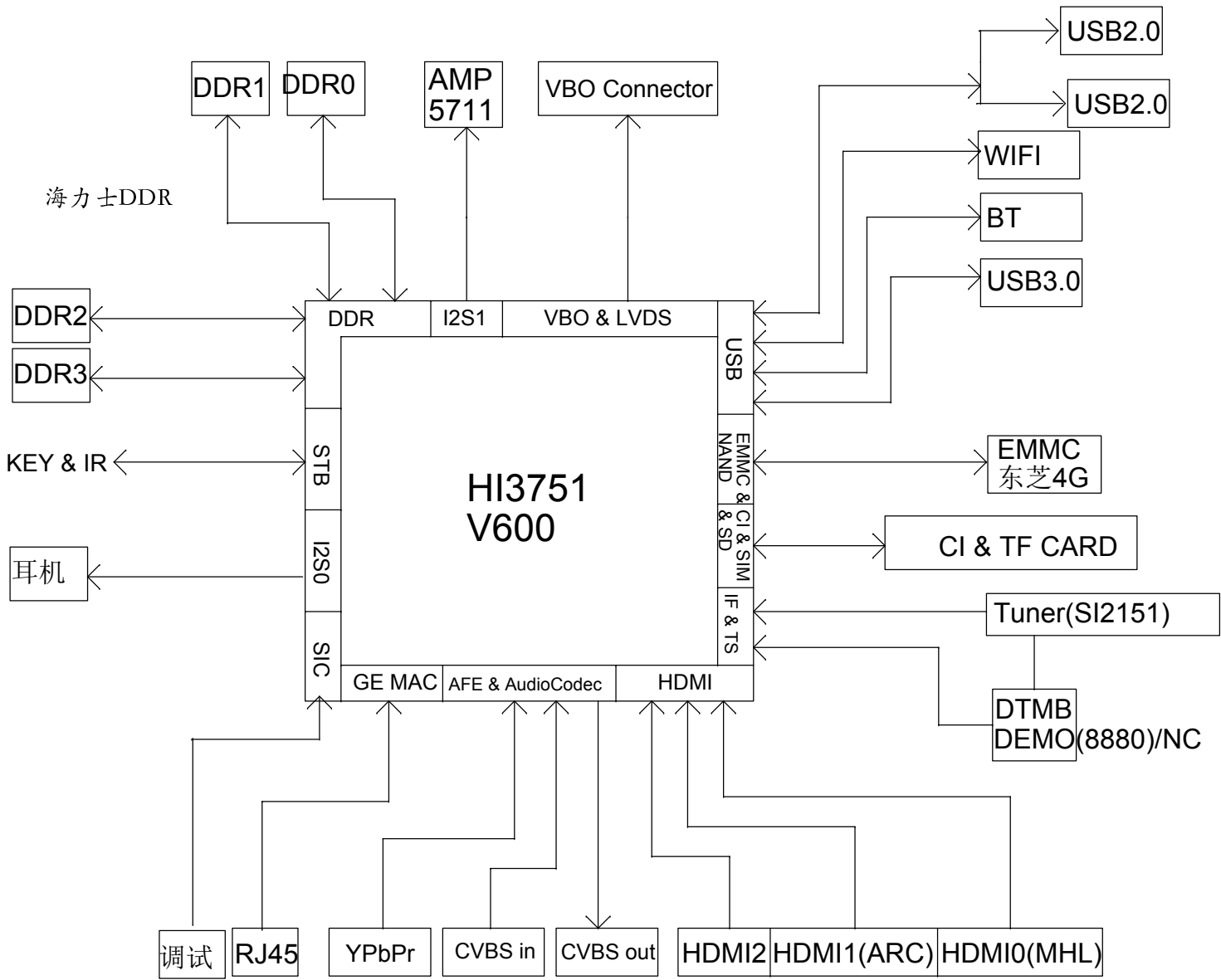


# STRAP CONFIGURATION

PCB LAYER	PCB_L	PU	0:4 LAYERS 1:2 LAYERS
FUNCTION MODE	FUNC_SEL	DS	0:NORMAL FUCNTION 1:TEST
ROMBOOT SEL	ROMBOOT SEL	DS	0:BOOT FROM ROM 1:BOOT FROM FLASH
BOOT DEVICE SEL	BOOT_SEL1	DS	00:SPIFLASH 01:NANDFLASH 10:RESERVE
	BOOT_SEL0	DS	11:eMMC
SFC ADDRESS WIDTH	SFC_ADDR_MOD	DS	0:3Bytes ADDR 1:4Bytes ADDR
EMMC VOLT SEL	EMMC_CFG	DS	0:3V3 1:1V8
JTAG CHANNEL SEL	JTAG_MUX1	S	00:A53 JATG 01:DSP JTAG 10:DDRC JTAG
	JTAG_MUX0	S	11:A53 JTAG
JTAG MODE/JTAG_STUDIO MODE	JTAG_TRSTN	DS	0:JTAG MODE(registers control JTAG) 1:JTAG_STUDIO MODE(JTAG_MUX0/1 control JTAG)
JTAG CONTROL SEL	JTAG_SEL	DS	0:registers control JTAG 1:JTAG_MUX0/1 control JTAG
POWER ON RESET SEL	POR_SEL	US	0:reset from RESTIN pin 1:reset from internal POR signal

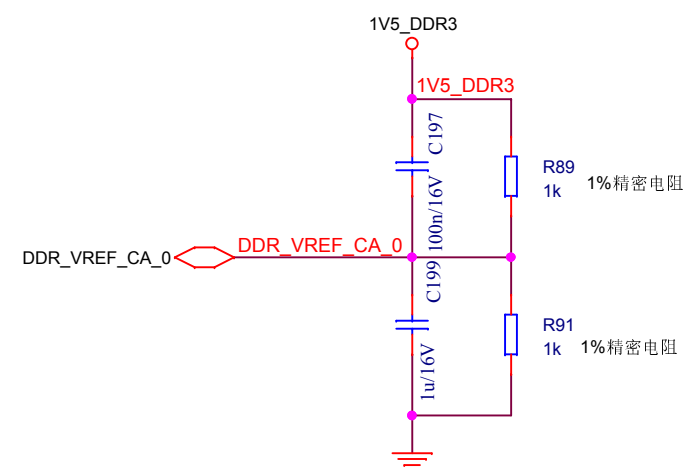
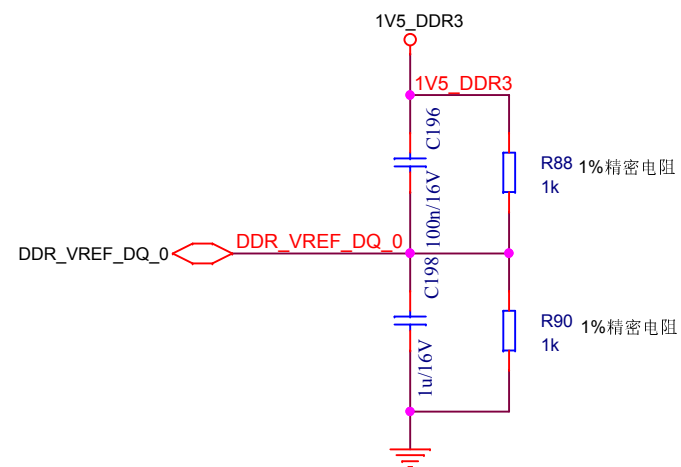
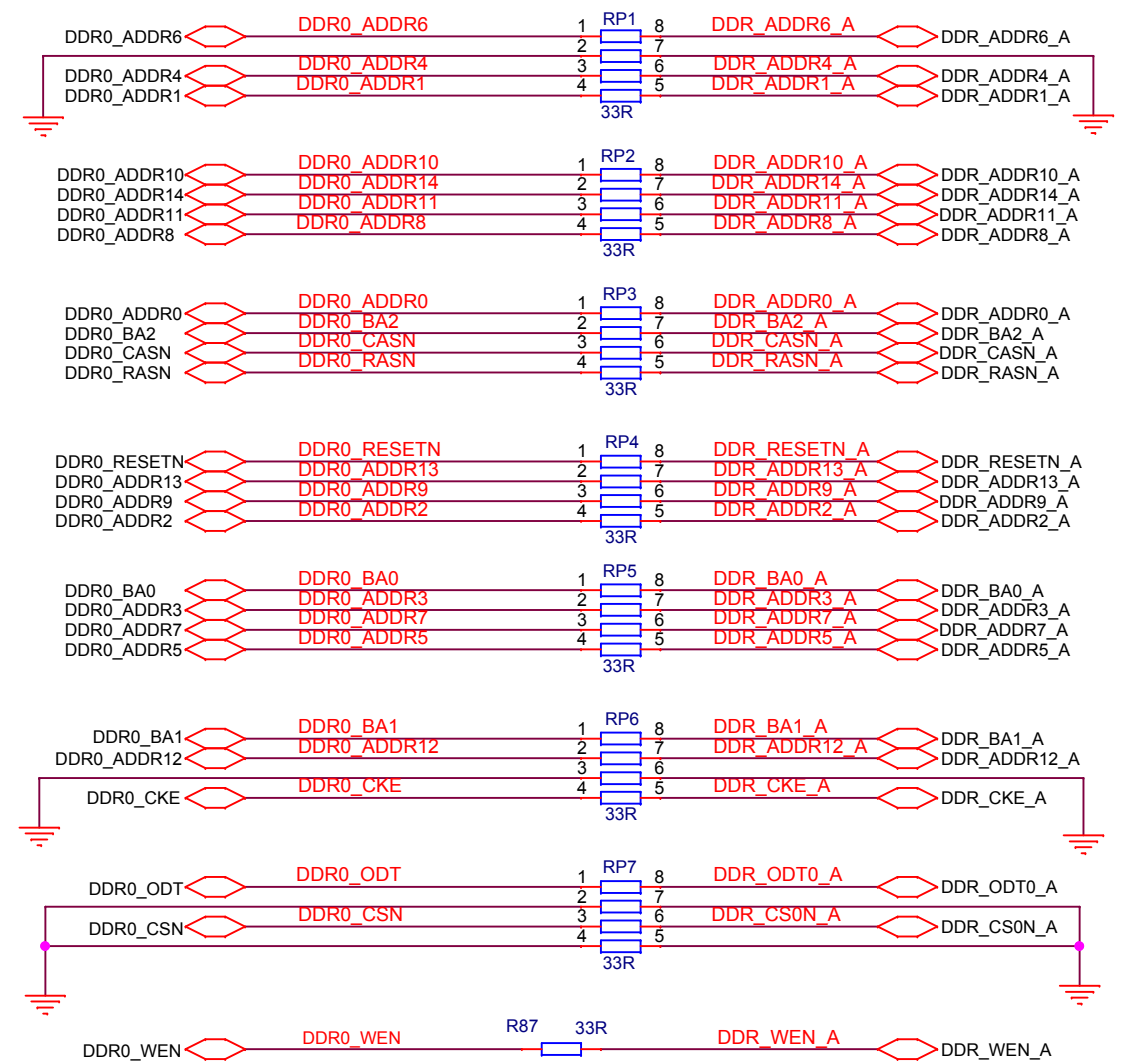
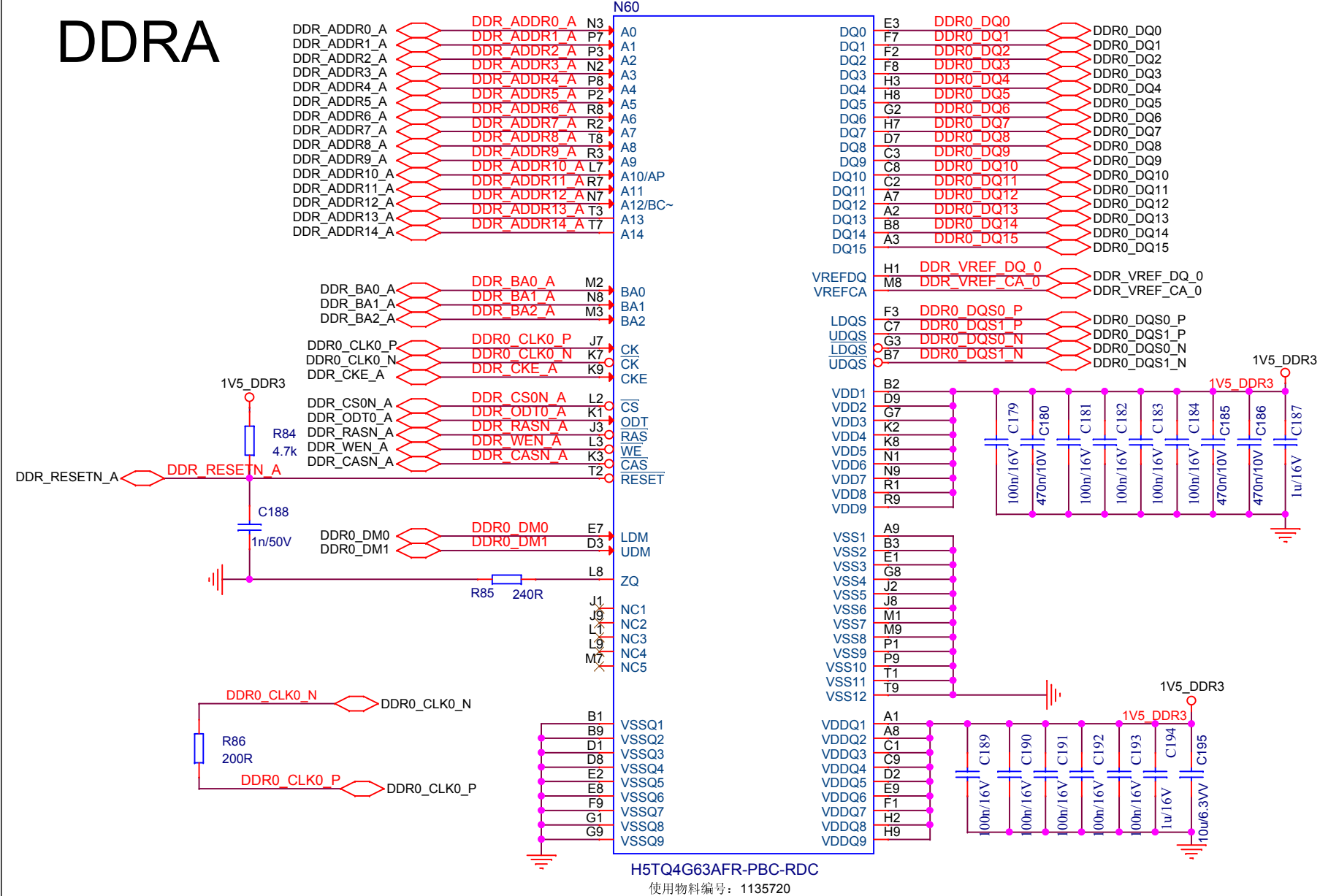


BLOCK\_DIAGRAM

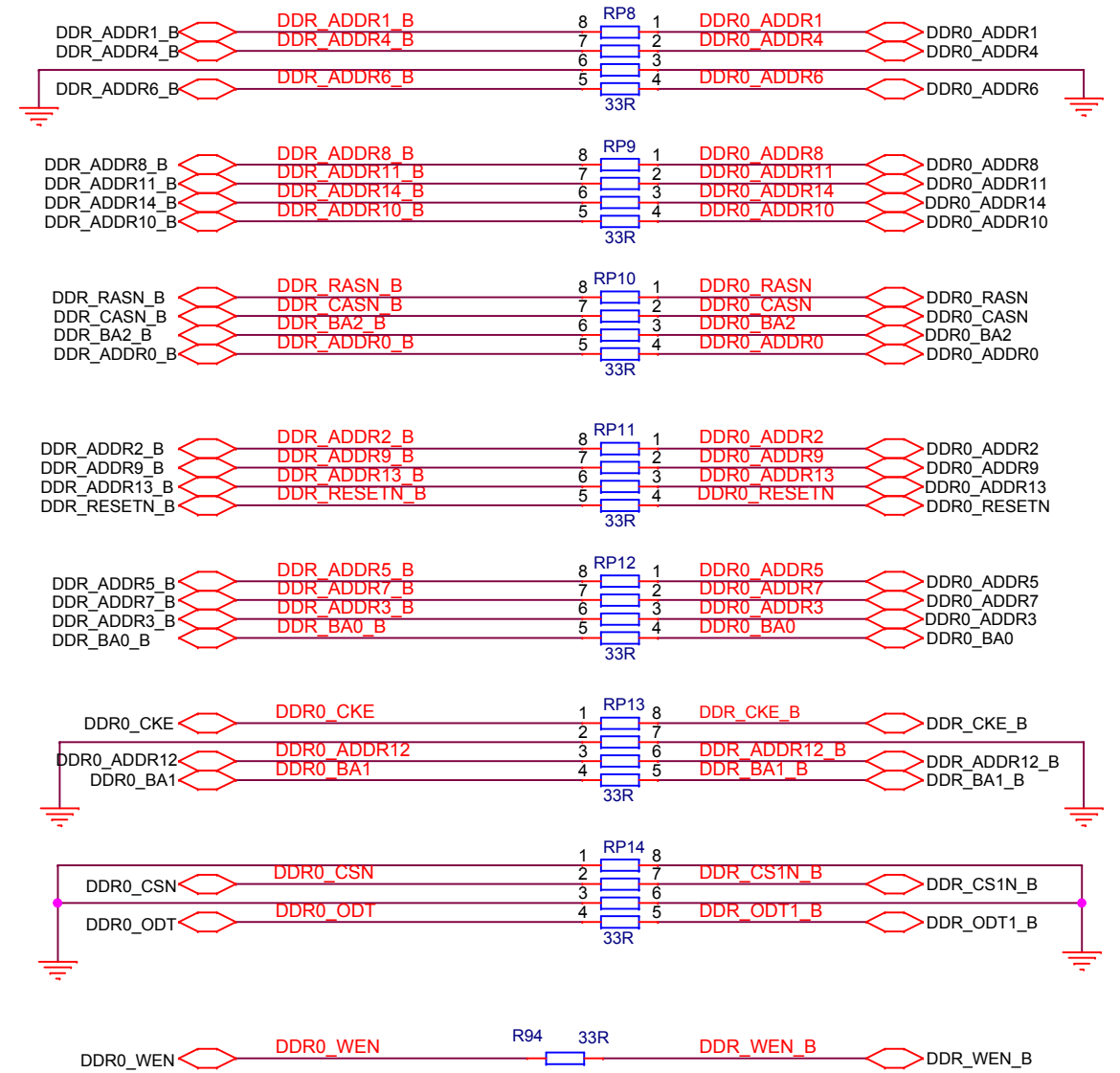
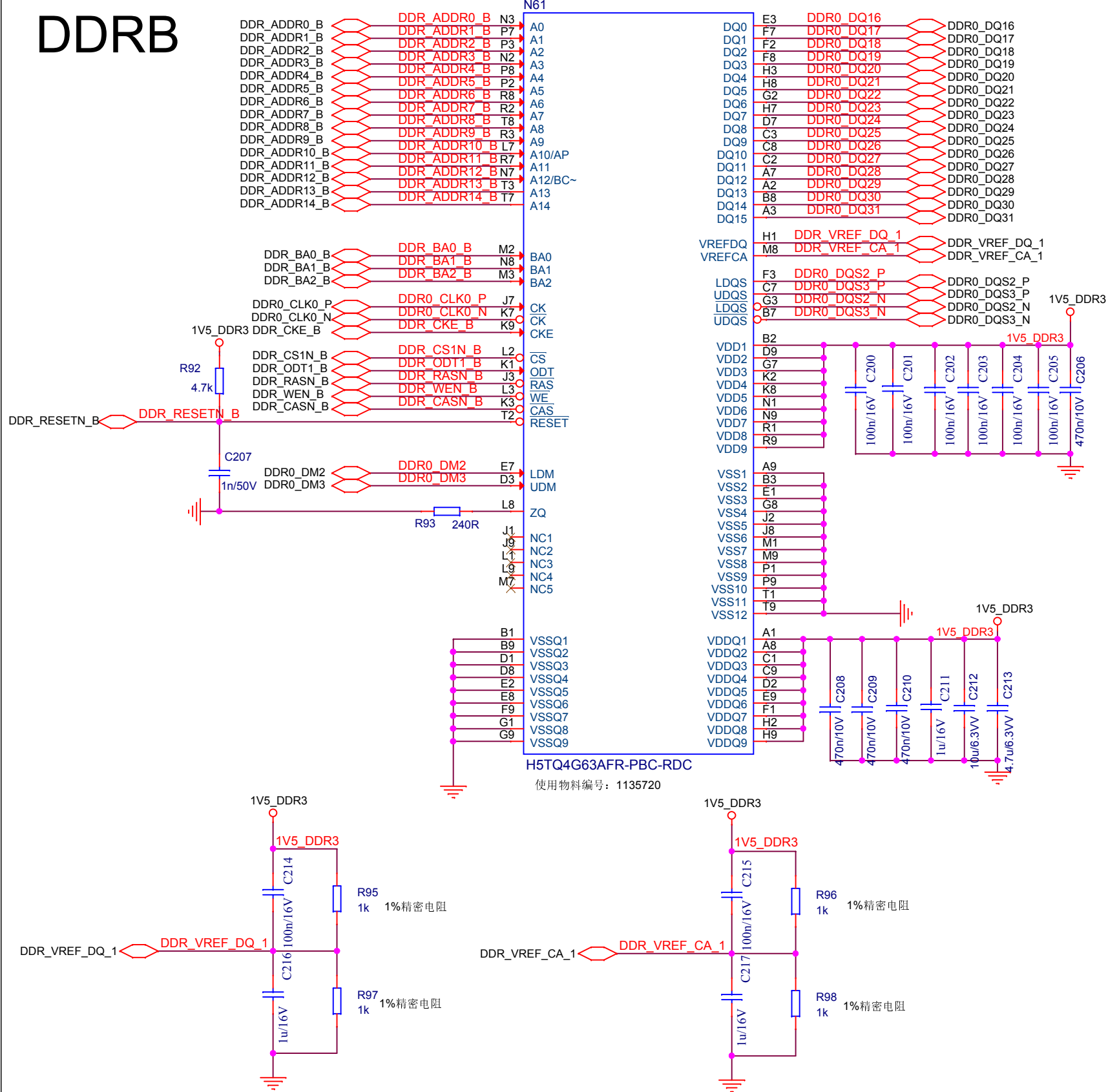




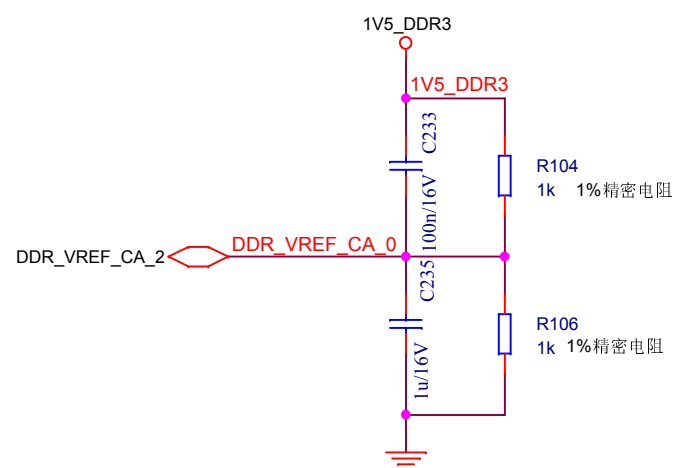
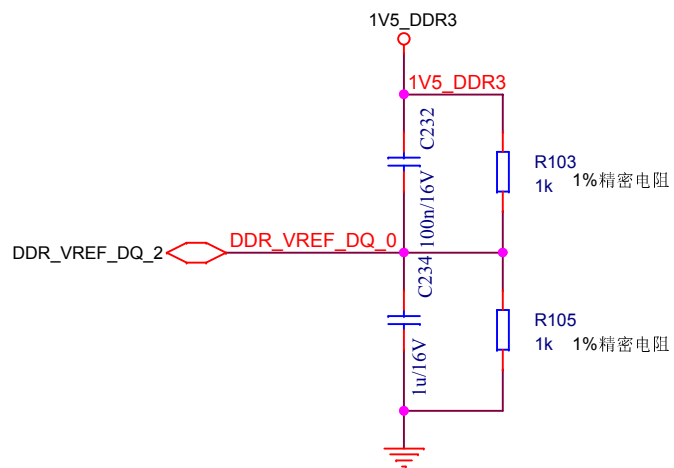
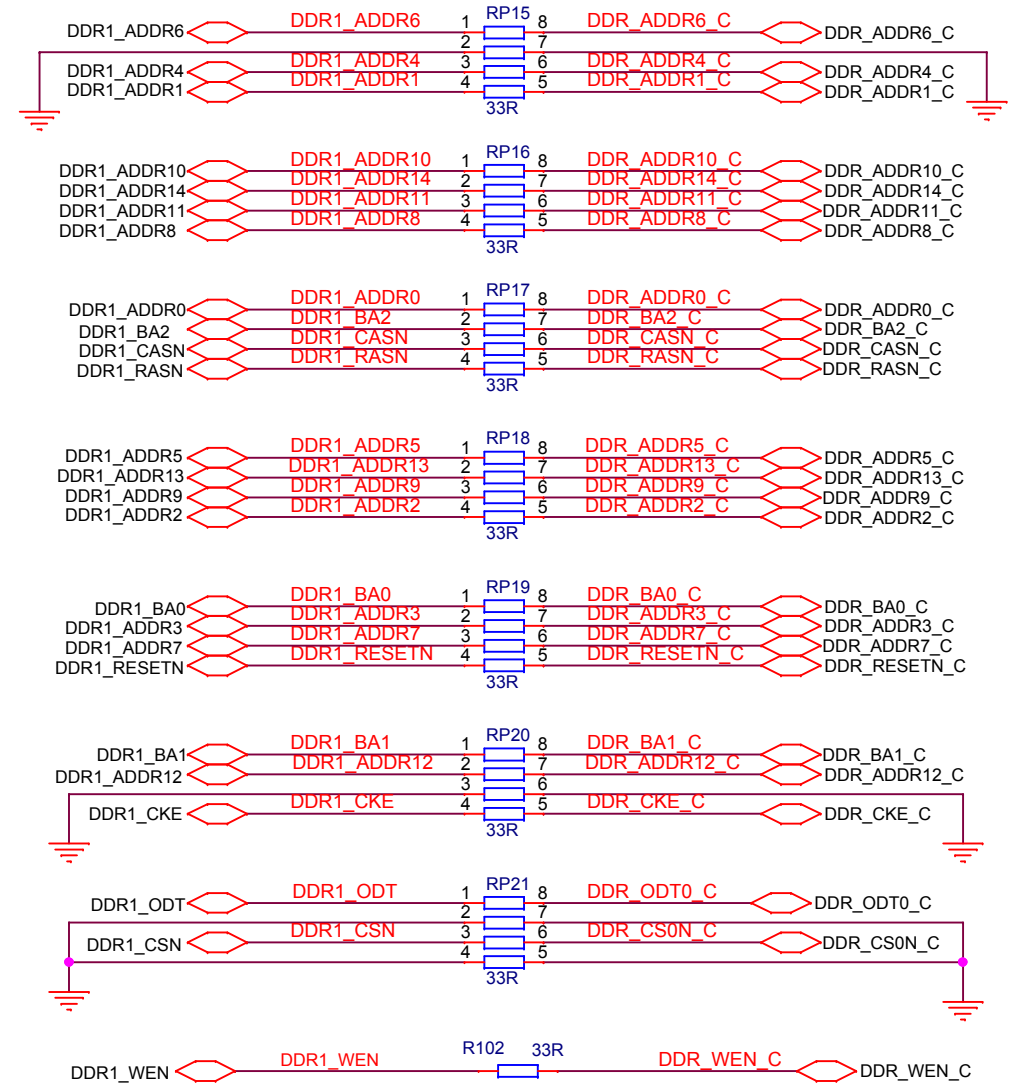
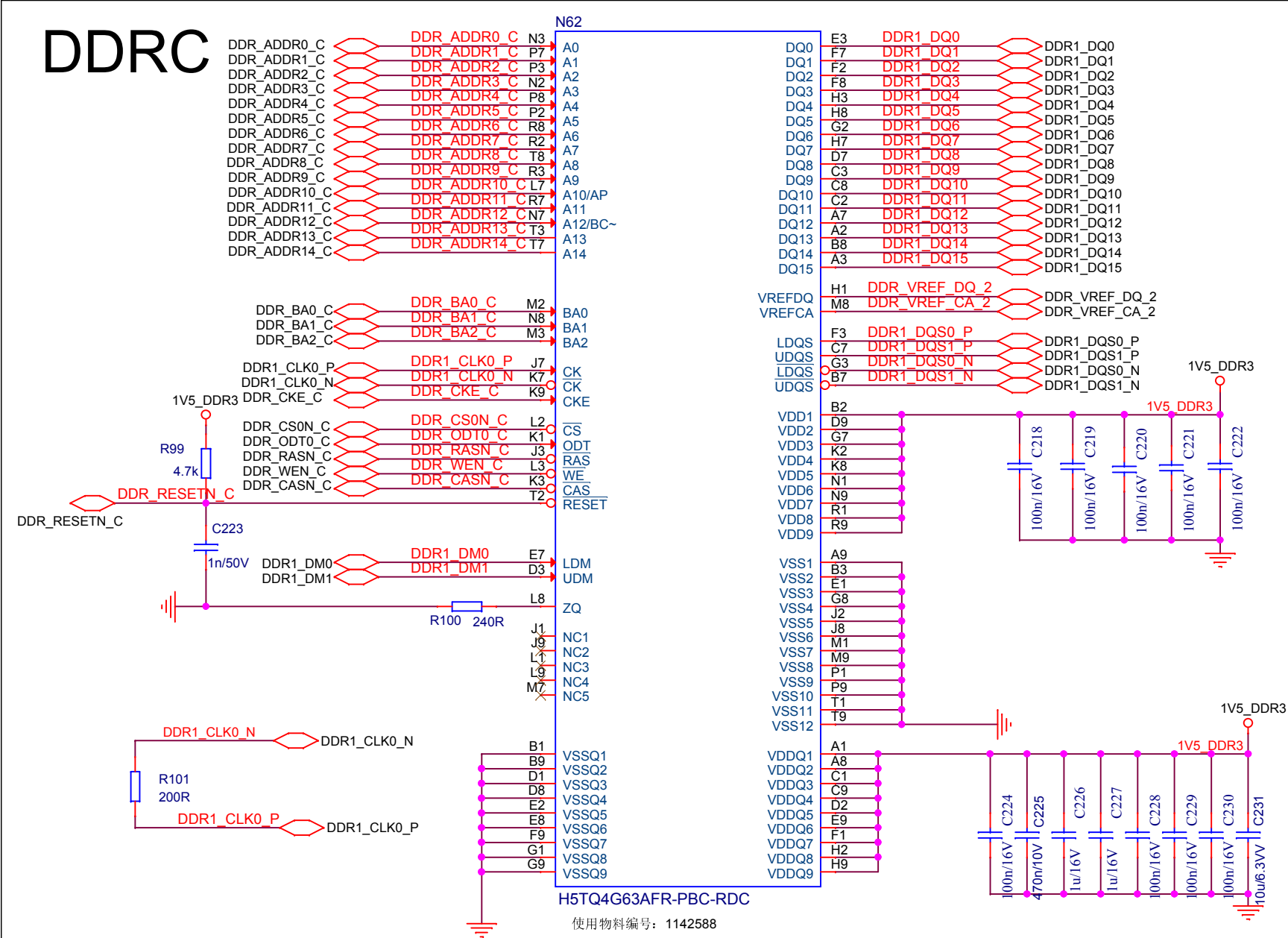
# DDRA



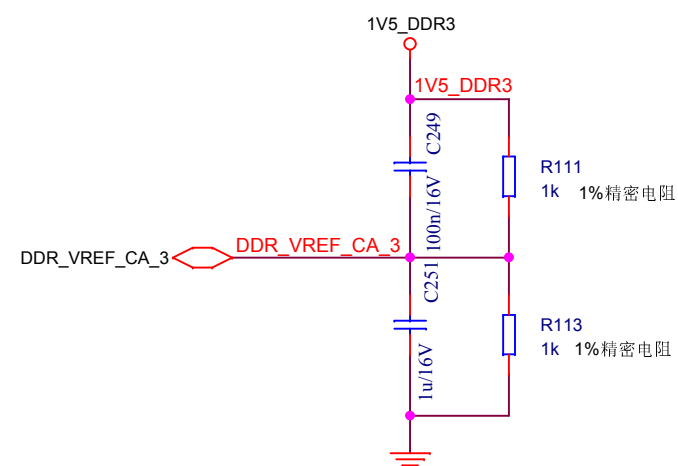
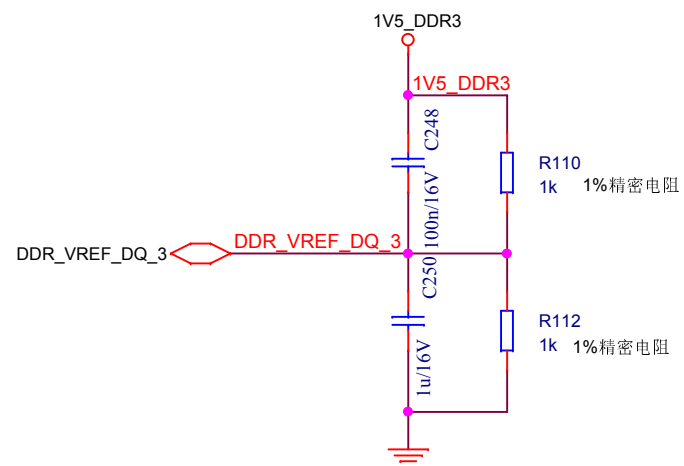
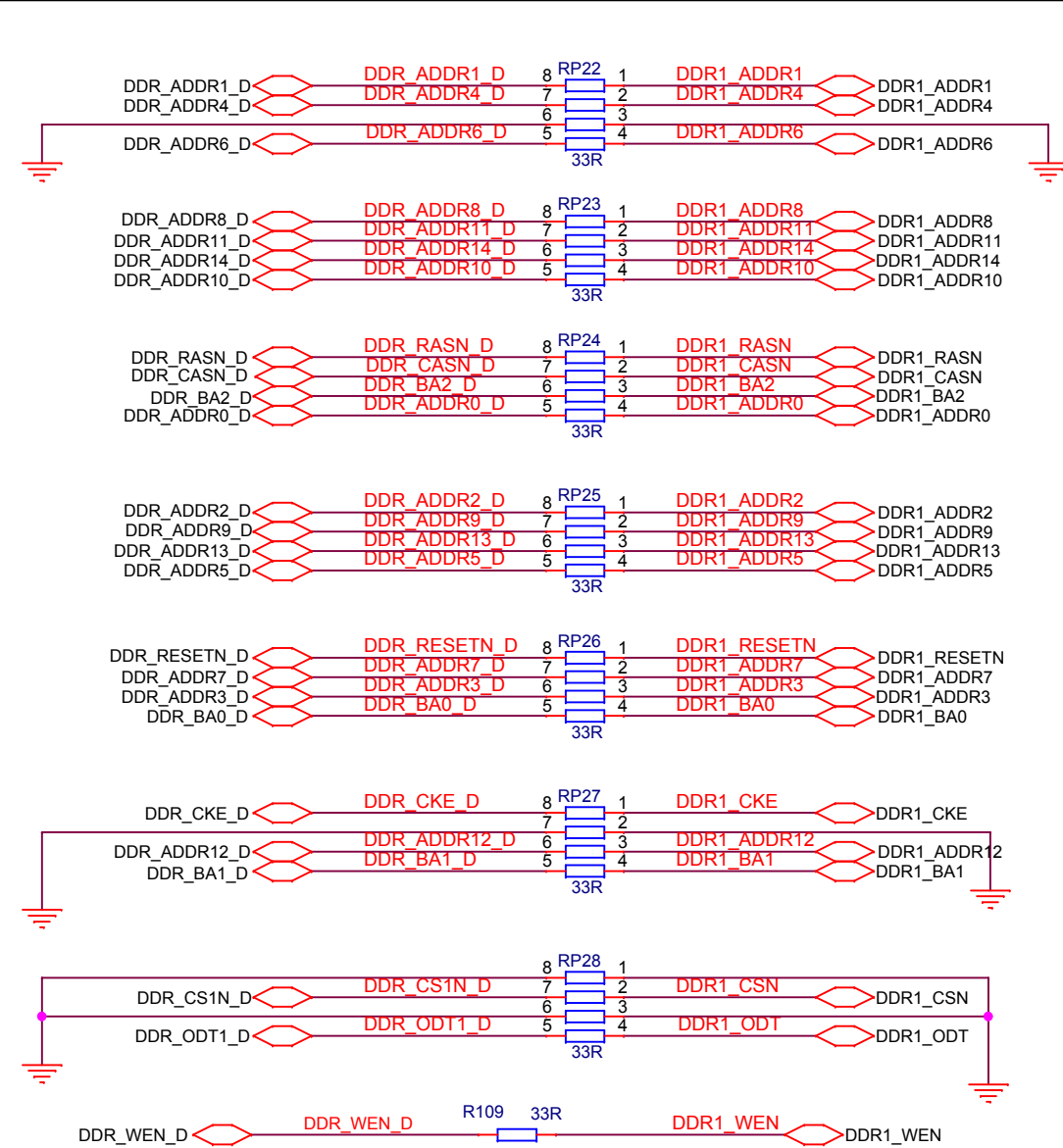
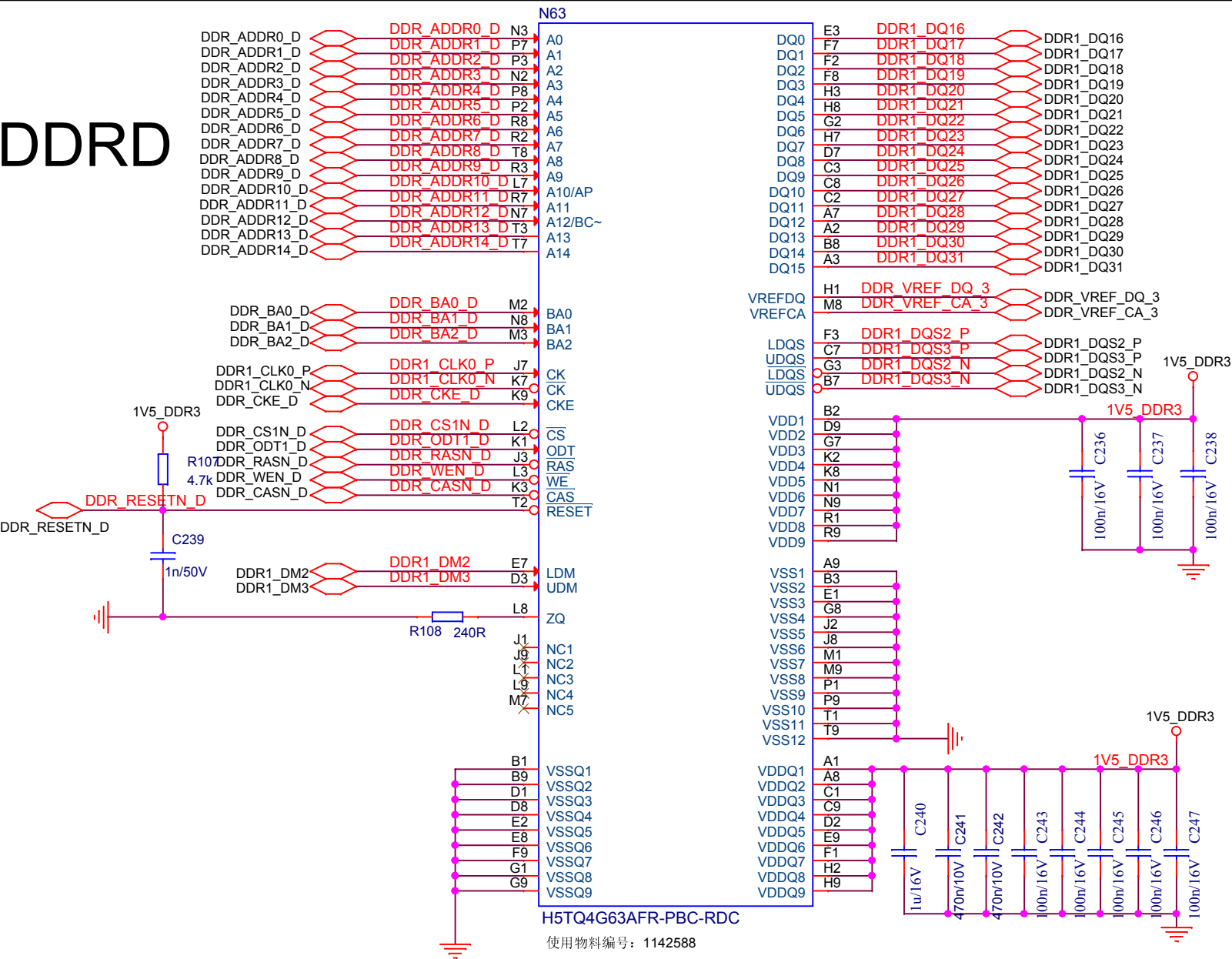
# DDRB



# DDRC



# DDRD



2014-12-15	
1.更改卧式HDMI端子，降低成本,改为1139401，注意更改BOM，位号XS1、XS2。主要是主板为全贴片的，卧式HDMI可以取消掉塑料盖子。	
2014-12-23	
1.将不用的5V转TUNER3V3的LDO删掉，可以优化TUNER周边的走线与布局。提高tuner灵敏度。	
2.将EMMC的3V3转1V8删掉，因为海思V600的芯片不支持200M速率的EMMC读写速度。	
3.删除R19，将STANDBY网络接到电源插座pin7上面。	
4.删掉功放的12V供电磁珠L62和L63。可以优化走线，加宽VCC-A的线宽。	
5.将EEP的I2C由I2C_1改为了I2C_0。更改后的I2C_0接AMP、EEP，I2C_1接Panel，TUNER I2C接DEMO和tuner。	
6.将DEMO的I2C主芯片控制由原来的I2C_1改为TUNER I2C控制。	
7.TUNER部分预留增加R636、R637的0R电阻，好与DEMO部分分开。	
8.DEMO部分全都改为NC	
9.更改了器件的封装，C567、C577	
10.将AV、分量、同轴、AVOUT的信号线的静电防护器件由压敏电阻改为TVS管，增强ESD能力。	
11.删除R469，取消DDR的EN用主芯片控制引脚。	
12.增加C745和C746，为网络变压器使用。	
13.增加C747的退耦电容，用于主芯片的EMMC供电部分。	
14.将USB的ESD器件改为0402封装的，降低成本。优化PCB和原理图设计，还可以减少贴片物料种类。	
15.预留wifi模块待开机MOS开关。	
16.按照第一轮板调试情况，更改STRAP CONFIGURATION内电阻上下拉。	
17.将HDMI部分的压敏电阻改为ESD器件，加强ESD防护。	
18.将MHL供电部分电路参考海思公版做了更改。控制脚也同公版原理图。	
19.参考公版与屏规格书，更新了VBO的具体接口。	
20.更改C436、C40、C509、C510、C441、C442、C446、C447 的物料编号，减少物料种类。	
21.主芯片AM5引脚预留10K电阻接地。	
22.串口与主芯片串联的电阻R260、R261由33R改为100R，加强主芯片引脚防护。	
23.功放供电增加2个10uf/25V电容。	
24.将3V3DCDC的EN脚改为STANDBY控制，为了保证上电时序，将EN脚的旁路电容加大。由100N改为1U	
25.将+5V和5VSTB分别各用一路DCDC，当外界USB等过流时不影响主板的正常工作。	
26.将网口端子改为塑封，降低成本。	
27.MHL的EN对地电阻由10K改为47K，提升EN脚电压。	
28.耳机输出和AV视频输出NC掉，目前机型不用。	
29.功放使用的是VCC-A进行供电，不需要12V，所以mute检测电压为VCC-A。将电阻R434 NC，R437连接。	
30.R436接的电压由12V改为5V，降低三极管负载。	
31.XS12使用1142059红色端子物料。	
32.按照海思建议，LDO1V1将输出电压由1.16V改为1.2V。	
33.将DDR的物料编号由三星改为海力士。	
34.删掉TUNER AGC上拉电阻R277。	
35.屏I2C增加上拉电阻	
36.HDMI串联电阻由5.6R改为0R	
37.AV和分量上的串联电阻由0R改为33R	
38.R9 和R10改为3V3上拉	
39.L29改为NC，wifi供电其他电路加上。	
40.R503取消NC	
41.R257/R259取消NC,R258/R262NC	
42.XP8的1和2脚交换	
43.V10/V14/V16改为NC	
44.R289改为22R	
45.VD23取消NC	
46.功放5711的mute部分nc	
47.CEC上拉改为3V3	
48.F3改为NC，增加USB3.0的开关控制芯片	
49.去掉R46，增加R48	

此种  
的框框就表示原理图上更改的部分，有器件的增减改动。