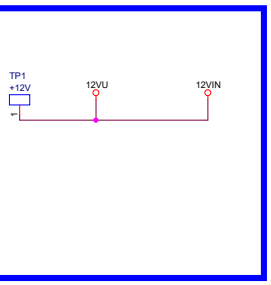
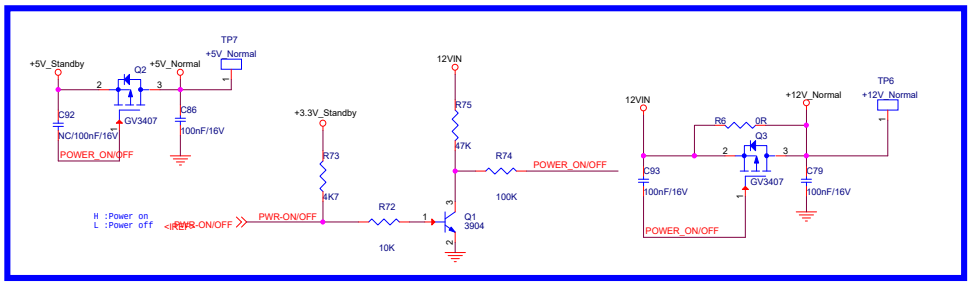
POWER IN

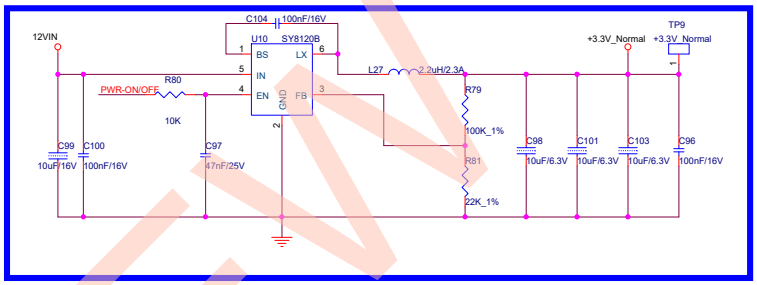


5V Normal Power

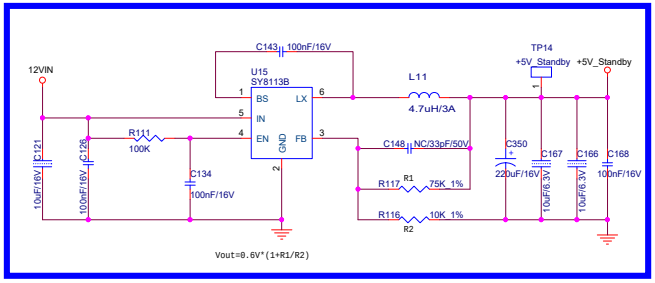


12V Normal Power

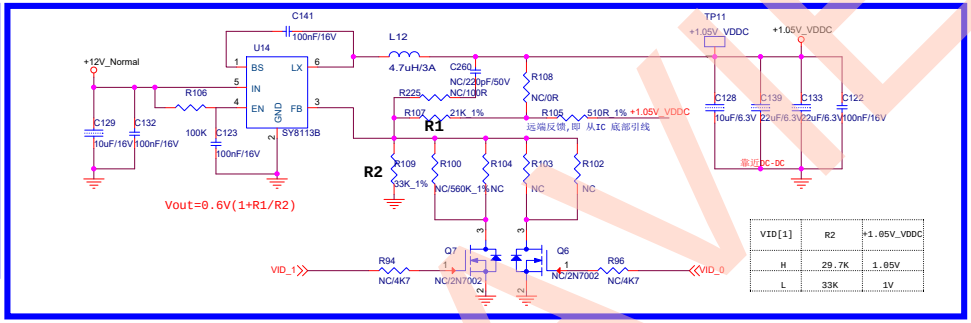
3.3V Normal Power



5V Standby Power

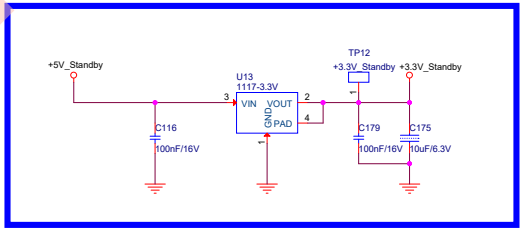


VDDC Power

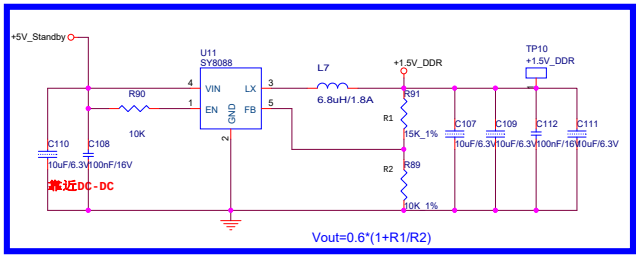


VID[1]	R2	+1.05V_VDDC
H	29.7K	1.05V
L	33K	1V

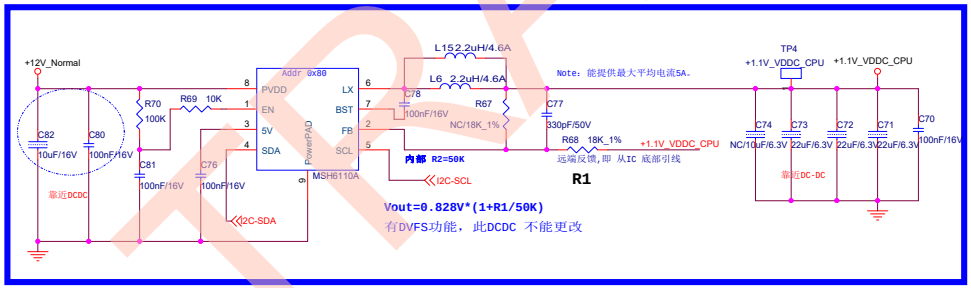
3.3V Standby Power



1.5V Normal Power for DDR3



VDDC_CPU Power



H6 TPAD H9 TPAD H7 TPAD H5 TPAD H10 TPAD H8 TPAD

Cultraview

Title: DC POWER

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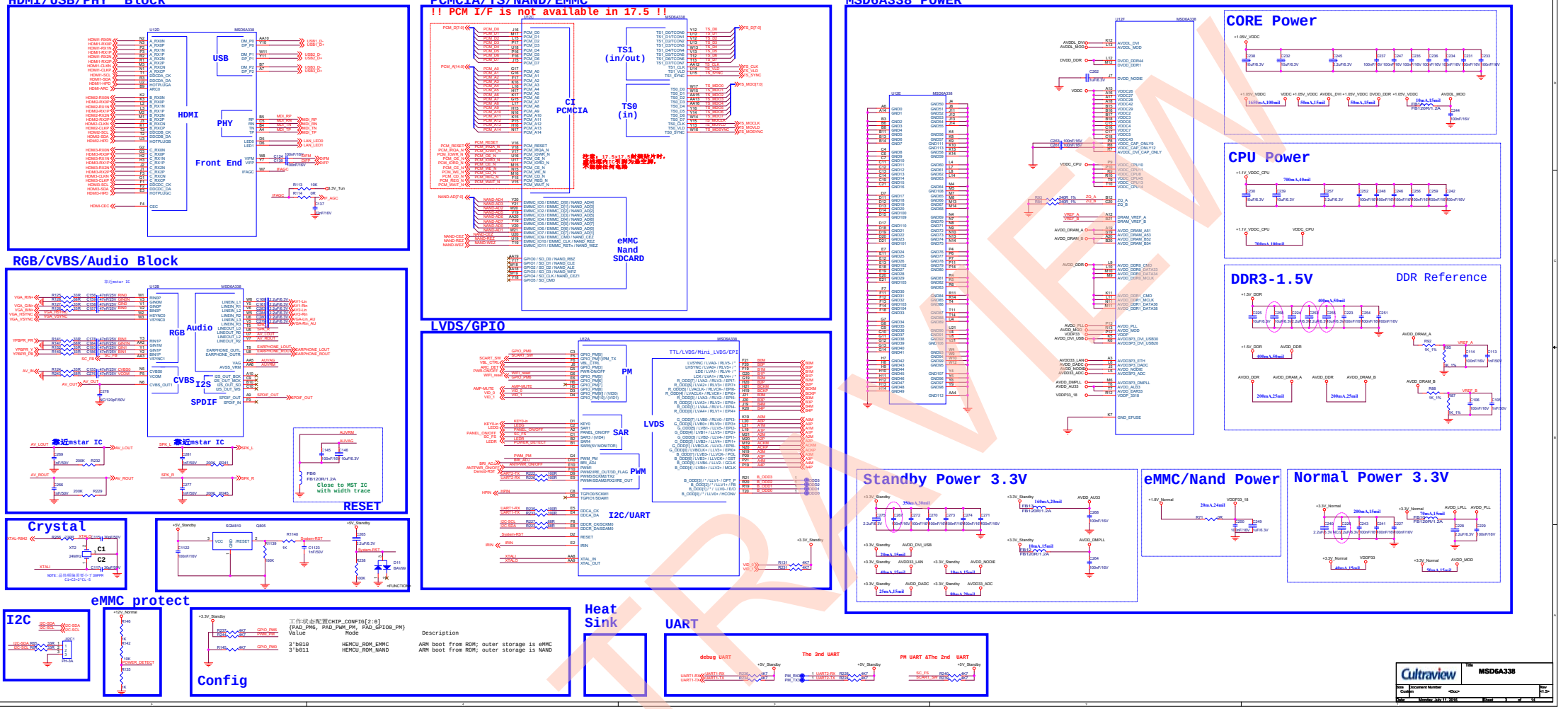
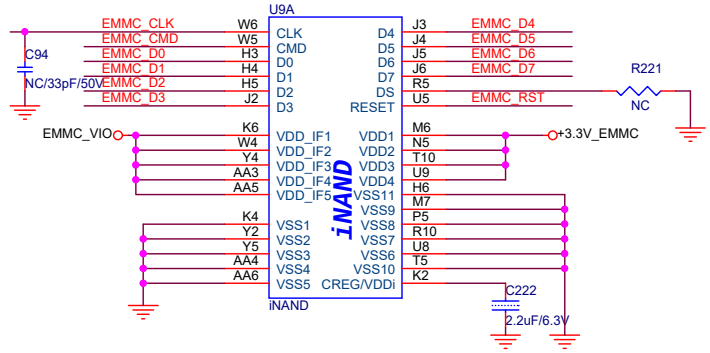
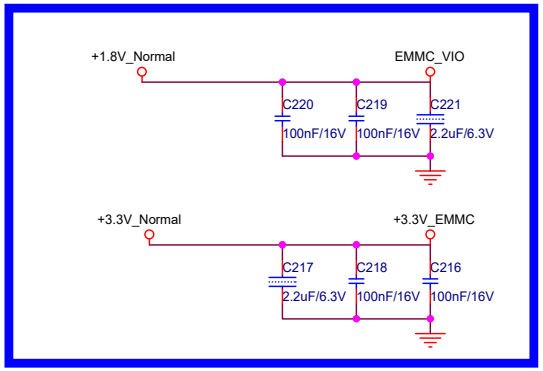
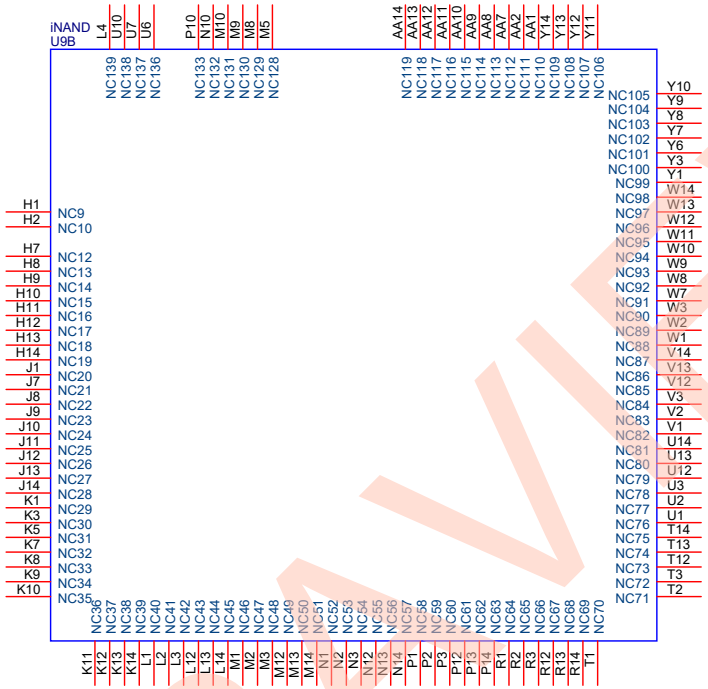

HDMI/USB/PHY Block
HDMI
USB
PHY
Front End
RGB/CVBS/Audio Block
RGB
Audio
CVBS
I2S
SPDIF
PCMCIA/TS/NAND/EMMC
!! PCM I/F is not available in 17.5 !!
CI PCMCIA
TS1 (in/out)
TS0 (in)
eMMC Nand SDCARD
LVDS/GPIO
PM
SAR
PWM
LVDS
I2C/UART
TTL/LVDS/Mini_LVDS/EPI
MSD6A338 POWER
CORE Power
CPU Power
DDR3-1.5V
DDR Reference
Standby Power 3.3V
eMMC/Nand Power
Normal Power 3.3V
Crystal
RESET
eMMC protect
I2C
Config
Heat Sink
UART
debug UART
The 3nd UART
PM UART &The 2nd UART
Cultraview
MSD6A338

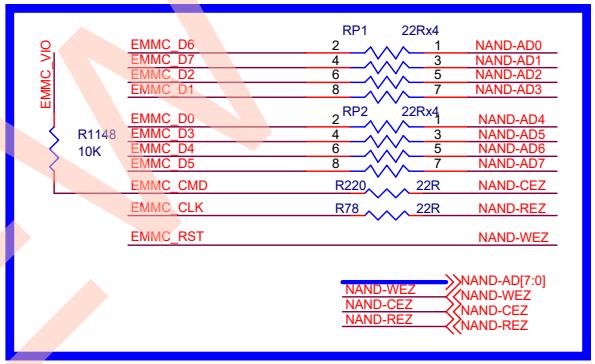
eMMC







NET



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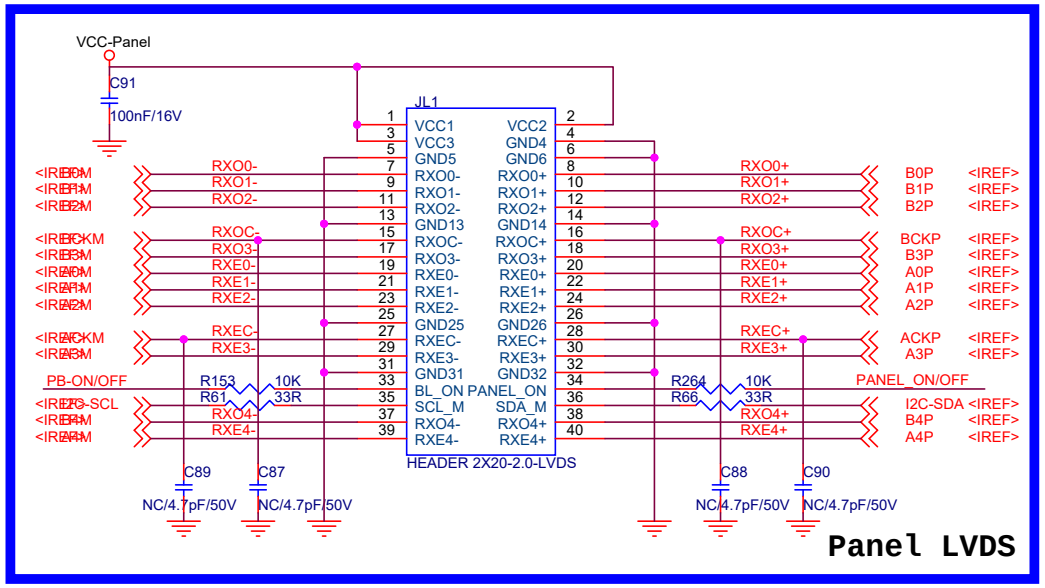
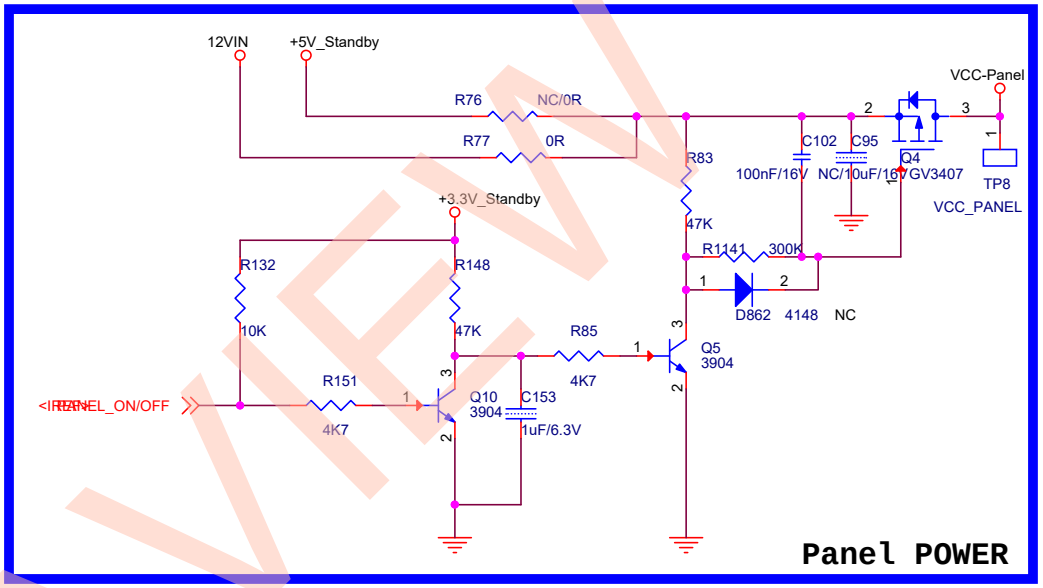
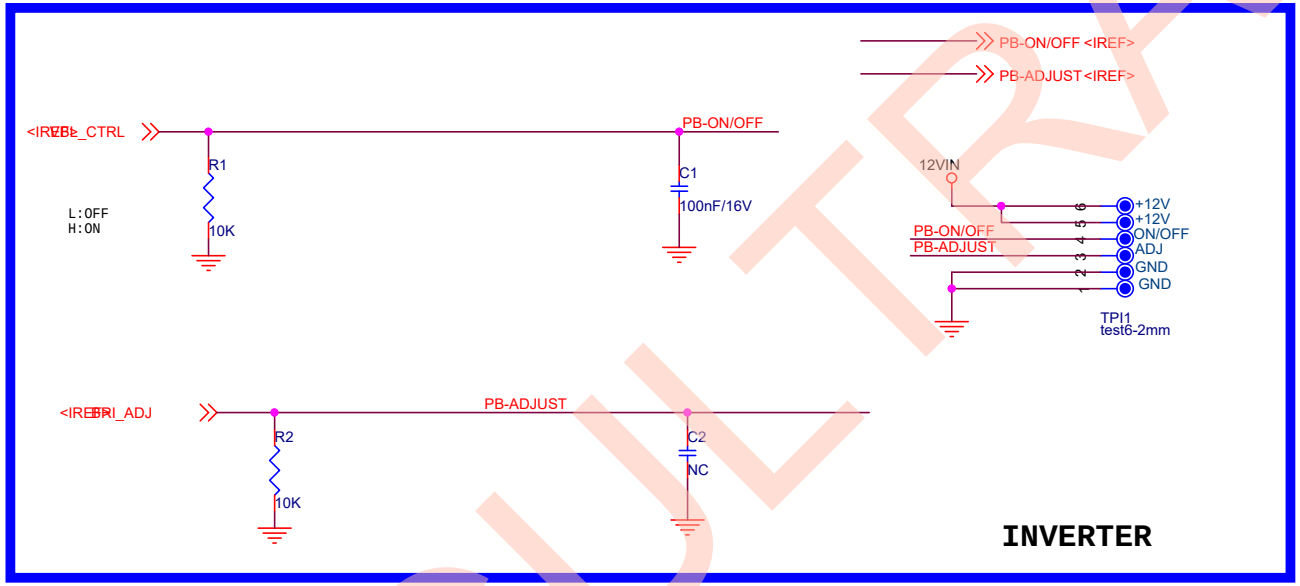
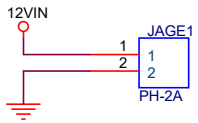






预留一个两PIN的座子给工厂老化用



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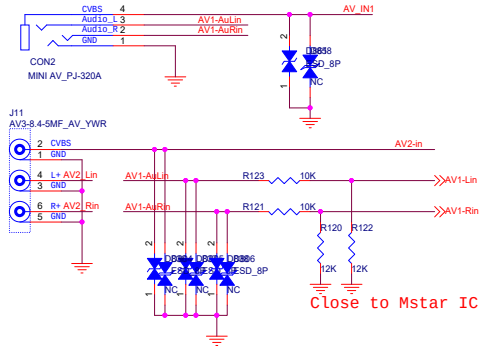
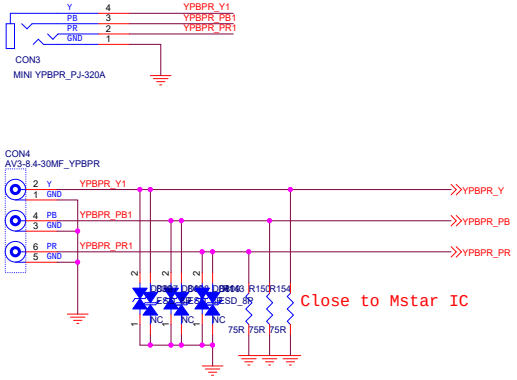
Date: Monday, July 11, 2016	Sheet 5 of 14	

YPBPR & AV & COAX Out

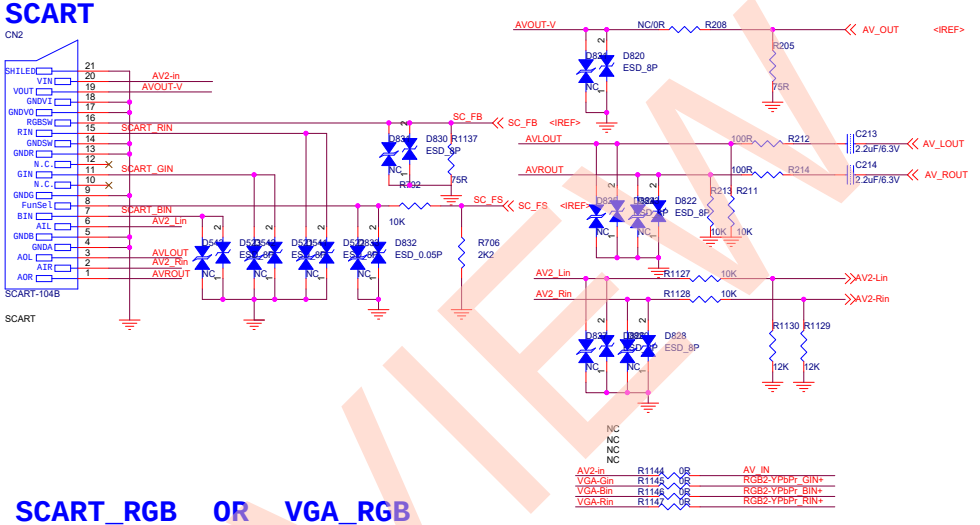


AV-IN1

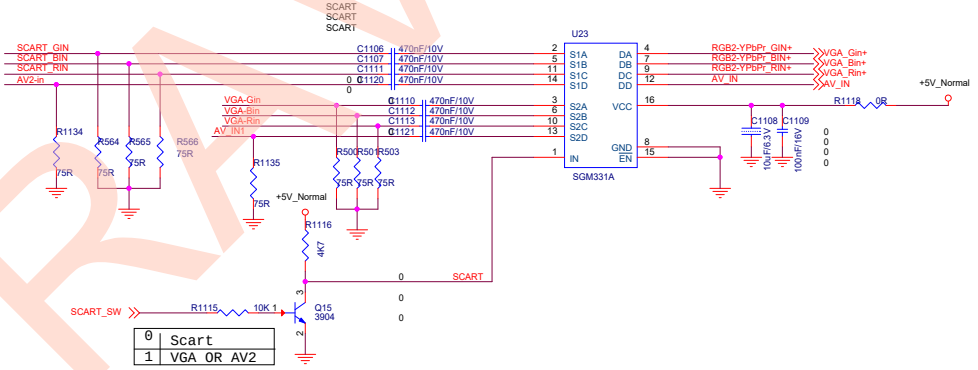


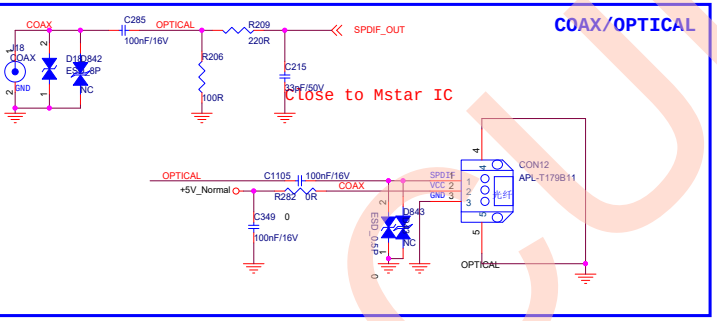
YPBPR

SCART



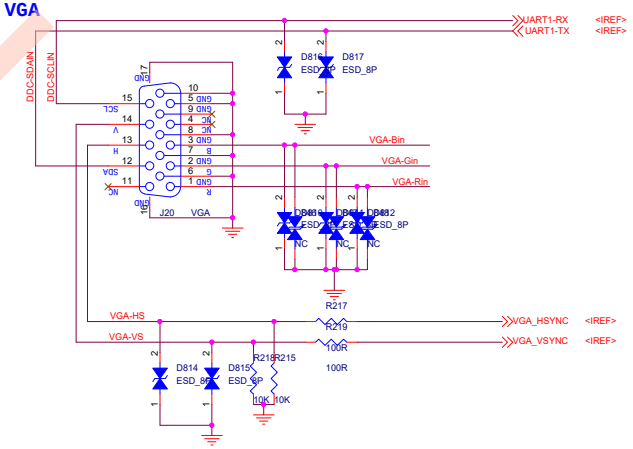
SCART_RGB OR VGA_RGB



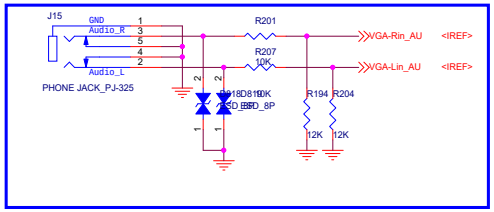


COAX/OPTICAL

VGA



PC AUDIO



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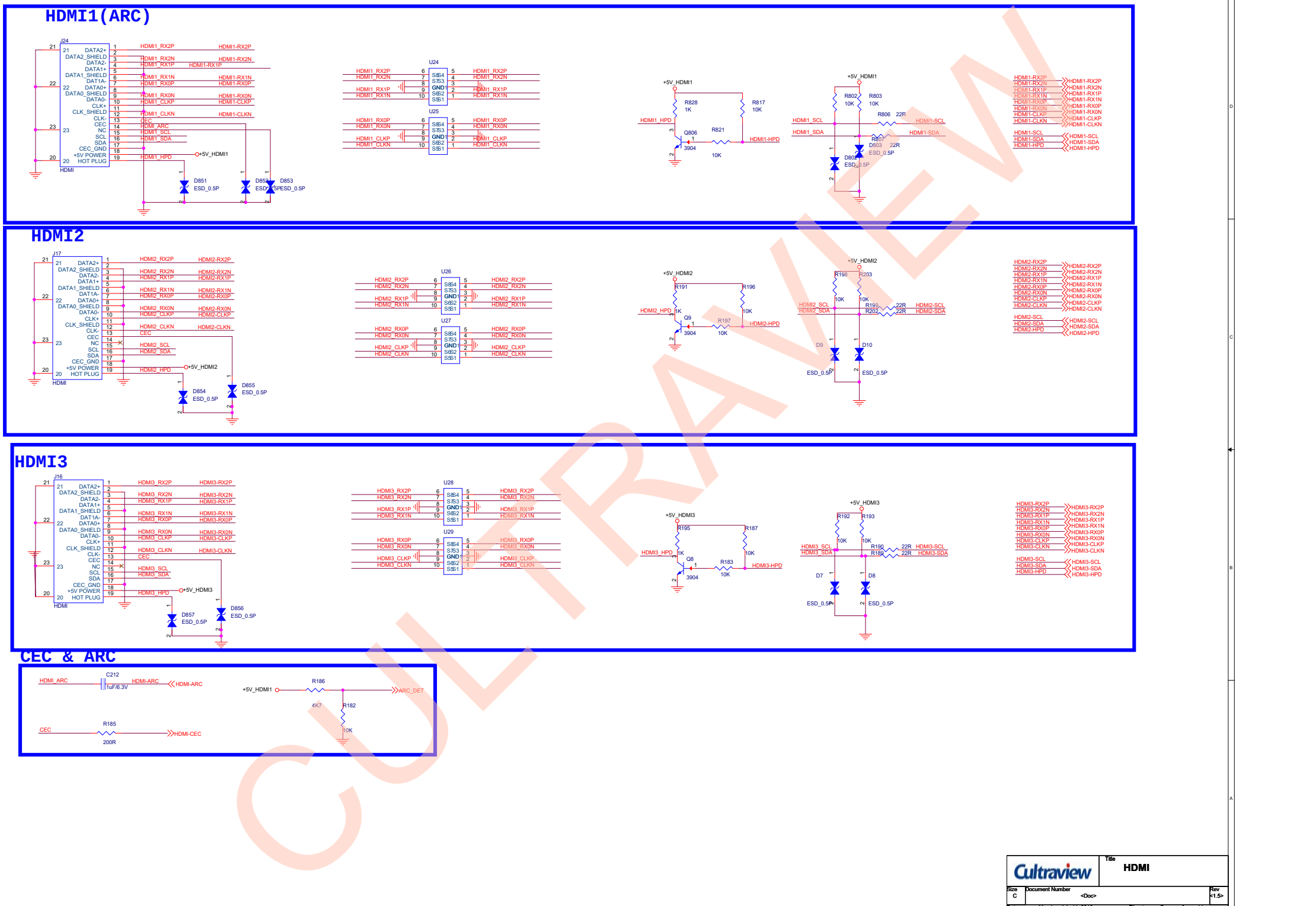
HDMI1(ARC)
J24
HDMI
D851 ESD_0.5P
D852 ESD_0.5P
D853 ESD_0.5P
U24
U25
+5V_HDMI1
Q806
3904
R828 1K
R817 10K
R821 10K
R802 10K
R803 10K
R806 22R
R807 22R
D803 ESD_0.5P
D802 ESD_0.5P
HDMI2
J17
HDMI
D854 ESD_0.5P
D855 ESD_0.5P
U26
U27
+5V_HDMI2
Q9
3904
R191 1K
R196 10K
R197 10K
R198 10K
R203 10K
R199 22R
R202 22R
D9 ESD_0.5P
D10 ESD_0.5P
HDMI3
J16
HDMI
D857 ESD_0.5P
D856 ESD_0.5P
U28
U29
+5V_HDMI3
Q8
3904
R195 1K
R187 10K
R183 10K
R192 10K
R193 10K
R190 22R
R189 22R
D7 ESD_0.5P
D8 ESD_0.5P
CEC & ARC
C212 1uF/6.3V
R186 4K7
R182 10K
R185 200R
HDMI_ARC
HDMI-ARC
ARC_DET
CEC
HDMI-CEC
CULTRAVIEW
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Rev <1.5>
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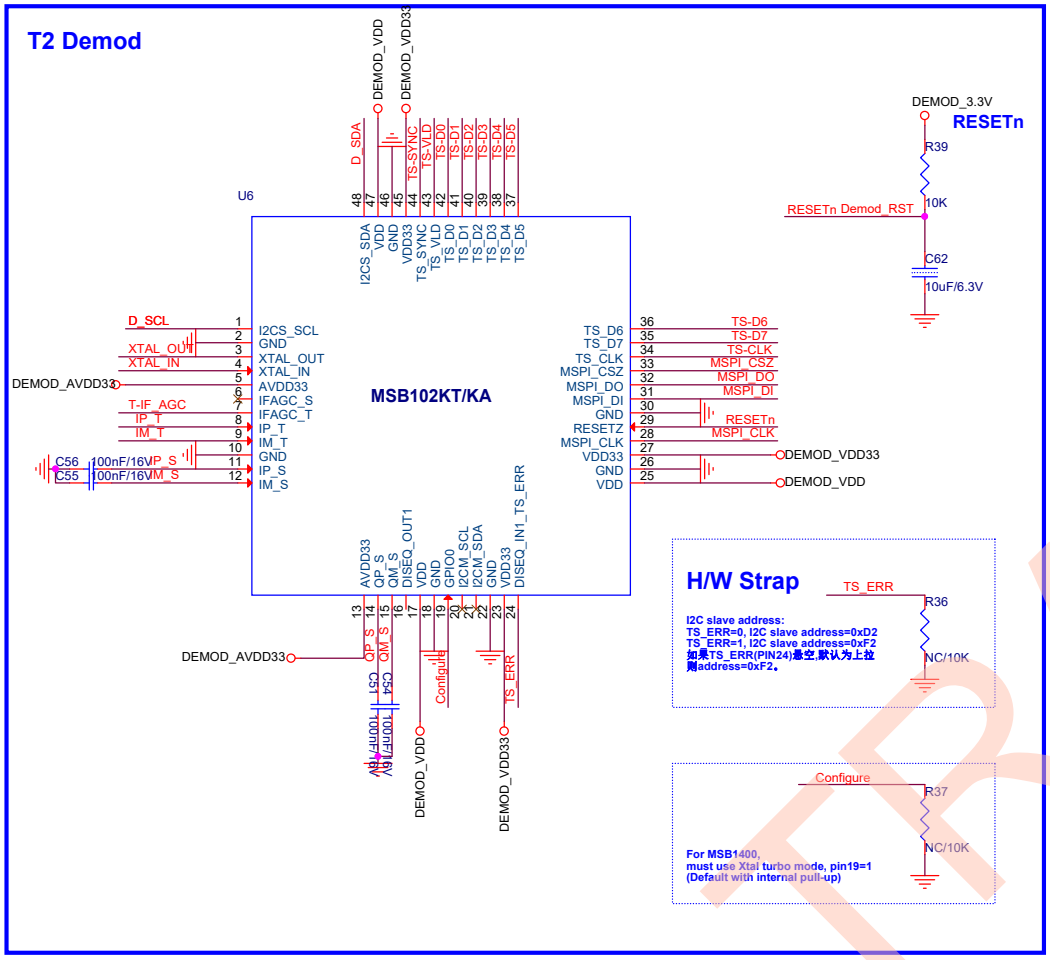

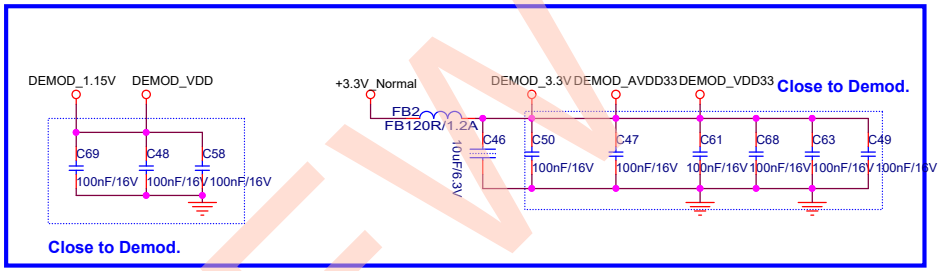

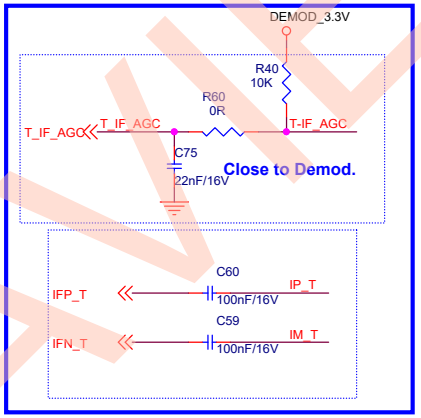

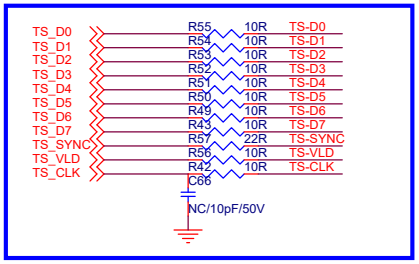

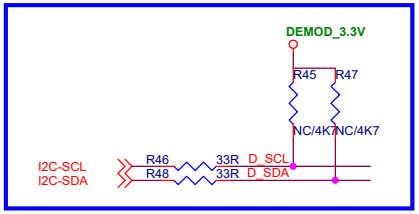

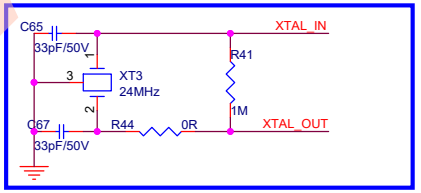

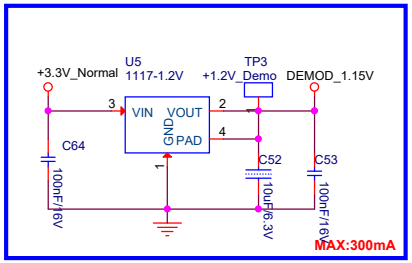

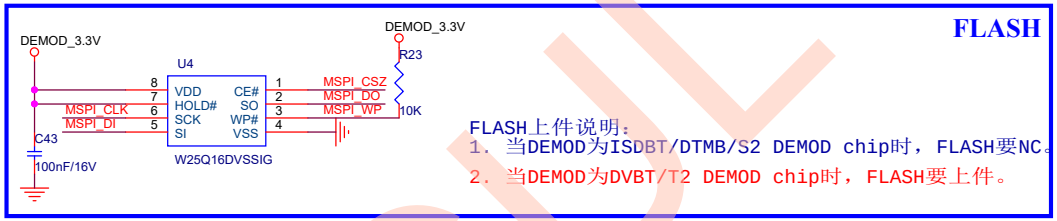

Cultraview	Title: T2 Demod MSB102KT	
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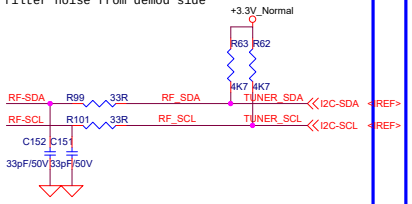
I2C Interface Filter

- filter noise from demod side

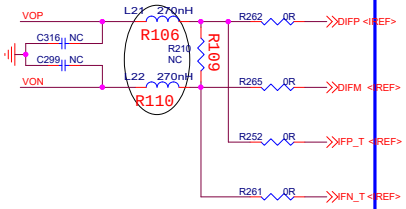


IFAGC Circuit

- R103 and R106 are related to Demod side's IFAGC design. Sometime need to fine tune for different Demod.
- Following IFAGC TBD table is common suggestion.

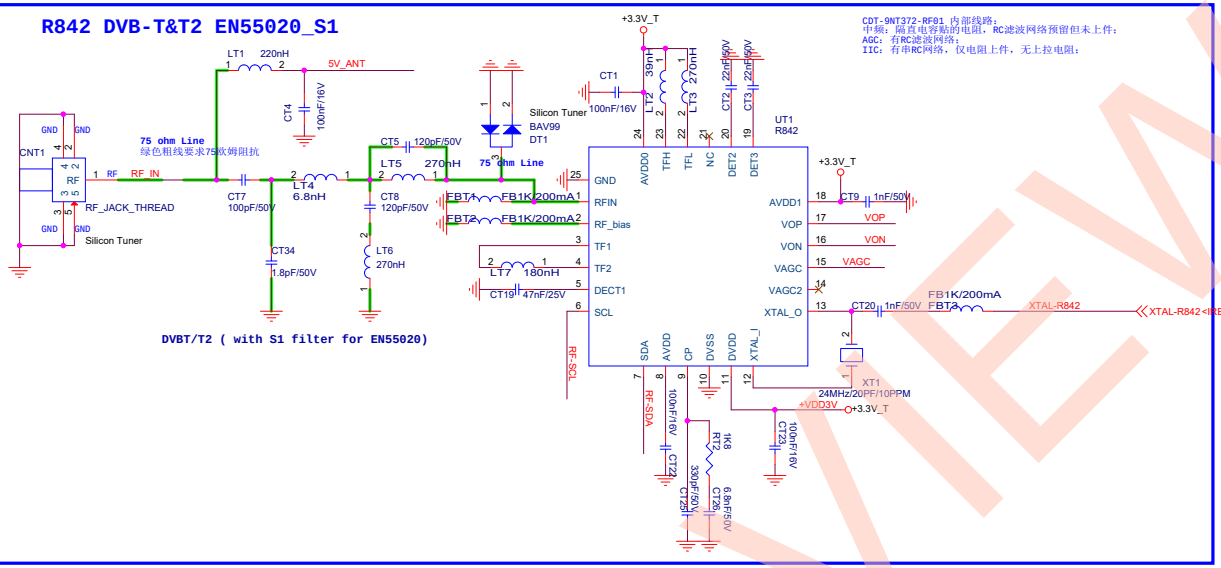
IFAGC TBD table	
Open drain	R103=100R
Push Pull	R103=10KR

IF Interface Filter

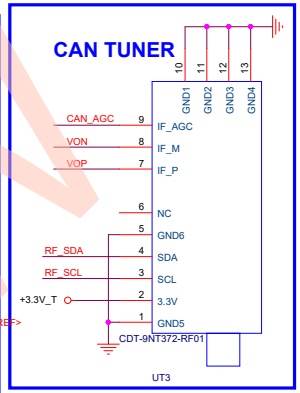


- C124, C130 are optional for AC coupling, short it if Demod side is already AC coupled.
- recommend to reserve R106, R110, R109 to filter noise from demod side.

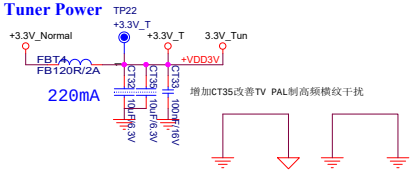
R842 DVB-T&T2 EN55020_S1



CAN TUNER

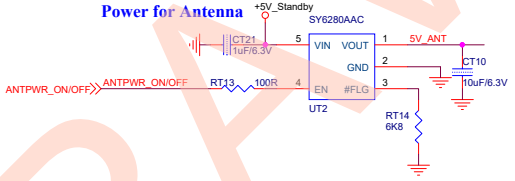


Tuner Power



(1) +VDD3V input voltage tolerance must be under +-5%
(2) +VDD3V input ripple must be under 30mVpp
(3) Using LDO for +VDD3V is recommended

Power for Antenna



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Title: TUNER

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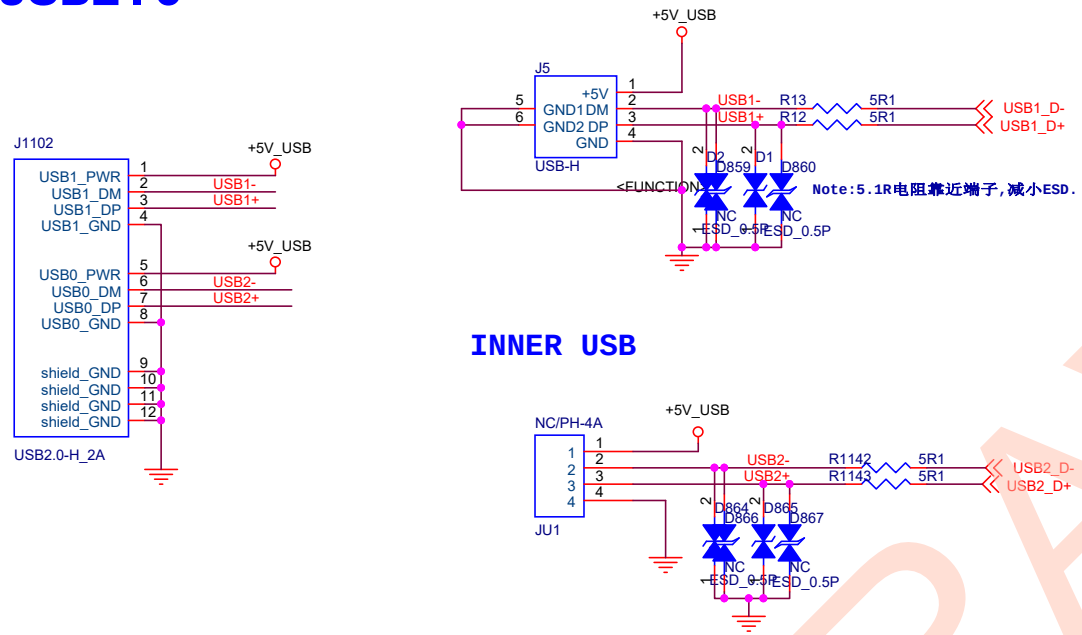
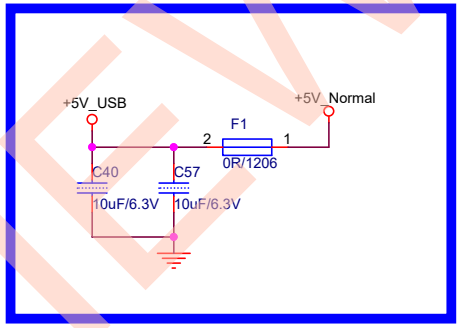
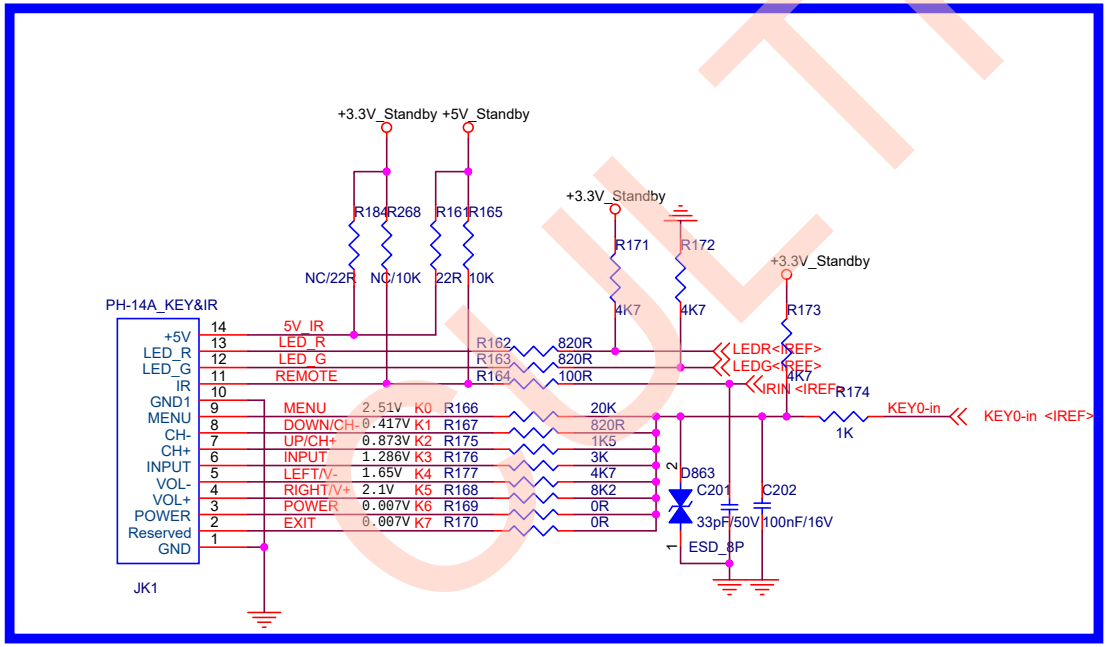
USB2.0



USB2.0 Power



KEY/IR/LED



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Size: Custom	Document Number: <Doc>		Rev: <1.5>
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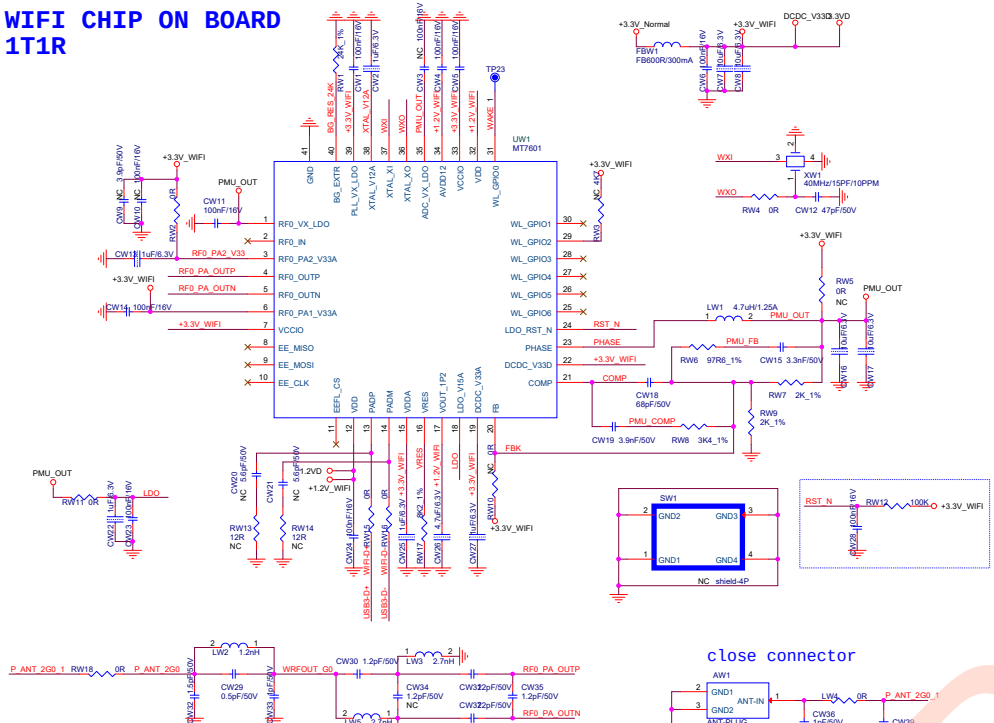
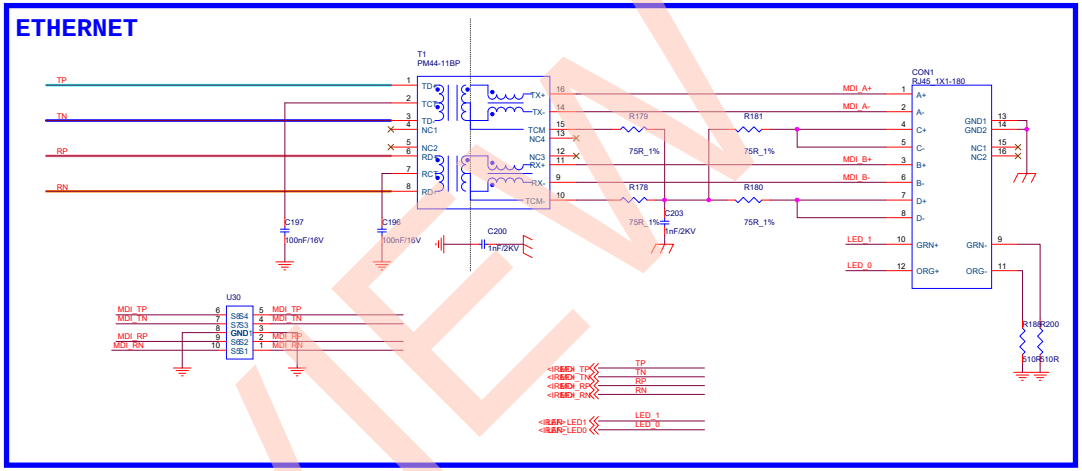
WIFI CHIP ON BOARD
1T1R



ETHERNET



备注：
1、WIFI供电只能用DC/DC供电，不允许用LDO供电
（LDO响应时间不够）

2、WIFI 外挂模块：
2T2R：3.0171.00280 RTL8192EU

2T2R+BT：3.0171.00270 MT7632

Cultraview	Title: ETHERNET PHY/WIFI		
Size: Custom	Document Number: <Doc>		Rev: <1.5>
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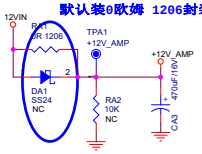
三合一电源功放固定用12V供电2x8W电路

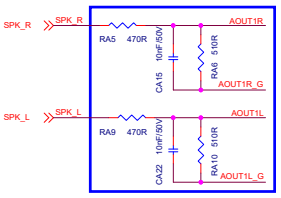
注意事项：
1.这几颗物料带有逻辑关系，在Module项里。要求导出BOM时一起导出该属性以便好确认BOM中的相关性定义是否正确

2.LA1，LA4的第一脚接功放IC端，第二脚为输出端。LA2，LA3的第二脚接功放IC端，第一脚为输出端不能更改。这样做的目的是可以在Layut时约束电感的摆放，控制绕线电感的磁场使相抵消可以有效改善EMI及底噪

默认装0欧姆 1206封装电阻



参数根据芯片方案而定,靠近主IC摆放



网络AOUT1L和AOUT1L_G必须走差分

网络AOUT1R和AOUT1R_G必须走差分

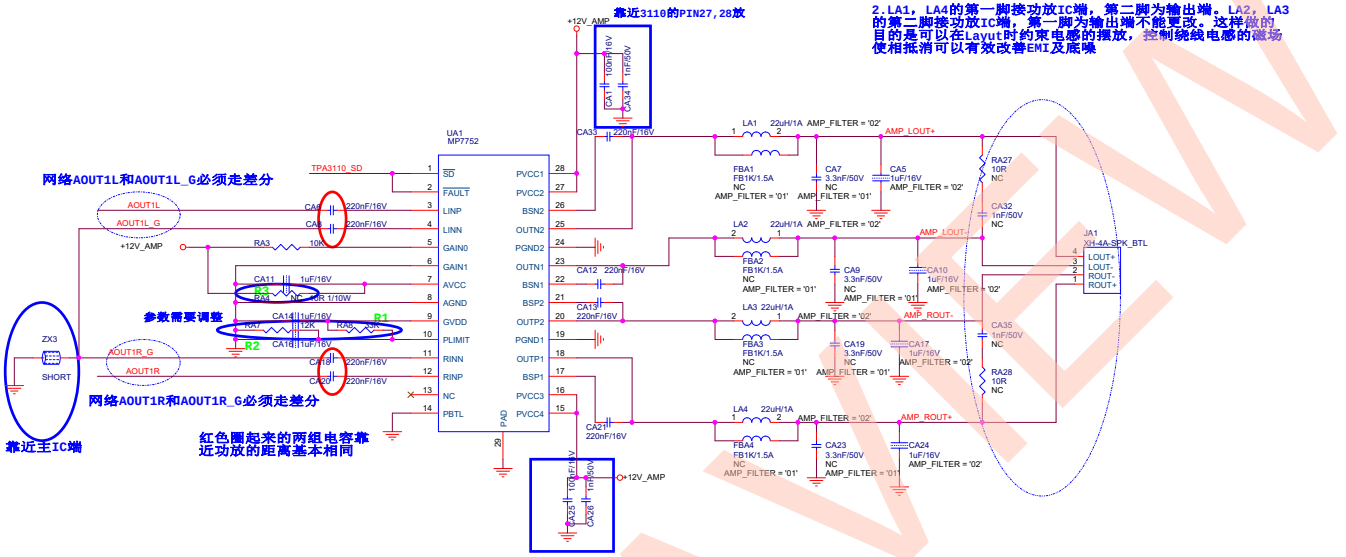
参数需要调整

靠近主IC端

红色圈起来的两组电容靠近功放的距离基本相同

靠近3110的PIN27,28放

靠近3110的PIN15，16放



gain0,gain1调整TPS3110的增益，逻辑图如下：

gain1	gain0	AMPLIFIER GAIN (dB)	INPUT IMPEDANCE
0	0	20dB	60k
0	1	26dB	30k
1	0	32dB	15k
1	1	36dB	9k

输入阻抗越大抗干扰效果越好

替代料部分：

1、MP7752GF-Z(3.0102.84490)输入电压在5V---18V之间
   a.PVCC到PIN7之间串的10R电阻R3删除
   b.PLMIT的电压需要调整R1=33K,R2=12K
   c.电阻R3上面的10欧姆NC不装料

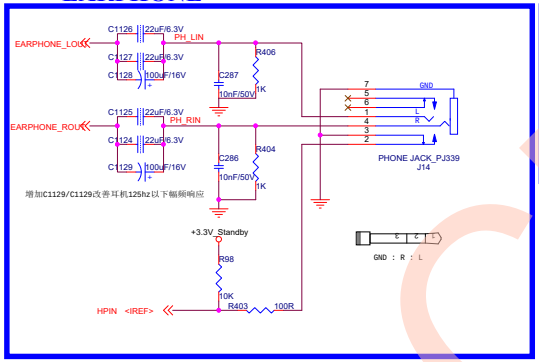
2、OB6220(3.0102.81480)输入电压在6V---20V之间
   a.PLMIT的电压需要调整R1=33K,R2=12K
   b.电阻R3上需要装10欧姆电阻，封装0603

3、TPA3110LD2(3.0102.61300)输入电压8V---26V之间
   a.PLMIT的电压需要调整R1=10K,R2=7.5K
   b.电阻R3上需要装10欧姆电阻，封装0603

注意事项：

1、音频输入LAYOUT走线必须差分走线。地信号的差分线必须尽可能靠近主IC。
2、功放芯片的第7脚上的1uF电容的地脚必须尽快回到功放芯片第8脚。1uF电容地脚不需要与其他地线打孔连接。
3、功放的输入音频信号线上的隔直电容容易受到温度影响，所以放置位置需保持两组电容靠近功放的距离基本相同
4、功放左右声道电感尽量远离。 这2组电感必须保证距离在4.5mm以上，中间夹地线打孔。避免左右音频串音。且Layout时同一边两个电感绕线方式要相对
5、模拟信号尽量远离功放电感避免干扰，距离最少保持20mm以上
6、功放MUTE控制脚默认上电瞬间电平为低电平，控制电路的电平根据芯片不同，可修改。
7、固定26db放大倍数，可根据客户对功率限制做改动。
8、默认不装SK24，用0R替代。
9、现在对功放部分的电感要求兼容磁珠，电感封装使用WSA43-6R8M-RB，磁珠封装FB0805
10、三合一电源，功放只接12V供电。原来下电爆音电路可省
11、三合一电源一体板功放位置在左下角时注意电感距离PCB板边20mm以上。以避免AC线靠近功放电感引起传导超标。
12、当输出网络上使用磁珠的时候在SPEAKER_L+和AMP_LOUT-网络，SPEAKER_R+和AMP_ROUT-网络之间加RC电路改善EMI：具体追加CA32 CA33 RA27 RA28-----更新：20160223

EARPHONE



MUTE CONTROL

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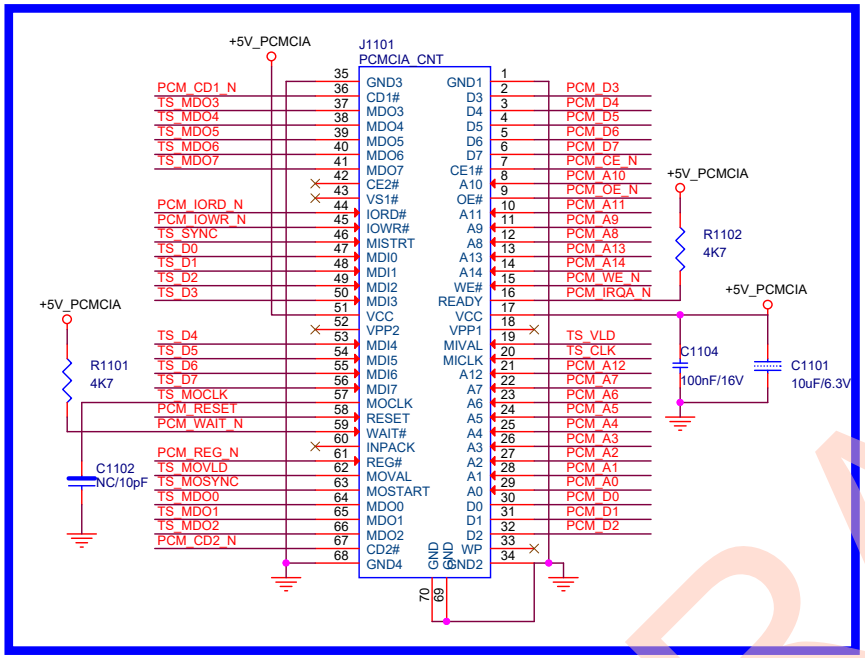
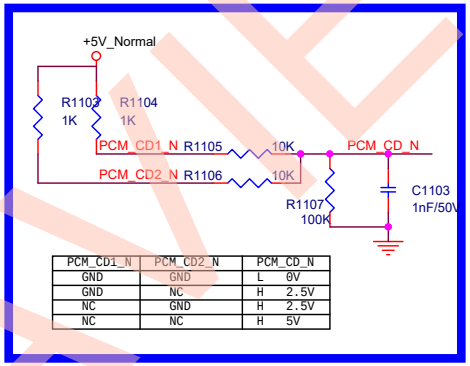
PCMCIA



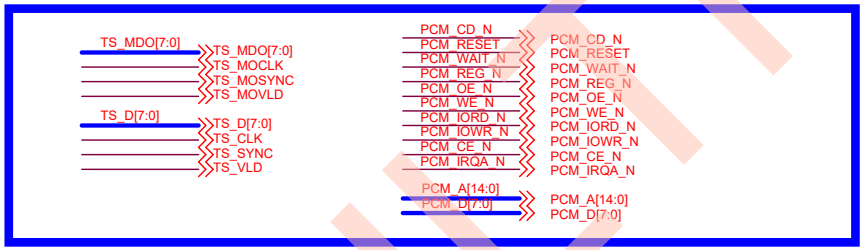
PCMCIA POWER

CARD DETECT



PCM_CD1_N	PCM_CD2_N	PCM_CD_N
GND	GND	L 0V
GND	NC	H 2.5V
NC	GND	H 2.5V
NC	NC	H 5V

NET



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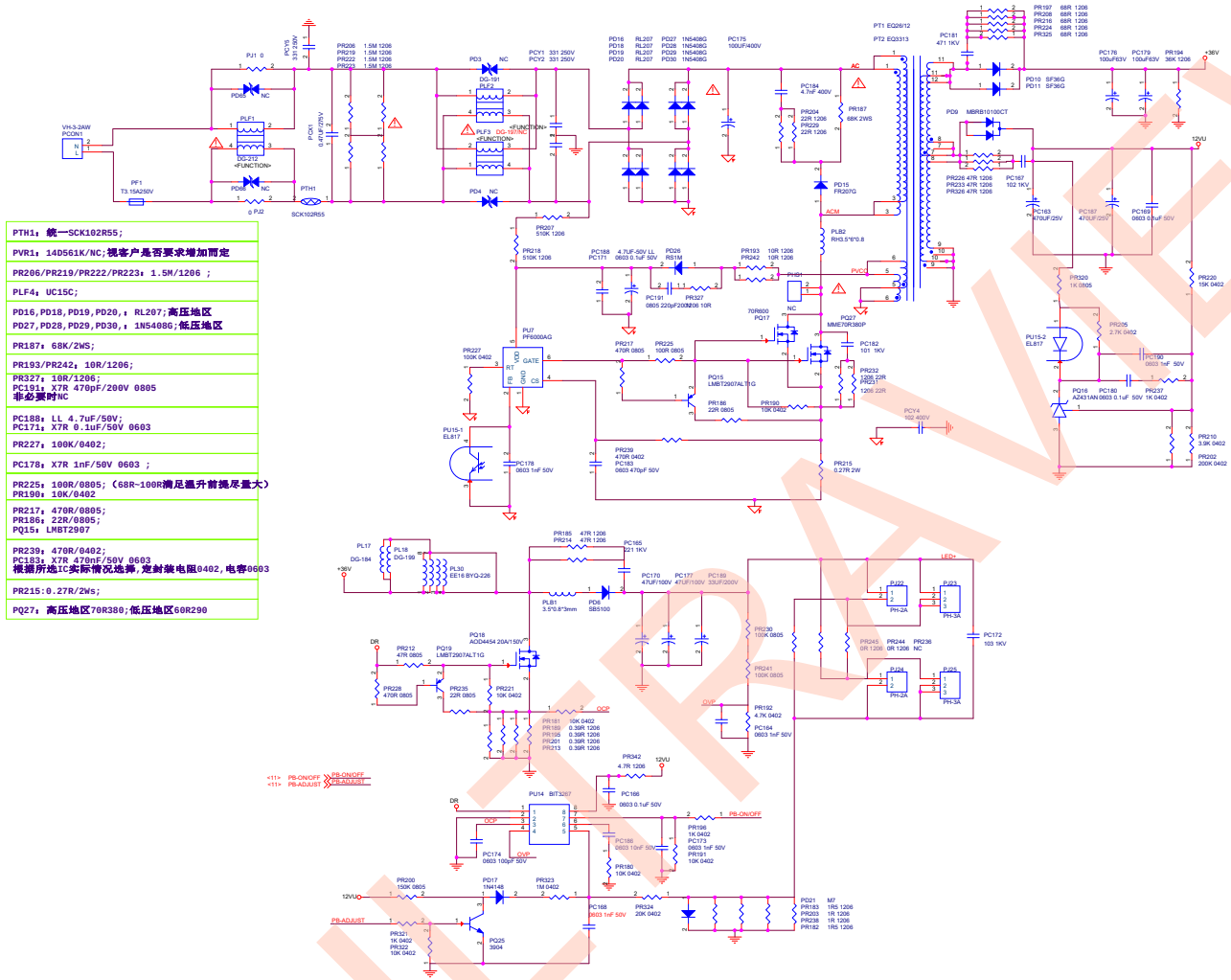

PTH1：统一SCK102R55；

PVR1：14D561K/NC;视客户是否要求增加而定

PR206/PR219/PR222/PR223：1.5M/1206 ；

PLF4：UC15C；

PD16,PD18,PD19,PD20，：RL207;高压地区
PD27,PD28,PD29,PD30，：1N5408G;低压地区

PR187：68K/2WS；

PR193/PR242：10R/1206；

PR327：10R/1206；
PC191：X7R 470pF/200V 0805
非必要时NC

PC188：LL 4.7uF/50V；
PC171：X7R 0.1uF/50V 0603

PR227：100K/0402；

PC178：X7R 1nF/50V 0603 ；

PR225：100R/0805；（68R~100R满足温升前提尽量大）
PR190：10K/0402

PR217：470R/0805；
PR186：22R/0805；
PQ15：LMBT2907

PR239：470R/0402；
PC183：X7R 470nF/50V 0603
根据所选IC实际情况选择，定封装电阻0402，电容0603

PR215:0.27R/2Ws；

PQ27：高压地区70R380;低压地区60R290

PC181:471/1KV；
PR197,PR208,PR216,PR224,PR325：68R/1206；

PC167：102/1KV；
PR226/PR233/PR326：默认3只47R/1206.根据实际调试而定

PC169：X7R 0.1uF/50V 0603

PR220：15K/0402 F
PR202：200K/0402 F
PR210：3.9K/0402 F

PR320：1K/0805;封装0805,阻值视主控IC而做调整
PR205：2.7K/0402

PR237：1K/0402
PC180：X7R 0.1uF/50V 0603;最大不超过0.47uF
PC190：X7R 1nF/50V 0603

虚拟负载通常情况下NC,主要用在背光功率较大,为满足温升要求而防止偏载时背光灯条被点亮的情况。

PL30：BYQ-226

PC165：221/1KV；
PR185/PR214：47R/1206

PC170/PC177：47uF/100V；
PC189：33UF/200V

PR192：4.7K/0402固定
PC164：X7R 1nF/50V 0603
PR230/PR241：封装0805,根据背光电压设置OVP点

PR236/PR244/PR245：0R/1206

PR212：47R/0805；
PR221：10K/0402

PR228：470R/0805；
PR235：22R/0805；
PQ19：LMBT2907

PR189/PR195/PR201/PR213：0.39R/1206

PR181：20K/0402或10K/0402
升压电感温升满足,建议选择10K/0402,有利于EMI

PC166：X7R 0.1uF/50V 0603

PC174：X7R 100pF/50V 0603

PC173：X7R 1nF/50V 0603
PR196：1K/0402；
PR191：10K/0402

PC186：X7R 10nF/50V 0603；
PR180：10K/0402
以实际调试为准

PR321：1K/0402；
PR322：10K/0402

PC168：X7R 1nF/50V 0603；
PR200：150K/0805；
PR323：1M/0402；
PR324：20K/0402

PC193：X7R 220pF/200V 0805 三星；
PR341：10R/1206；
保留位置，默认不装

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