Service Manual-LD4688

46"LCD TV

Contents

Display	LCD TV
Size (inch)	46” Diagonal
Aspect Ratio	16:9
Digital Compatibility	480i / 480p / 720p / 1080i / 1080p
Resolution	1, 920 x 1, 080
Brightness (cd/m2)	500
Dynamic Contrast	20, 000:1
Vertical Viewing Angle (degrees)	176°
Horizontal Viewing Angle (degrees)	176°
Maximum Colors (millions)	16. 7M
Response Time (ms)	5ms
Audio Power	2 X 10W
Dimension with Pedestal Installed	44” (H) x 29.8” (W) x 13” (D)
Weight with Pedestal	59 lbs
Input Connections	Composite Video (3) S-Video (1) YPbPr / Audio (L/R) (2) HDMI (3) RF (1) SPDIF Coaxial Digital Output (1) PC/VGA (1) PC Audio IN (1)

Precaution on operation of LCD

1. Please provide grounding process by using metal while installing LCD and protective glass.

2. Do not press screen， protective glass or frame edge to prevent form electric shock.

3. Do not scrap or press screen and protective glass and sharp object.

4. Do not expose LCD under sunlight directly.

5. Do not contact device with water to prevent from short-circuit of modules.

6. Please keep LCD and protective glass with special cloth.

7. Please keep screen away from electric sensitivity device(ESD) to avoid damage electronic circuit(C-MOS)

Safety inspection

Please execute following safety inspection before delivery of complete equipment， after corrected original maintenance problem.

1. Inspect bed welding in inspection zone respectively, and inspect welding point and jumper of complete panel.

2. Inspect connection between boards, to ensure that no circuit is pressed or contact with high-pressure resistor.

3. Inspect all these replace knobs, shields, covers, grounding belts and the installed hardware, to ensure that all insulated materials are replaced.

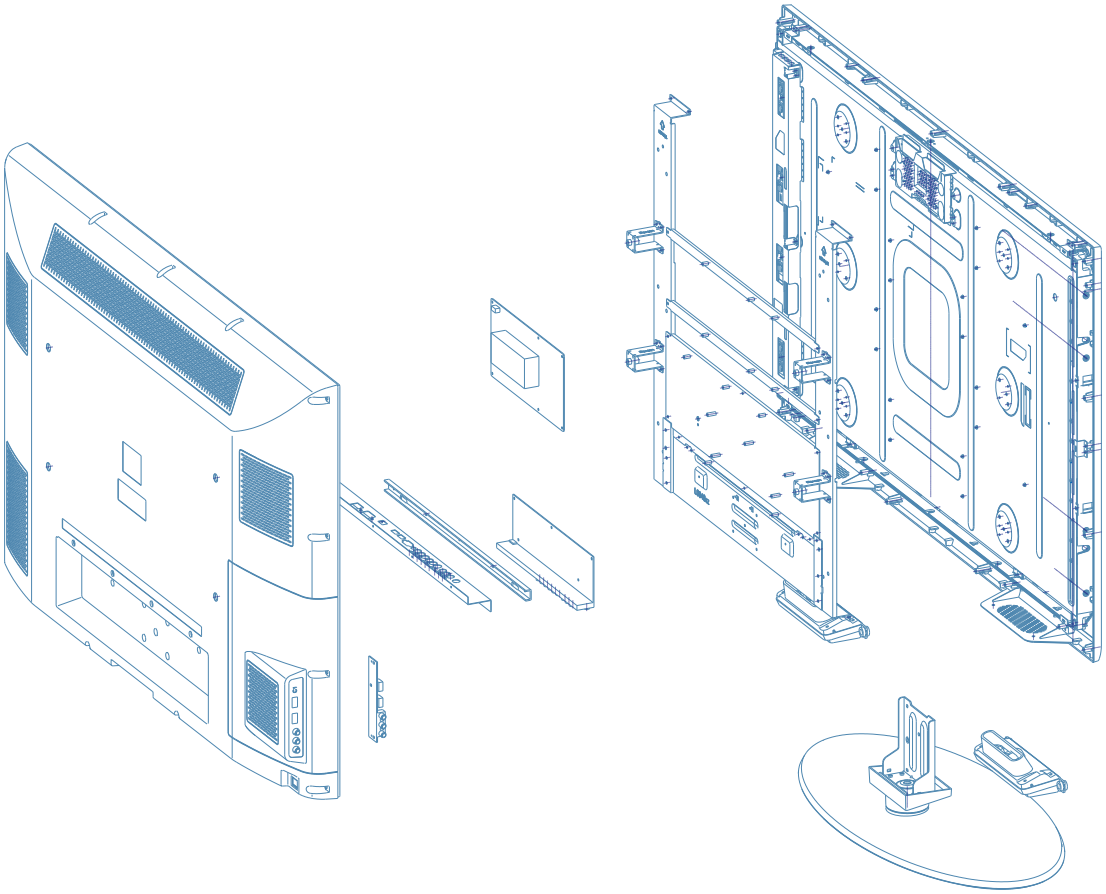
4. Inspect replaced parts of unofficial, especially the transistor installed during last maintenance .indicate these parts and suggest customer to replace them.

5. Search parts which is in service but service in bad condition. Indicate these parts and suggest customer to replace them.

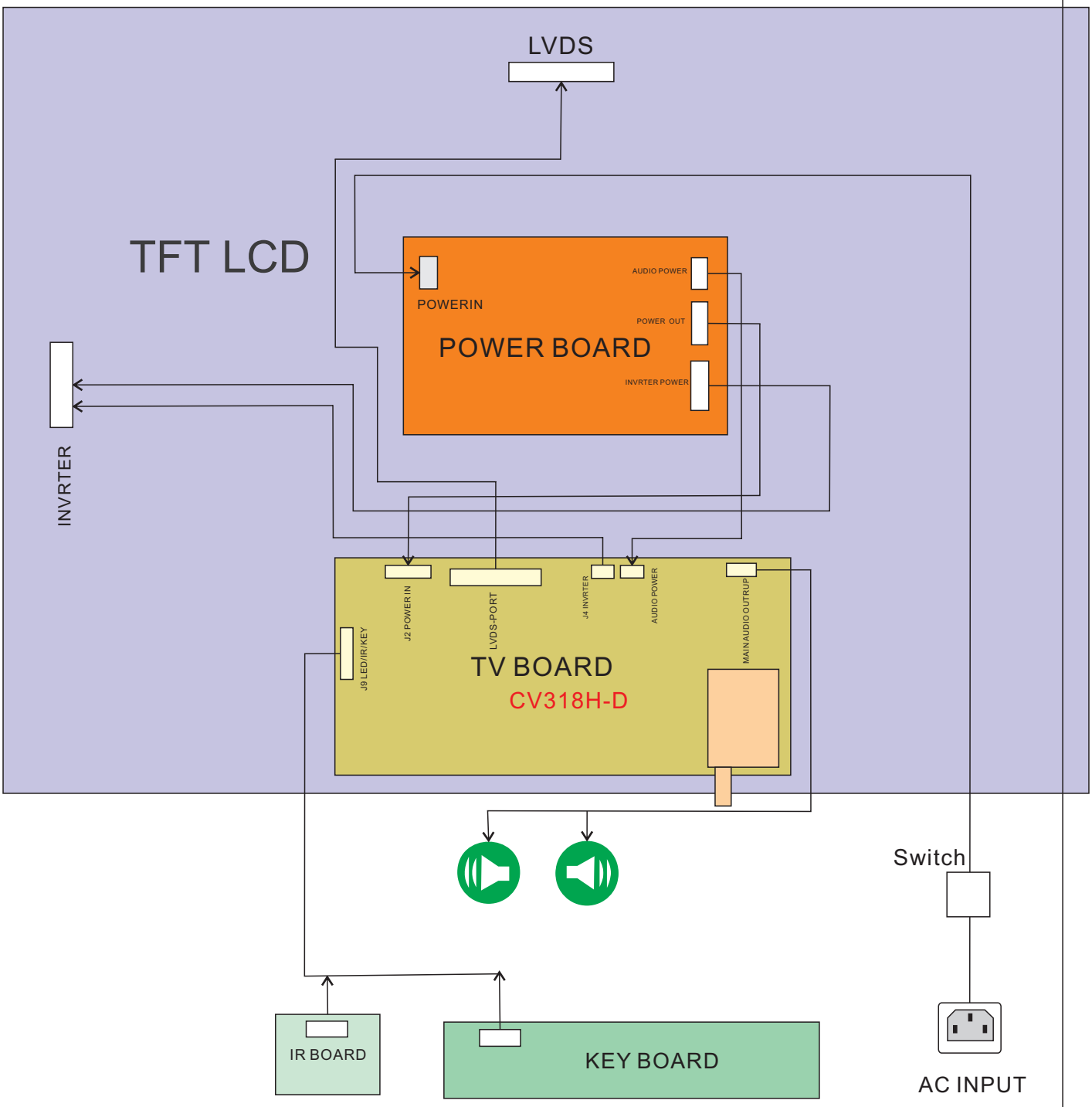
6. Check if belt-type power supply is broke or worn; suggest customer to replace parts if necessary.

7. Check if AC leakage exists with exposed metal parts, such as grounding terminal of antenna, metal edge, "metal processed knobs", screw, etc.

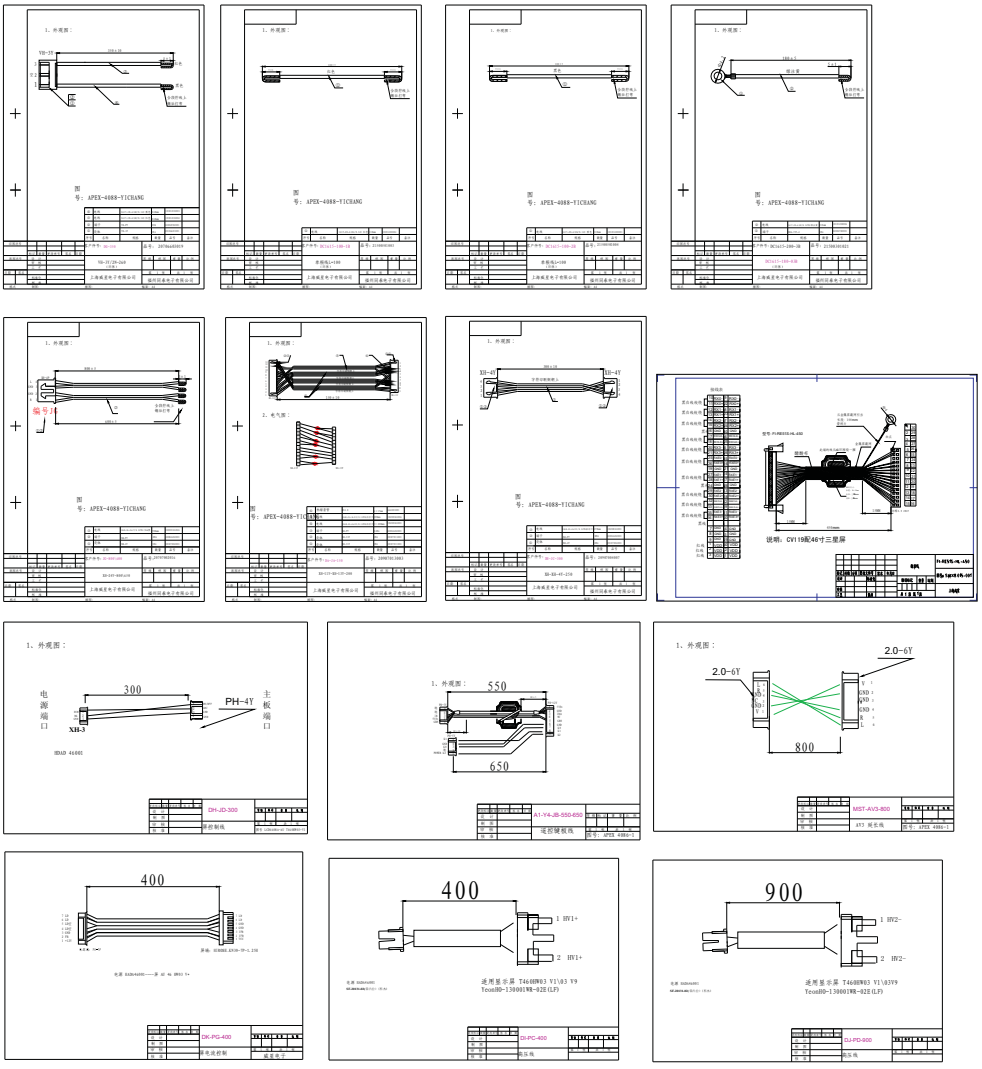
Explored View



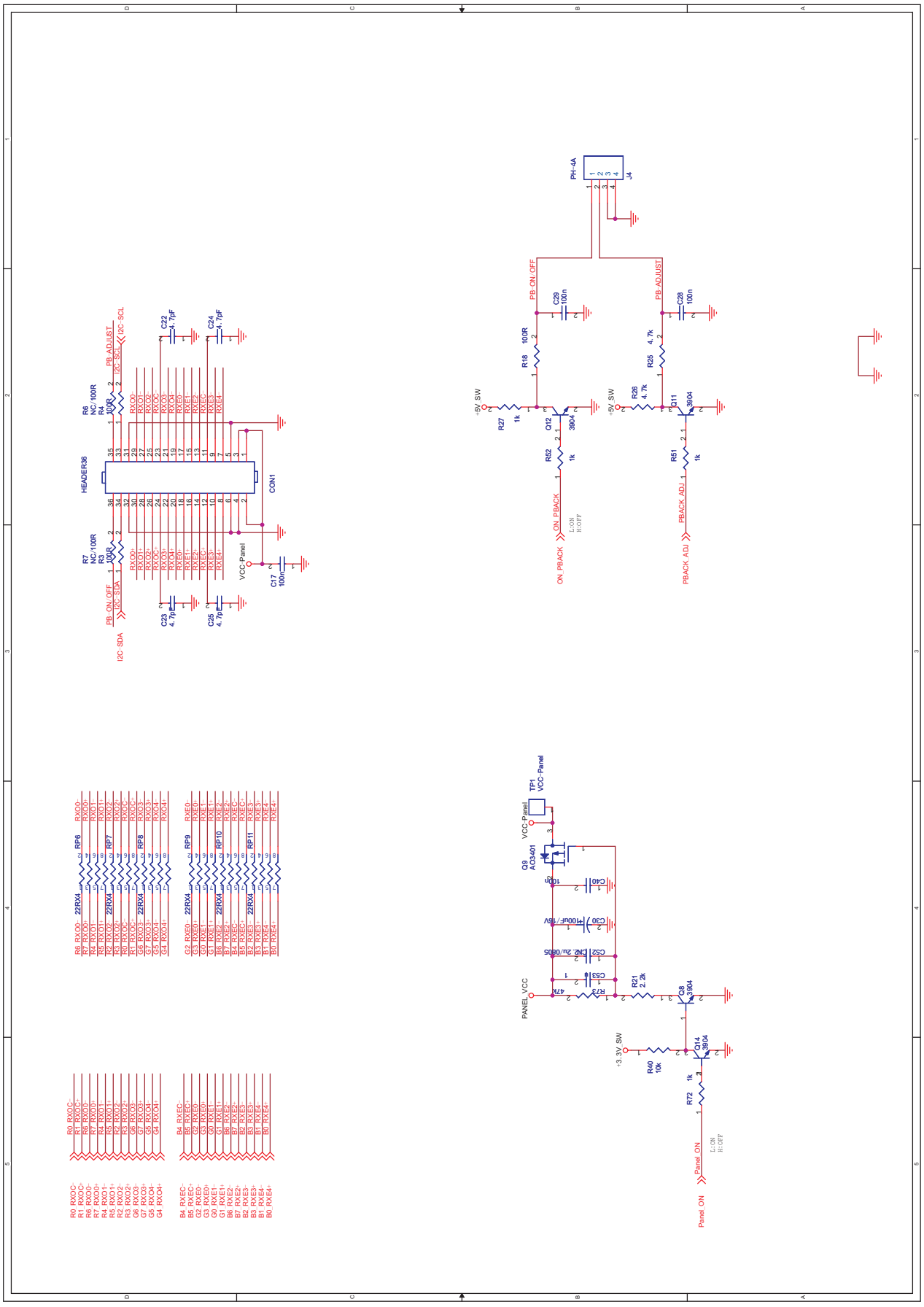
Internal Connectivity

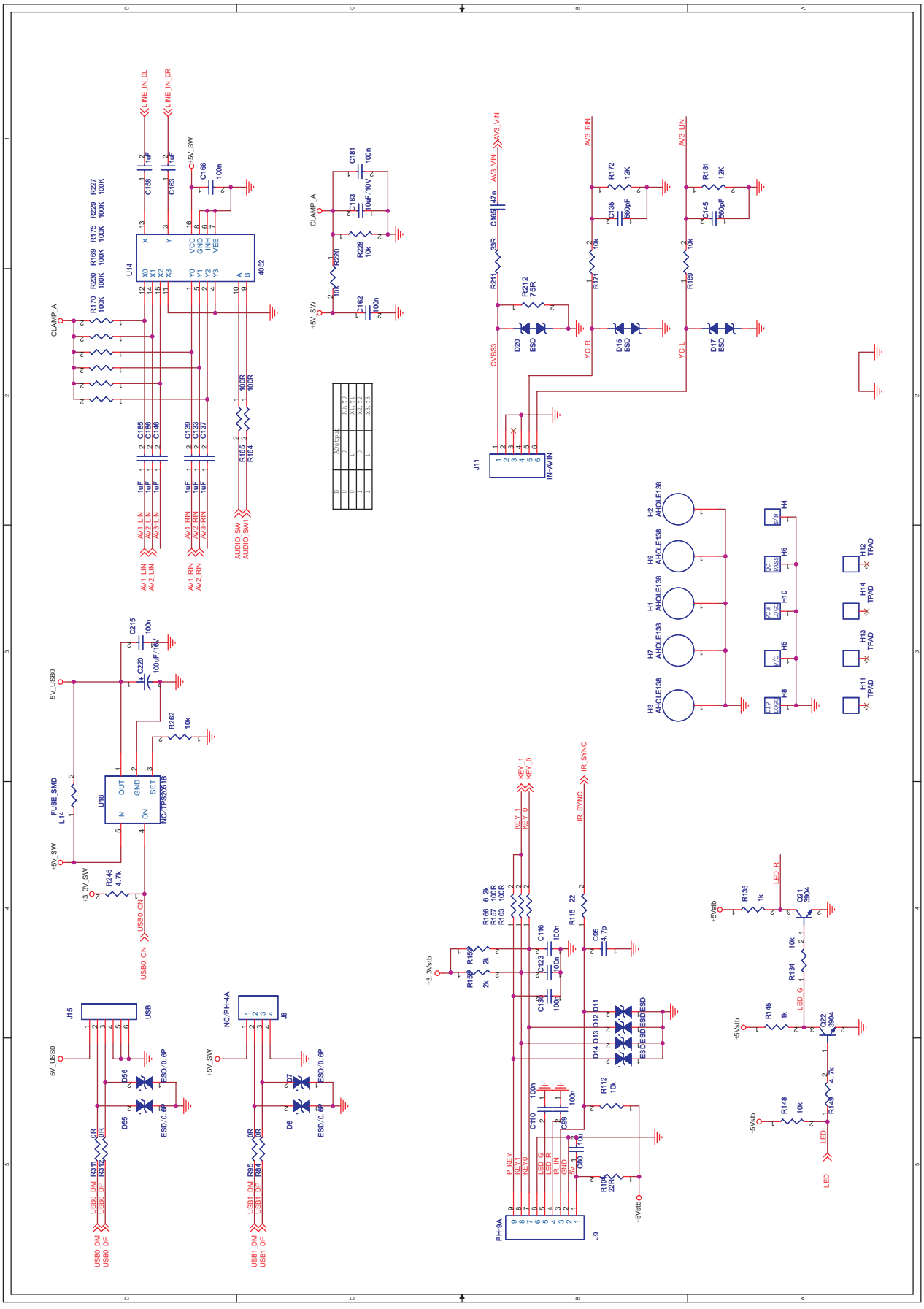


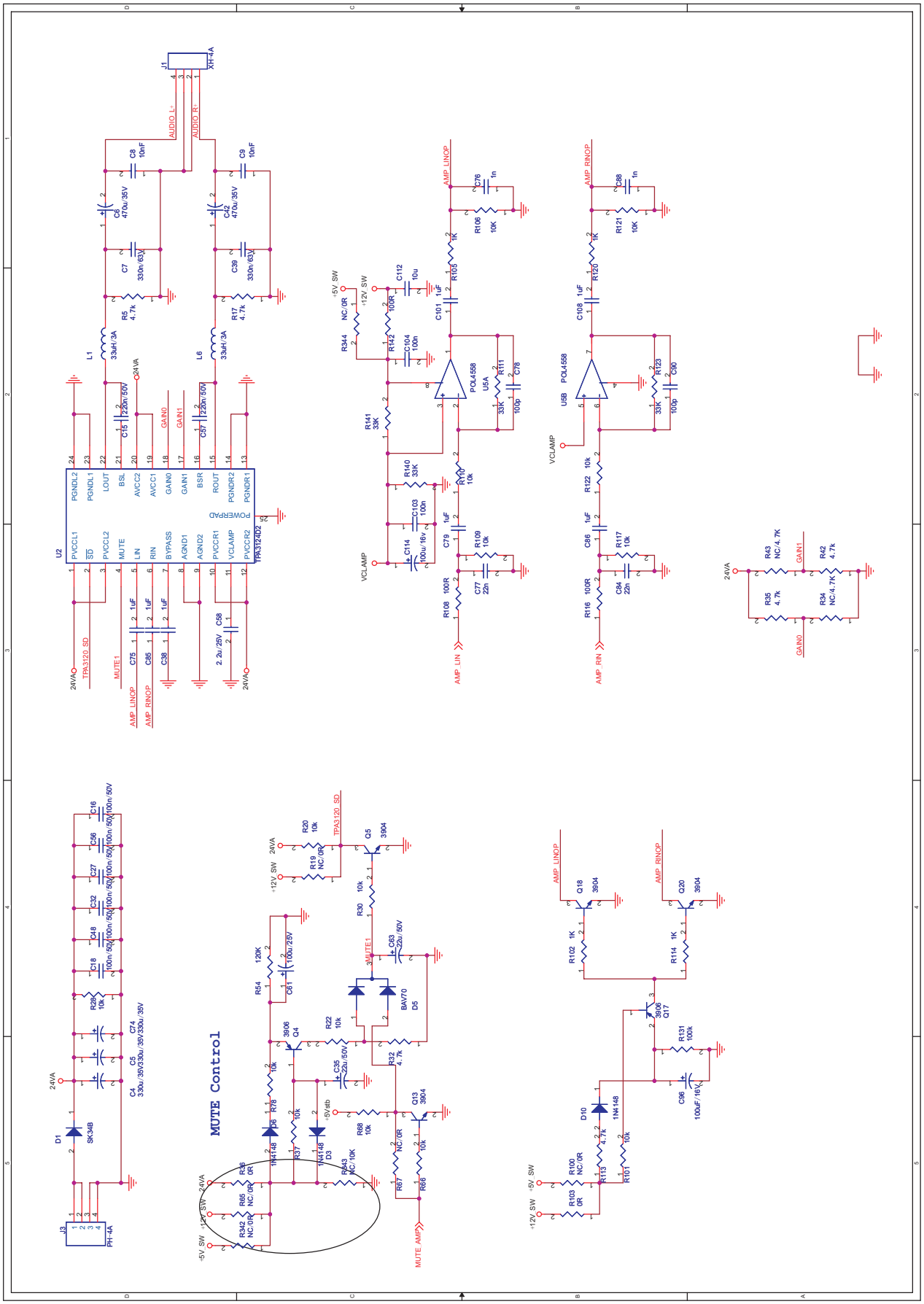
Specification of internal cable

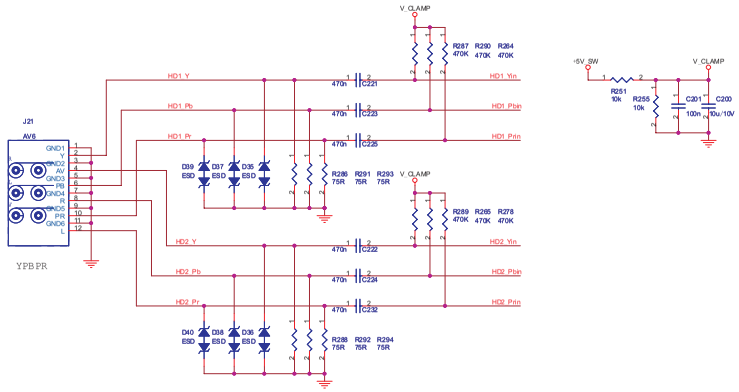


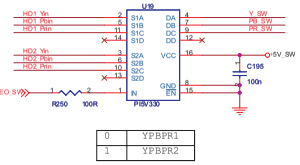
Circuit Diagram-TV board

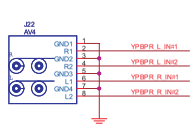


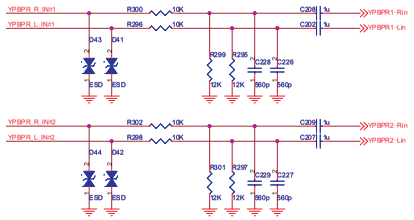



MUTE Control
U2
TPA3120D2
PVCCL1
PGNDL2
PGNDL1
LOUT
BSL
AVCC2
AVCC1
GAIN0
GAIN1
BSR
ROUT
PGNDR2
PGNDR1
PVCCL2
SD
MUTE
LIN
RIN
BYPASS
AGND1
AGND2
PVCCR1
VCLAMP
PVCCR2
POWERPAD
J1
XH-4A
AUDIO L+
AUDIO R-
J3
PH-4A
L1
L6
33uH/3A
24VA
TPA3120_SD
MUTE1
AMP_LINOP
AMP_RINOP
GAIN0
GAIN1
VCLAMP
AMP_LIN
AMP_RIN
U5A
U5B
POL4558
+12V_SW
+5V_SW
MUTE_AMP
D1
SK34B
D5
BAV70
D10
1N4148
Q4
Q5
Q13
Q18
Q20
Q77
3906
3904

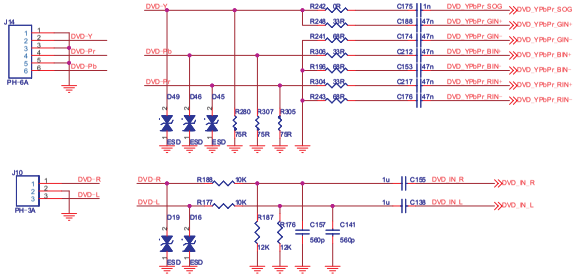




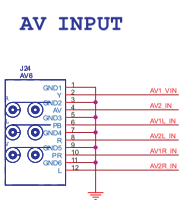


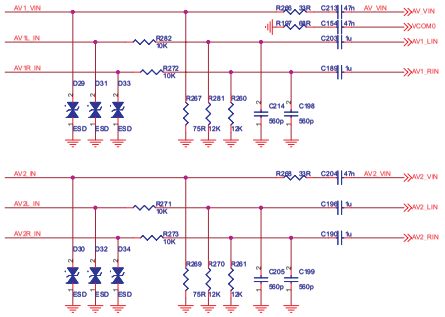


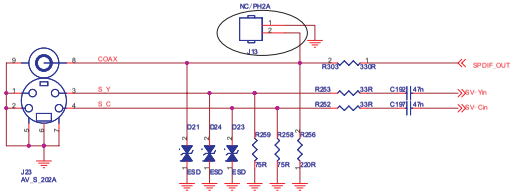
DVD INPUT

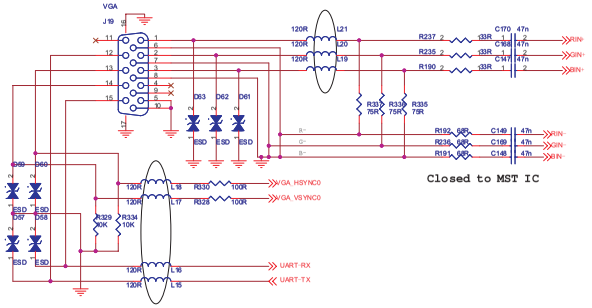


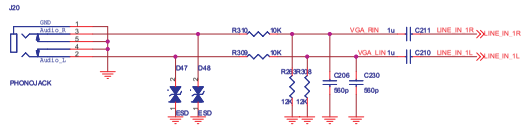
AV INPUT

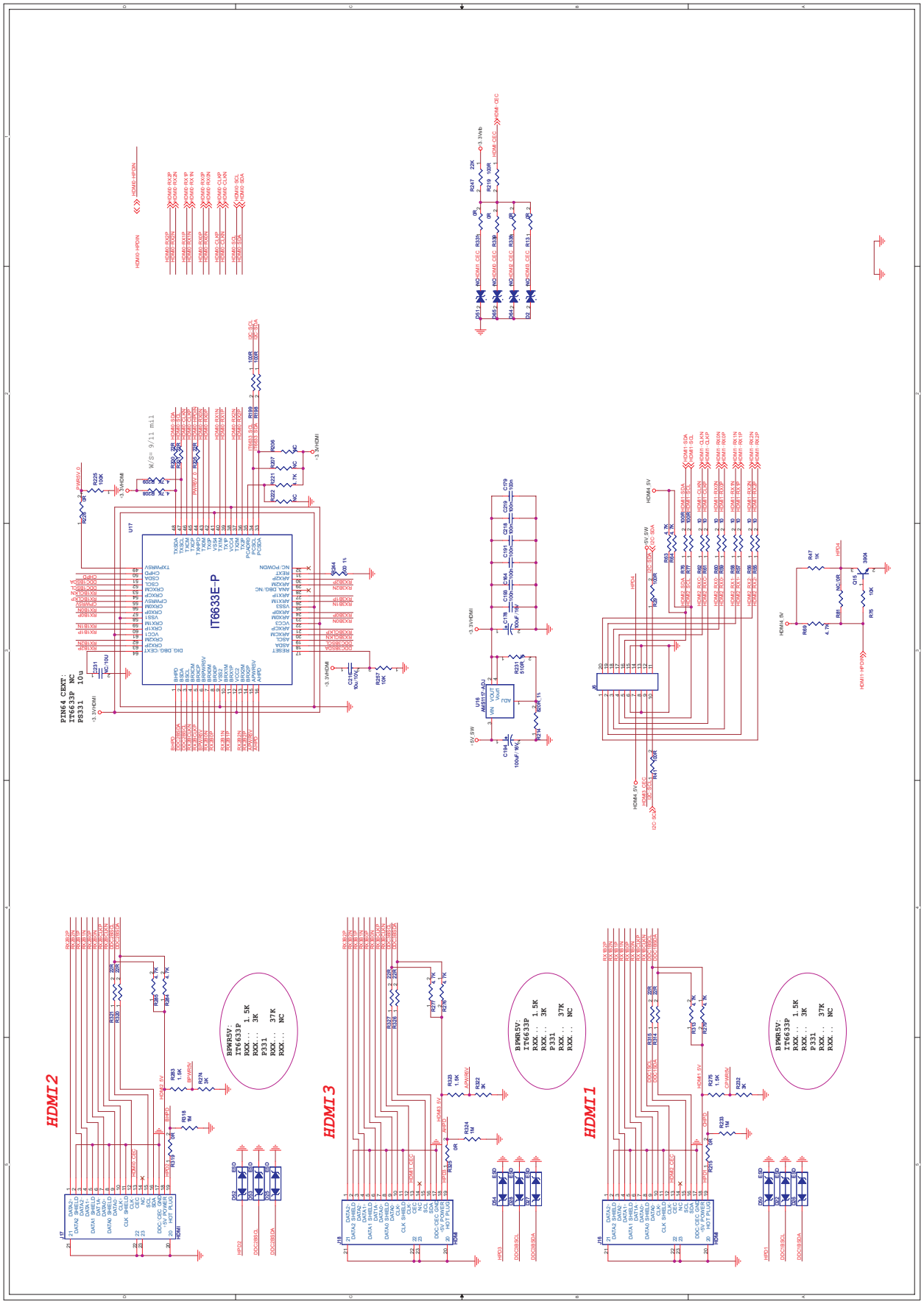


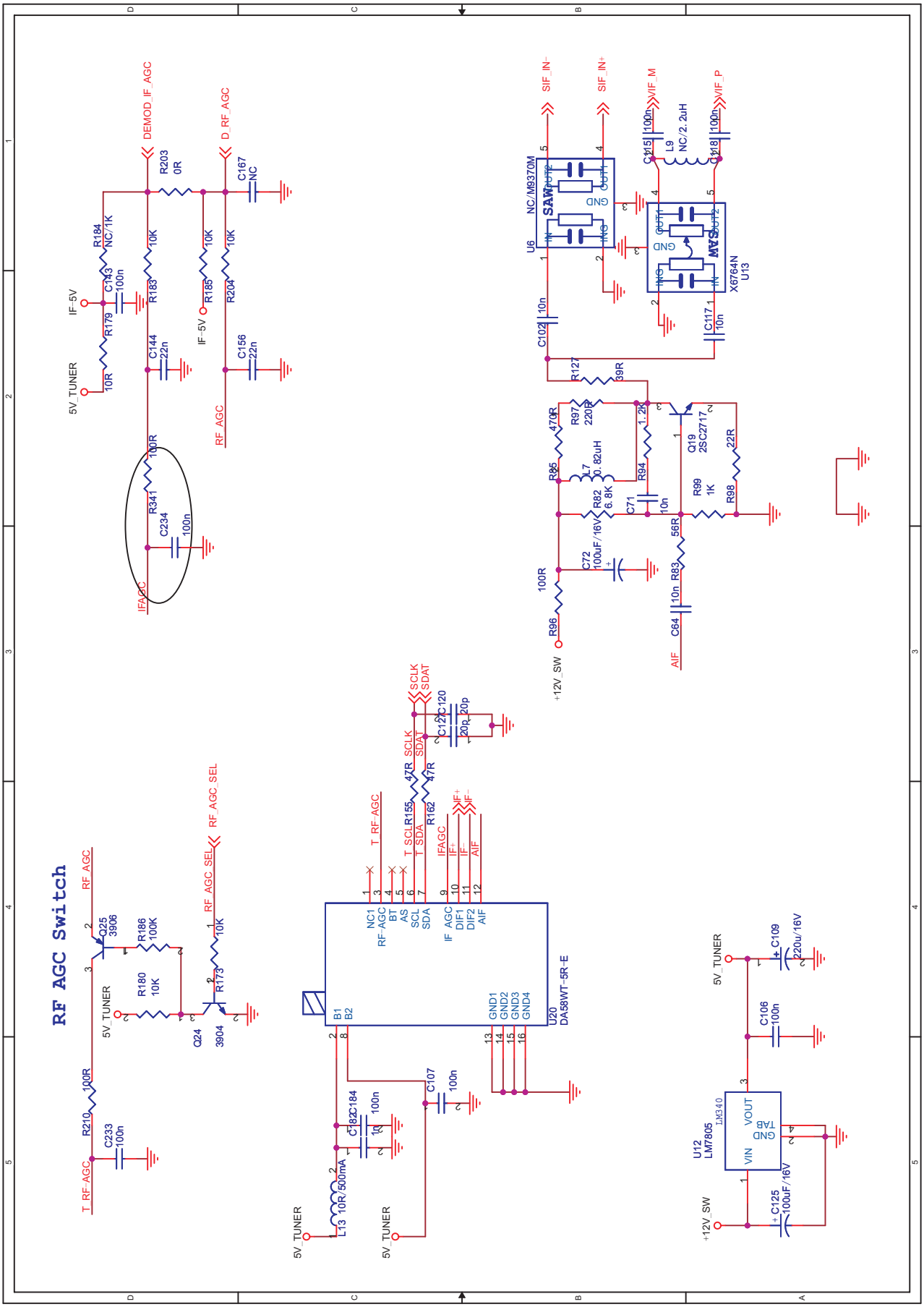


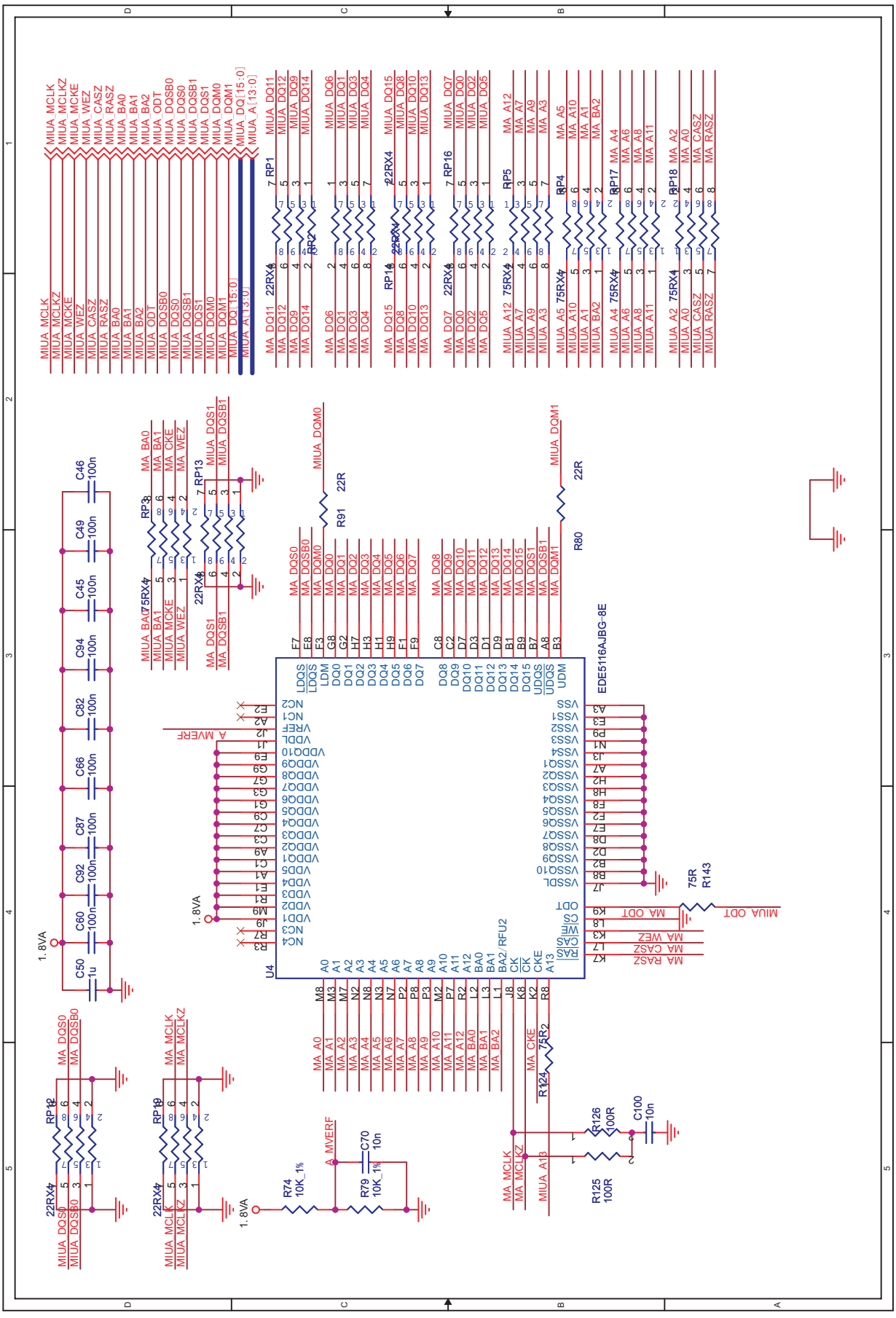


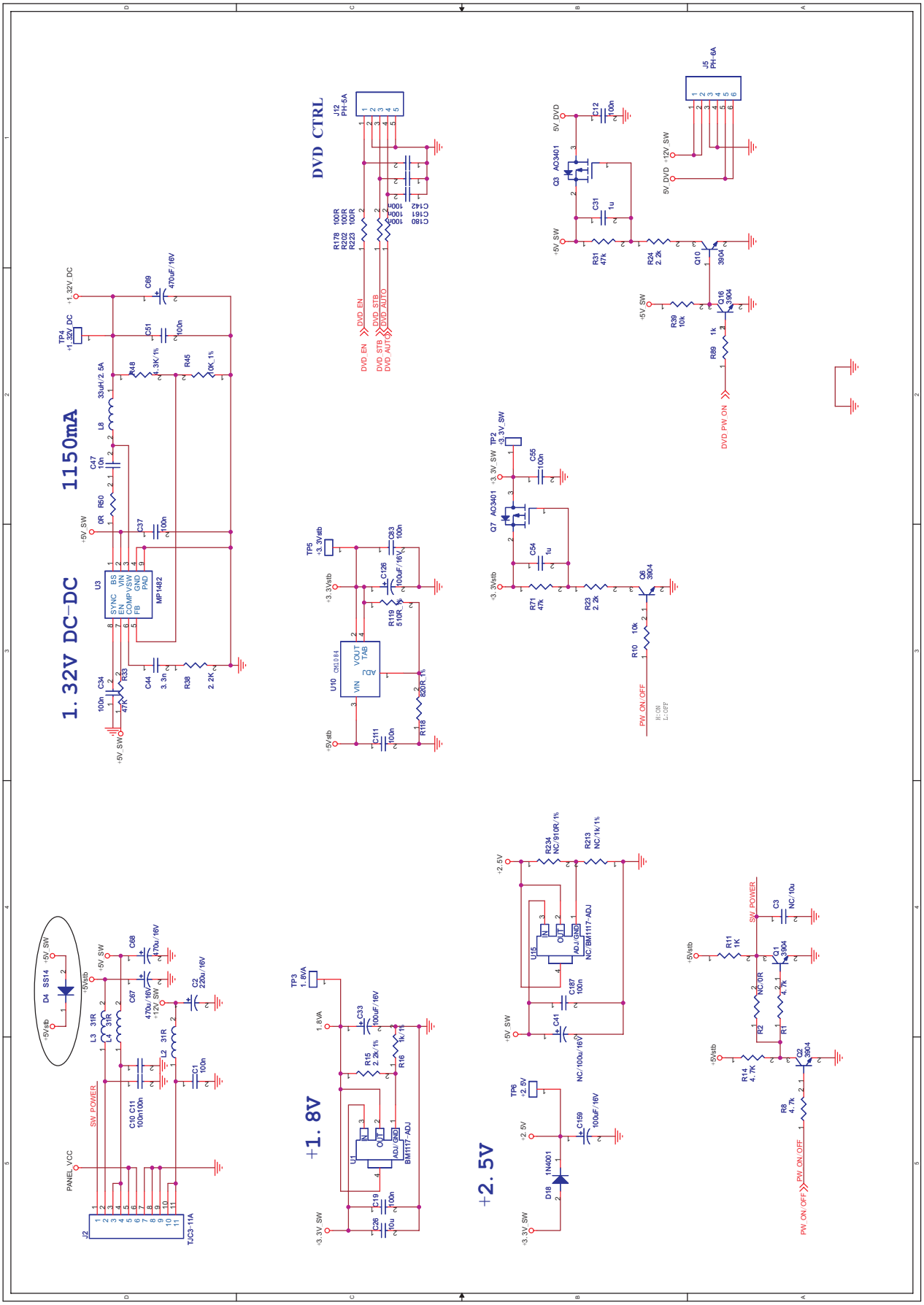


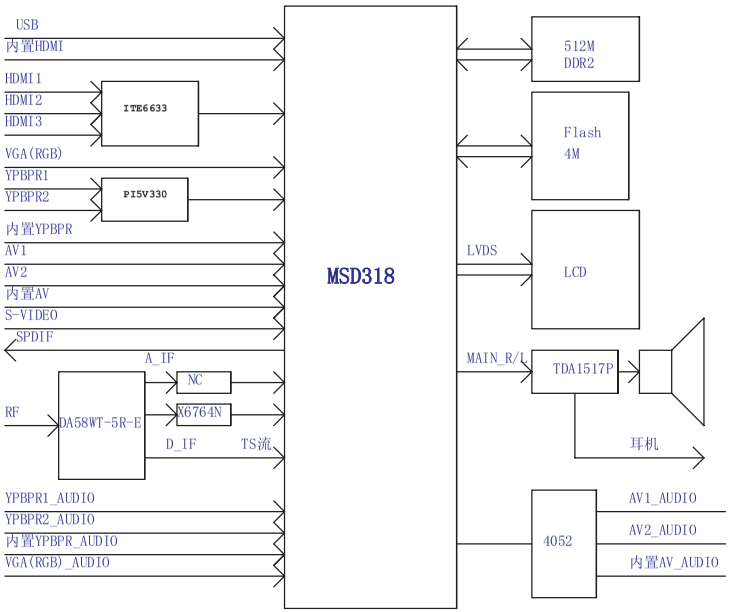


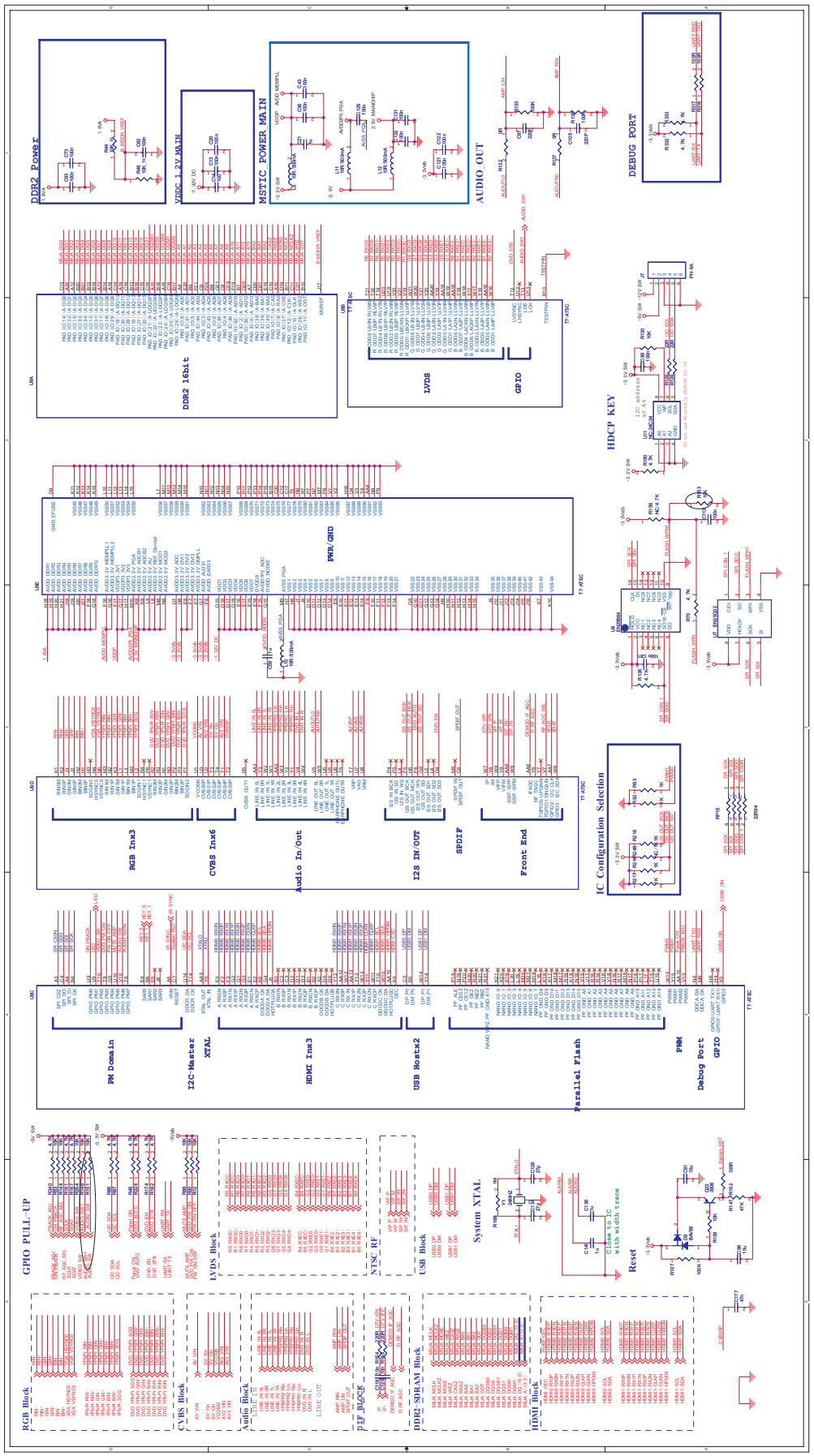

IT6633E-P
HDMI 2
HDMI 3
HDMI 1
PIN64 CEXT:
IT6633P NC
PS331 10u
BPWR5V:
IT6633P
RXX... 1.5K
RXX... 3K
P331... 37K
RXX... NC

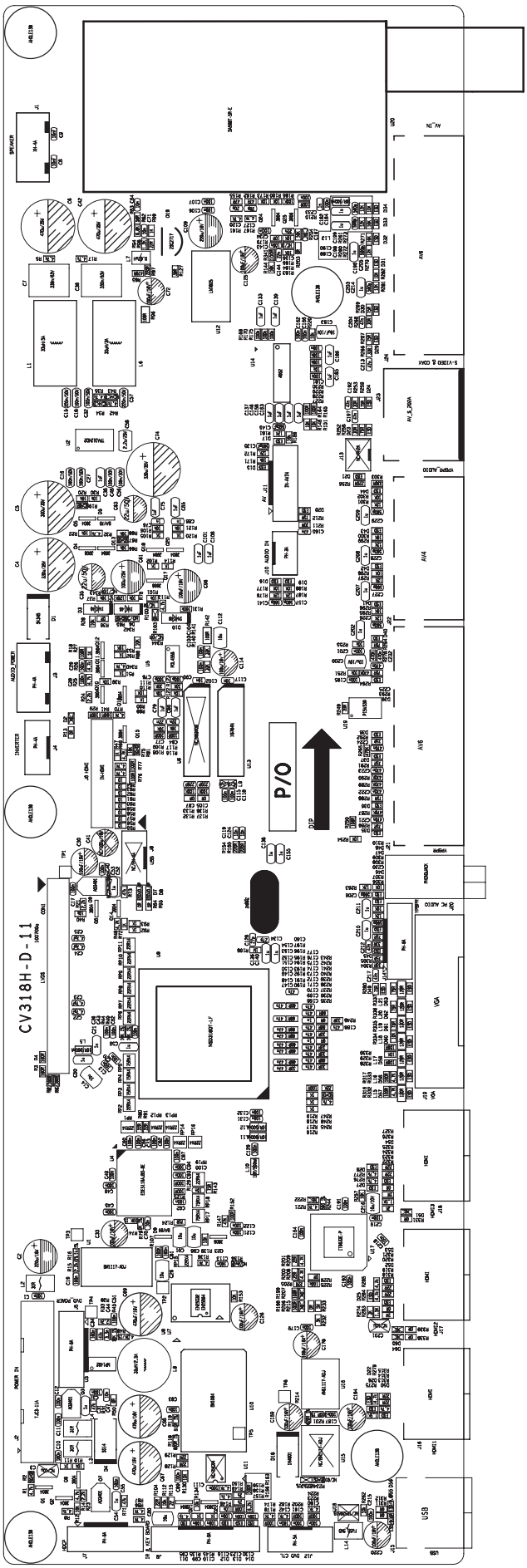

RF AGC Switch
DEMOD_IF_AGC
D_RF_AGC
R203 0R
C167 NC
R184 NC/1K
C143 100n
R183 10K
R185 10K
R204 10K
IF-5V
5V_TUNER
R179 10R
C144 22n
C156 22n
RF_AGC
R341 100R
C234 100n
IFAGC
SIF_IN-
SIF_IN+
VIF_M
VIF_P
U6 NC/M9370M
SAW
C115 100n
L9 NC/2.2uH
C118 100n
C117 10n
X6764N
U13
C102 10n
R127 39R
R97 220R
470R
R95
1.7
0.82uH
R94 1.2K
R82 6.8K
C71 10n
Q19 2SC2717
R99 1K
R98 22R
C72 100uF/16V
56R
R83
C64 10n
AIF
100R
R96
+12V_SW
RF_AGC_SEL
Q25 3906
R186 100K
R180 10K
R173 10K
Q24 3904
T_RF-AGC
R210 100R
C233 100n
SCLK
SDAT
C120 20p
C121 20p
47R
R155
R162
T_SCL
T_SDA
IFAGC
IF+
IF-
AIF
NC1
RF-AGC
BT
AS
SCL
SDA
IF_AGC
DIF1
DIF2
AIF
B1
B2
GND1
GND2
GND3
GND4
U20 DA58WT-5R-E
C182 100n
C184 100n
C107 100n
L13 10R/500mA
5V_TUNER
C109 220u/16V
C106 100n
U12 LM7805
LM340
VIN
VOUT
TAB
GND
C125 100uF/16V



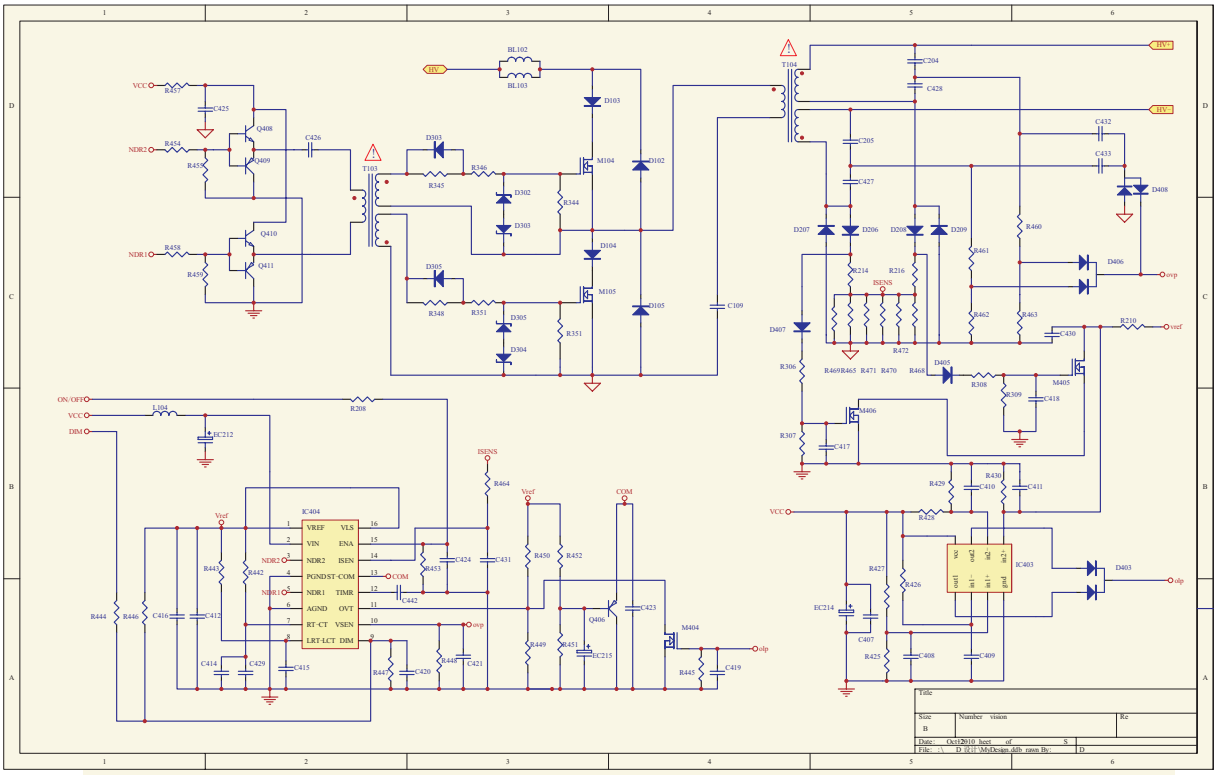

1. 32V DC-DC
1150mA
DVD CTRL
+1. 8V
+2. 5V
MP1482
CM1084
BM1117-ADJ
1N4001
AO3401
3904
TJC3-11A
PANEL_VCC
SW_POWER
DVD_EN
DVD_STB
DVD_AUTO
DVD_PW_ON
PW_ON_OFF

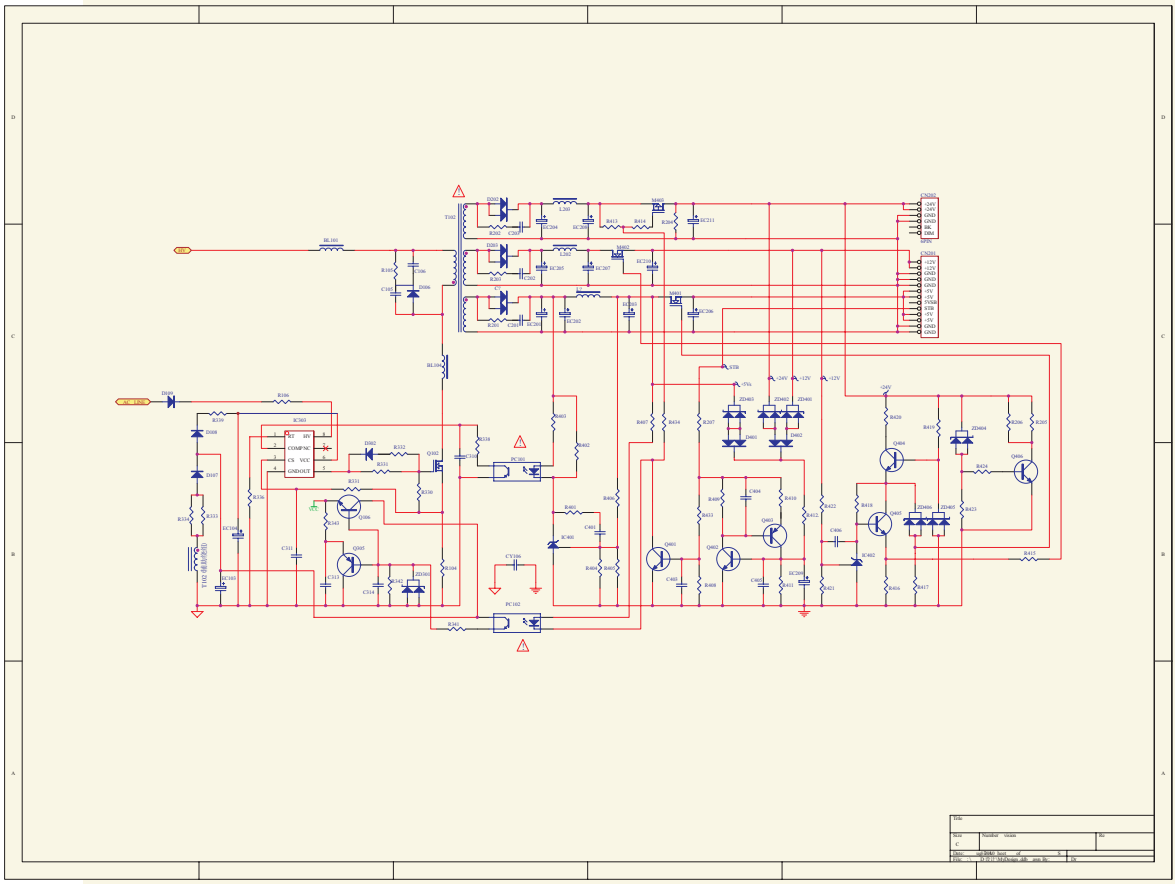

USB
内置HDMI
HDMI1
HDMI2
HDMI3
ITE6633
VGA(RGB)
YPBPR1
YPBPR2
PI5V330
内置YPBPR
AV1
AV2
内置AV
S-VIDEO
SPDIF
A_IF
NC
RF
DA58WT-5R-E
X6764N
D_IF
TS流
YPBPR1_AUDIO
YPBPR2_AUDIO
内置YPBPR_AUDIO
VGA(RGB)_AUDIO
MSD318
512M
DDR2
Flash
4M
LVDS
LCD
MAIN_R/L
TDA1517P
耳机
4052
AV1_AUDIO
AV2_AUDIO
内置AV_AUDIO

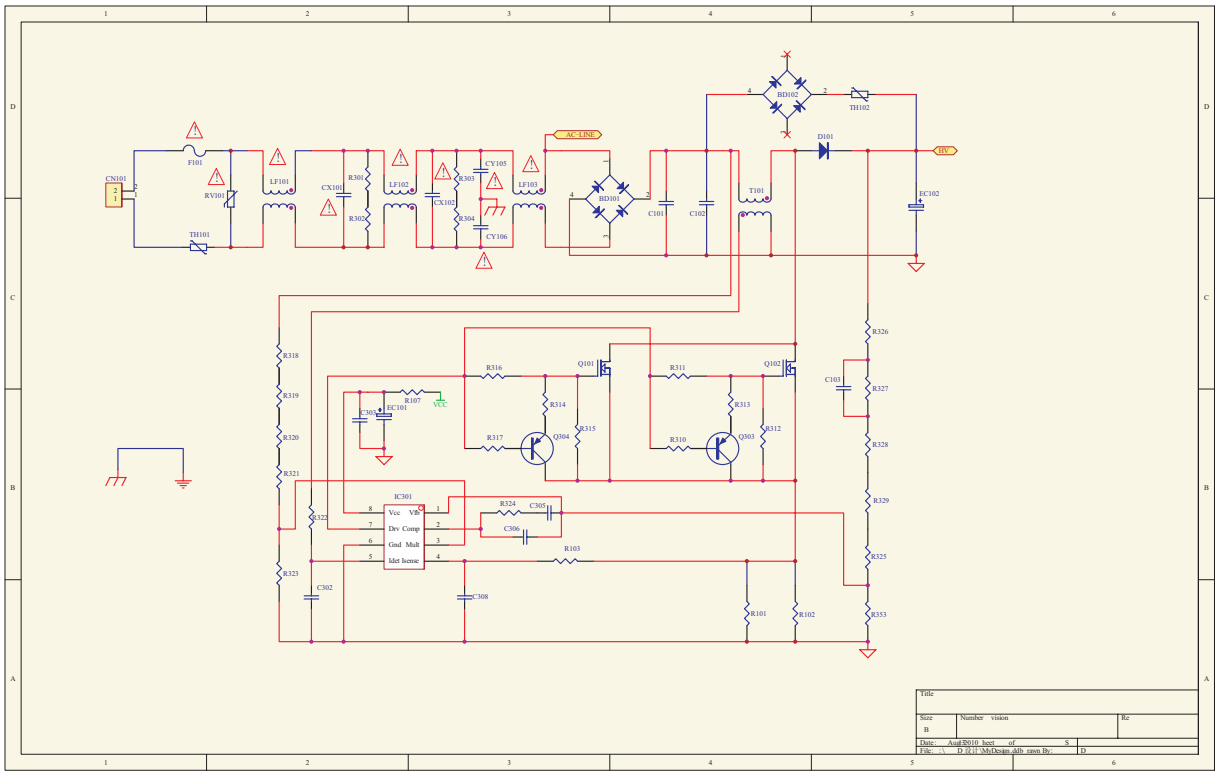

DDR2 Power
VDDC 1.2V MAIN
MSPTC POWER MAIN
AUDIO OUT
DEBUG PORT
DDR2 16bit
LVDS
GPIO
HDCP KEY
RGB Inx3
CVBS Inx6
Audio In/Out
I2S IN/OUT
SPDIF
Front End
IC Configuration Selection
PM Domain
I2C-Master
XTAL
HDMI Inx3
USB Hostx2
Parallel Flash
PWM
Debug Port
GPIO
GPIO PULL-UP
RGB Block
CVBS Block
Audio Block
LVDS Block
NTSC RF
USB Block
System XTAL
Reset
DDR2 SDRAM Block
HDMI Block
Close to IC with width trace

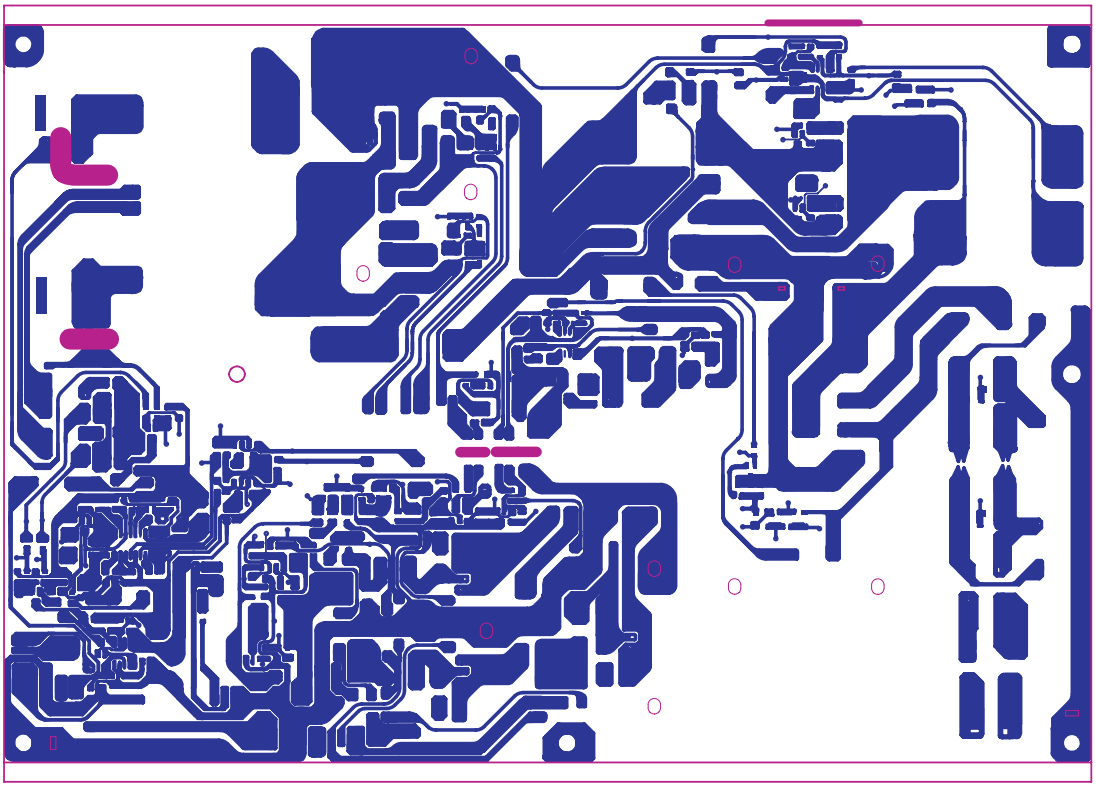

CV318H-D-11
P/O

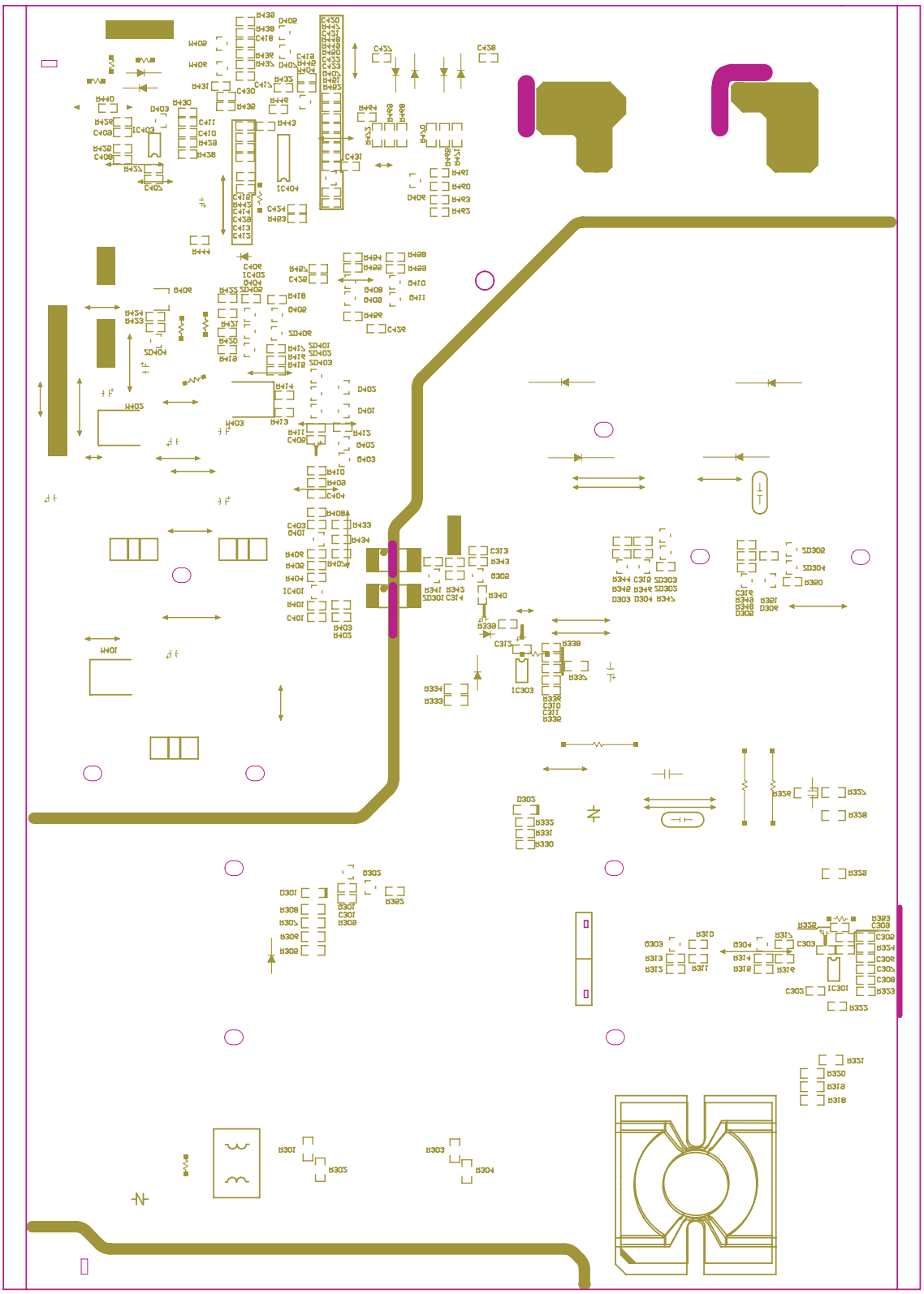
Circuit Diagram-power board

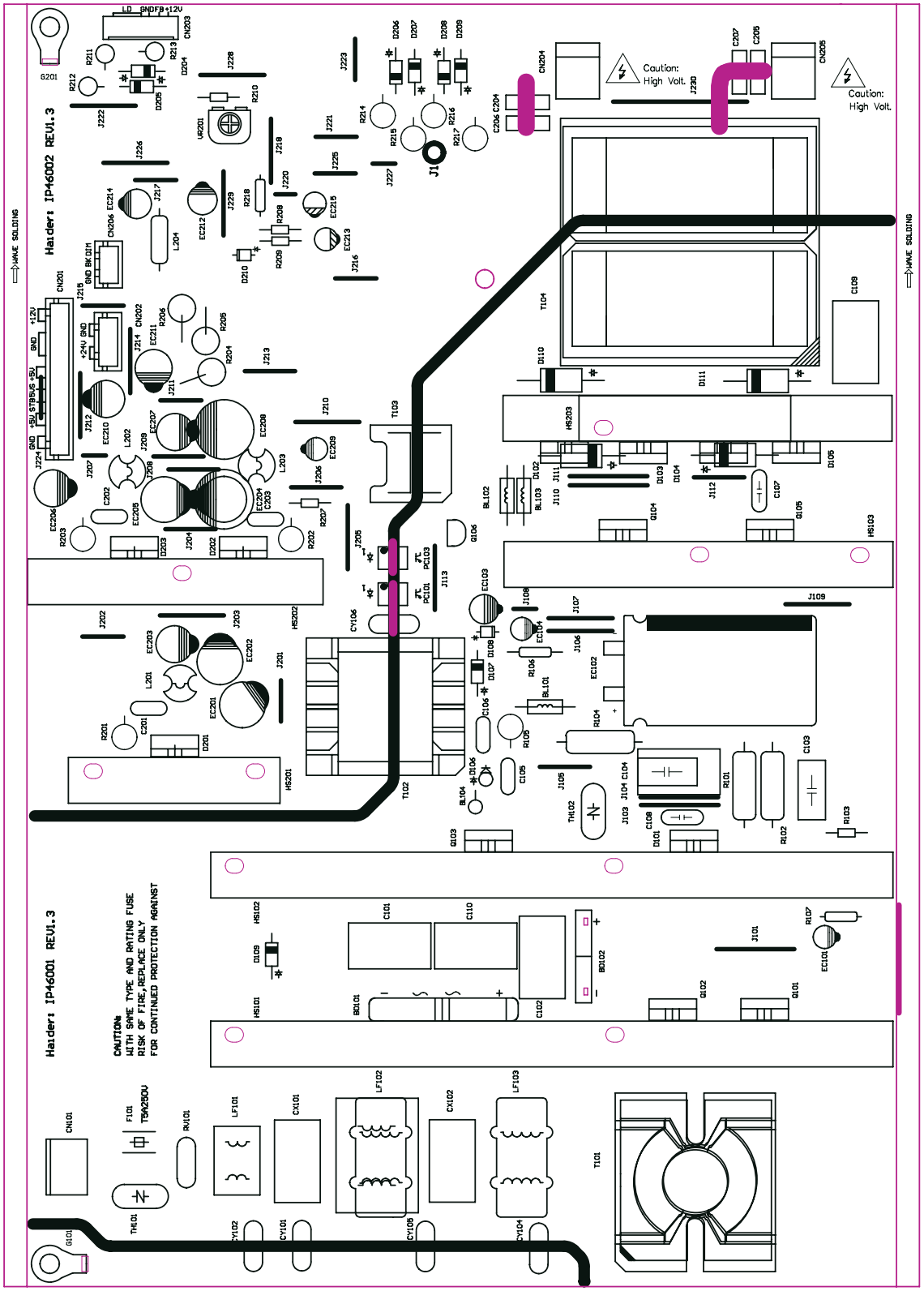





CN101
F101
RV101
TH101
LF101
CX101
R301
R302
LF102
CX102
R303
R304
CY105
CY106
LF103
AC-LINE
BD101
BD102
TH102
C101
C102
T101
D101
HV
EC102
R318
R319
R320
R321
R322
R323
C302
R316
Q101
R314
R315
Q304
R317
R311
Q102
R313
R312
Q303
R310
R107
EC101
VCC
C301
IC301
Vcc
Vfb
Drv
Comp
Gnd
Multi
Idet
Isense
R324
C305
C306
R103
C308
R101
R102
C103
R326
R327
R328
R329
R325
R353
Title
Size
B
Number
vision
Re
Date:
Aug/2010
Sheet
of
S
File:
Drawn By:
D





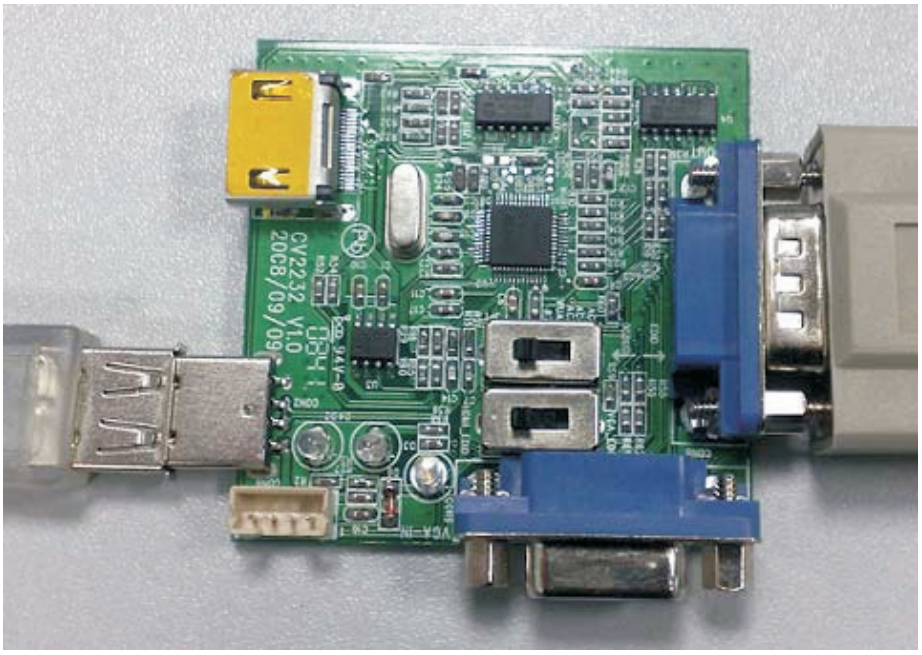

Haider IP46002 REV1.3
Haider IP46001 REV1.3
CAUTION
WITH SAME TYPE AND RATING FUSE
RISK OF FIRE,REPLACE ONLY
FOR CONTINUED PROTECTION AGAINST
Caution:
High Volt.
Caution:
High Volt.
WAVE SOLDING
WAVE SOLDING

Upgrade Tools introduction

The software update to CV318

1) HARDWARE TOOL

The tool is CV2232:



First, Set up the driver:

Step1: First set up MProg 2.3/Drivers/CDM_Setup.exe, After set up, the PC can identify the CV2232.

Step2: Plug the USB port of the CV2232 to the PC, Set up the user settings. Open the MProg 2.3/ EEPROM_DATA/ MSTAR.ept, then point the button  , put the data update to the EEPROM.

Step3: When update the software, please dip switch assigned to the end DEBUG.

Such as the picture connection:

1, Make sure the CON2 (USB port) is connected with ,PC support 5v power for CV2232.

2, Using the VGA wire to connect the VGA-OUT with the VGA port of CV318.

3, The position of the button such as the picture. ALL down!

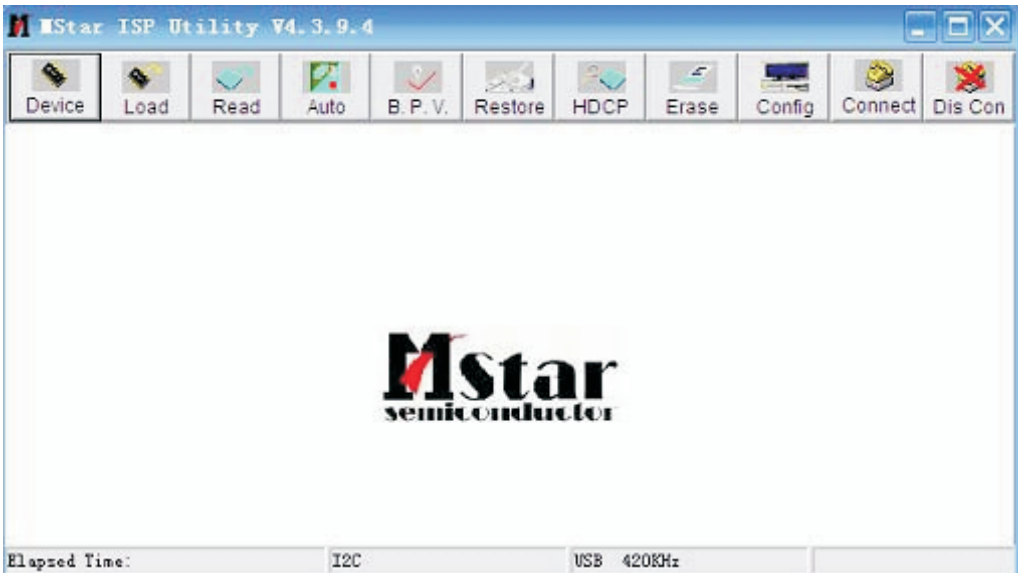
4, Last, make sure the CV318. plug into 12V power.

2) SOFTWARE TOOL:

The software update tool is *ISP_TOOL V4.4.0.4* of Mstar:

ISP_TOOL V4.4.0.4.exe, This software is portable software , no install , direct copy the file to PC , then you can use it , if the hardware is connected , please according to this step to update the software:

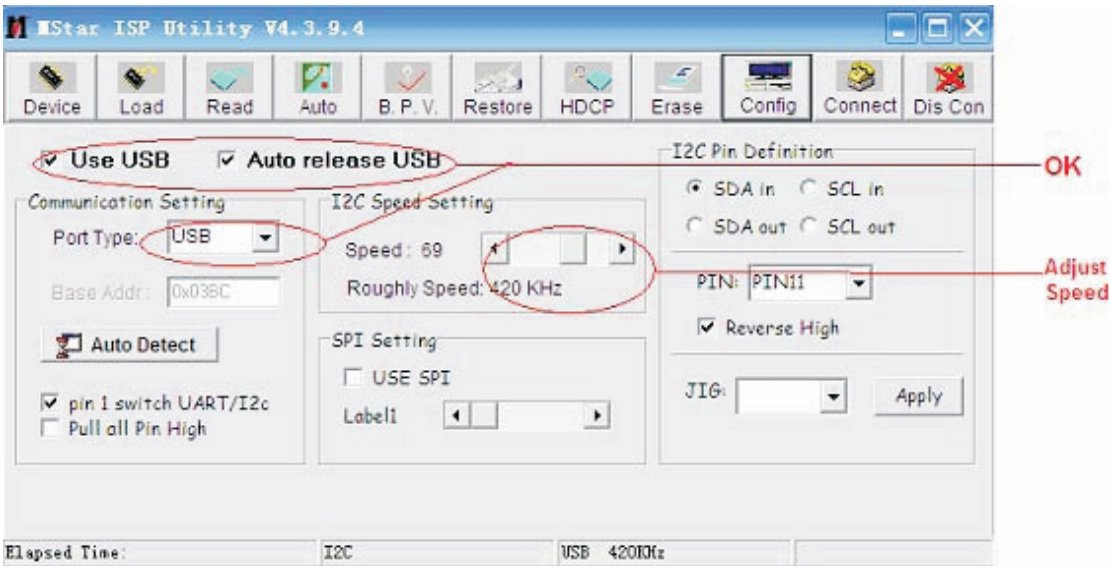
Step 1. ISP_TOOL V4.4.0.4as follows:



Step 2. SETUP:

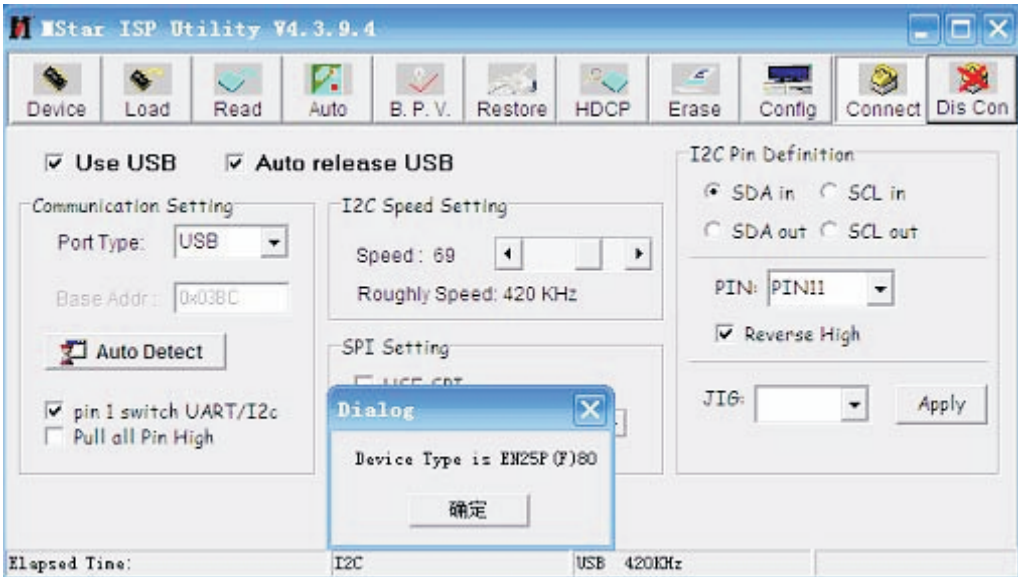
If it is the first run the program, need setup , point "Connect"button:

Point "Connect"button If the hardware board plug into 5V power. ISP_TOOL V4.4.0.4 will be auto select the USB port.You must select the speed yourself, but the max speed don挟 be more than the 420KHZ. The picture as that is ok:



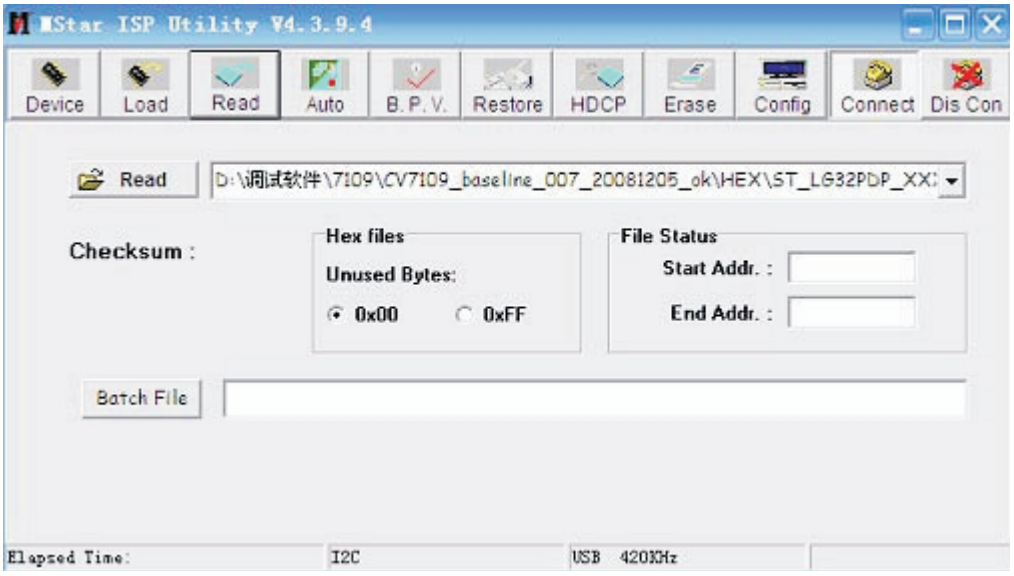
Step 3. Select the Flash style, point the "Connect"button, the software Tool will be auto select the Flash.

For example the picture:



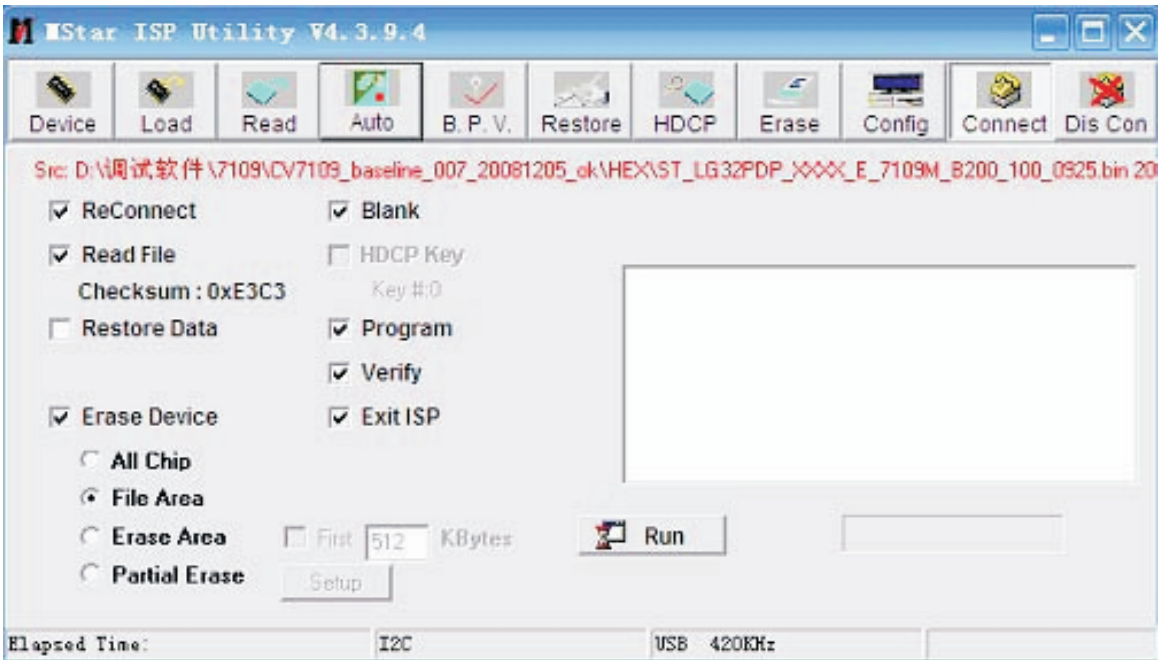
then the connect is ok, you can go to the next step.

Step 4. Point "Read", read the program need to burn.

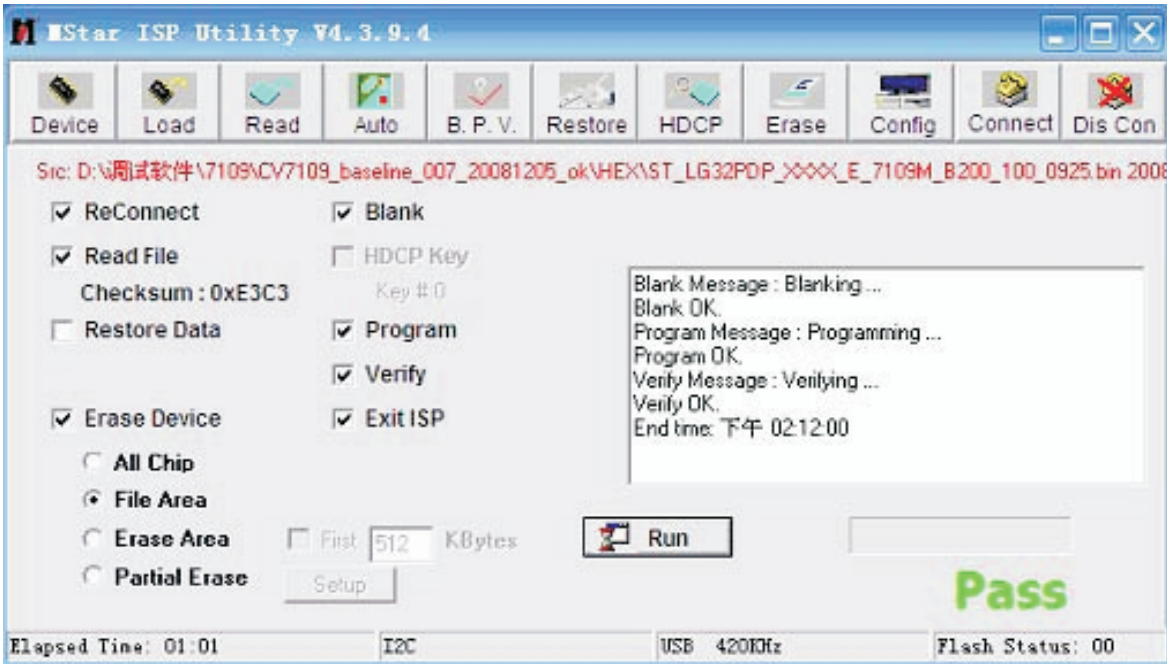


Step 5. point " Auto"button , enter burning interface

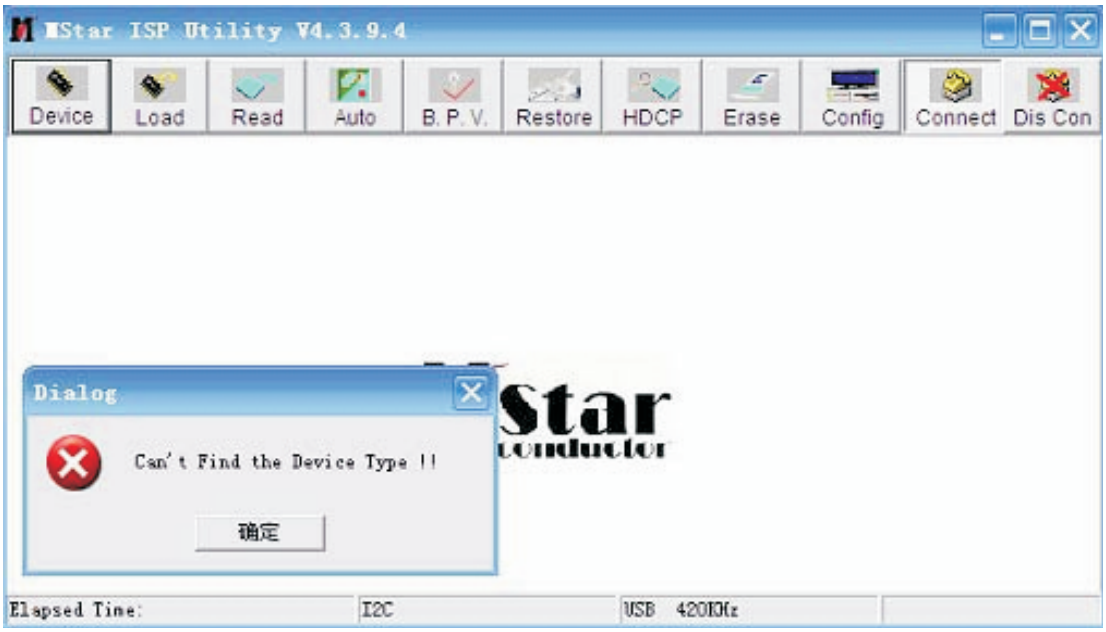
Now , point the interface of the " Run" button , can begin to burn the program at once . At the burning process , make sure the TV power already connect and in boot-strap state.



When you see the "pass", It's! As follow:



Warning: if you operate the step 3, can't select the device type, such as



First , make sure the wire is connected, check the hardware. And check the CV119x plug into 12V power.

Then you can pull out the USB port , and insert the USB port once again, as well as the plug power of CV318, or close the *ISP_TOOL V4.4.0.4*, and open it.

Time after time.

And check the speed don't be more than the 420KHZ, reduce the speed.

Upgrade by U-disk

1 .firstly, format the U-disk(remark: pls save all the date in the U-disk before format)

2 .pls copy software to the U-disk root corresponding (software :bin document)

3 .insert U-disk into SERVICE interface on condition of turn off power

4 .power on and then procedure can upgrade automatic.

5 .after upgrading ,disconnect U-disk ,upgrading will be finish when restart power (upgrading finish after blue light stop glinting)

How to access factor

Enter the motherboard:INPUT+2580