

Service Service Service



Service Manual

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1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D): 240 x 178.5x 34.8 mm
Bear Unit Weight: 1.2kg
Power supply:
Supply voltage AC 100~240V (adapter)

Supply Power consumption 9V/1.5A
Operating Temp & RH 0~ 45degC / 30-90%

Audio System
Output voltage 1kHz: 2V +/-0.1V
THD 20-20kHz (%): 0.03%
Dynamic range 1kHz >/=80dB
Signal/Noise ratio: >/=80dB
Frequency response (20-20kHz): +/-1dB
Channel Separation 1kHz >=80dB
Channel Balance 1kHz 1dB

Playback disc type: DVD,+/- RW/DVD +/-R/CD/CD-R/CD-RW
Video Playback Format: DVD / SVCD/JPEG MPEG4/DIVX3,4,5
Audio Playback Format: CD/MP3
Disc Diameter 8/12cm

Pixel specification

Max. 0 bright-dot & max. 3 dark-dots

Current consumption

DC Supply	DC6.3V-15.5V
Standby Power off	<0.45W
Battery	
Voltage	8.5V
Capacity	3500mAH
Battery playtime	
Charging time	3h
Standby Power off	

Headphone out (headphone output load 2x16 ohm)

Maximum output power: >1.5mW
Frequency response: +/-1dB
SNR (A-wght): >62dB
THD (w/16 ohm loading): 1.0%
Left-Right Channel Separation: >40dB
Left-Right Channel Balance: <3.0dB

Supported disc type

Video Playback Formats:



Audio Playback Formats:



1.0 TECHNICAL SPECIFICATION

Factory Service Mode (FSM)

Procedure to change region code of your DVD Portable

1. Power on the DVD player and do not insert DISC inside player
2. Press the remote button in the sequence as 9 -> 6 -> 5 -> 3
The LCD display showed the existing region code.
3. Press ▲ (navigation up) or ▼ (navigation down) repeatedly to select the number from 0 to 6.
4. Then press OK to confirm your region code.
5. Refer below table for your region code setting

Region Code	Region
1	USA
2	EUROPE
3	ASIA PACIFIC
4	AUSTRALIA, NEW ZEALAND, LATAM
5	RUSSIA, INDIA
6	CHINA

Procedure for SW upgrade

1. Download the "PHILIPS.BIN" file from the Philips support site
2. Unzip the file, Drag-n-drop to SD drive or CD-ROM into the data.
3. Power on PET946 with AC/DC adapter
4. Insert the SD drive to SD port of the main set, or open the DVD door to put CD-ROM inside
5. The set can detect the upgraded SW automatically
6. Press "OK" to confirm and proceed
7. The set will reset once upgrading completed

Warning: Do not unplug the AC adapter during firmware upgrade to prevent flash corrupt of the set!!

Procedure to check SW version of your DVD Portable

1. Power ON the DVD player and no insert DISC
2. Press the remote button in the sequence as 3->3->0->8, then a menu will be show YYYY-MM-DD

2.0 SAFETY INSTRUCTIONS

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

ESD



NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialeto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.



F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.

GB Warning !

Invisible laser radiation when open. Avoid direct exposure to beam.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

S Varning !

Osynlig laserstrålning när apparaten är öppnad och spärrar är urkopplad. Beträkta ej strålen.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

SF Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

DK Advarse !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

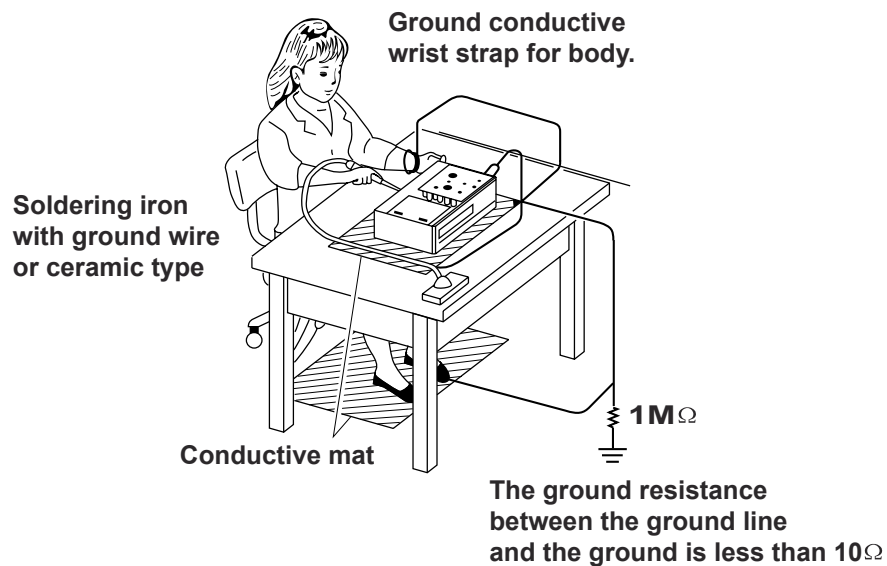
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



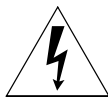
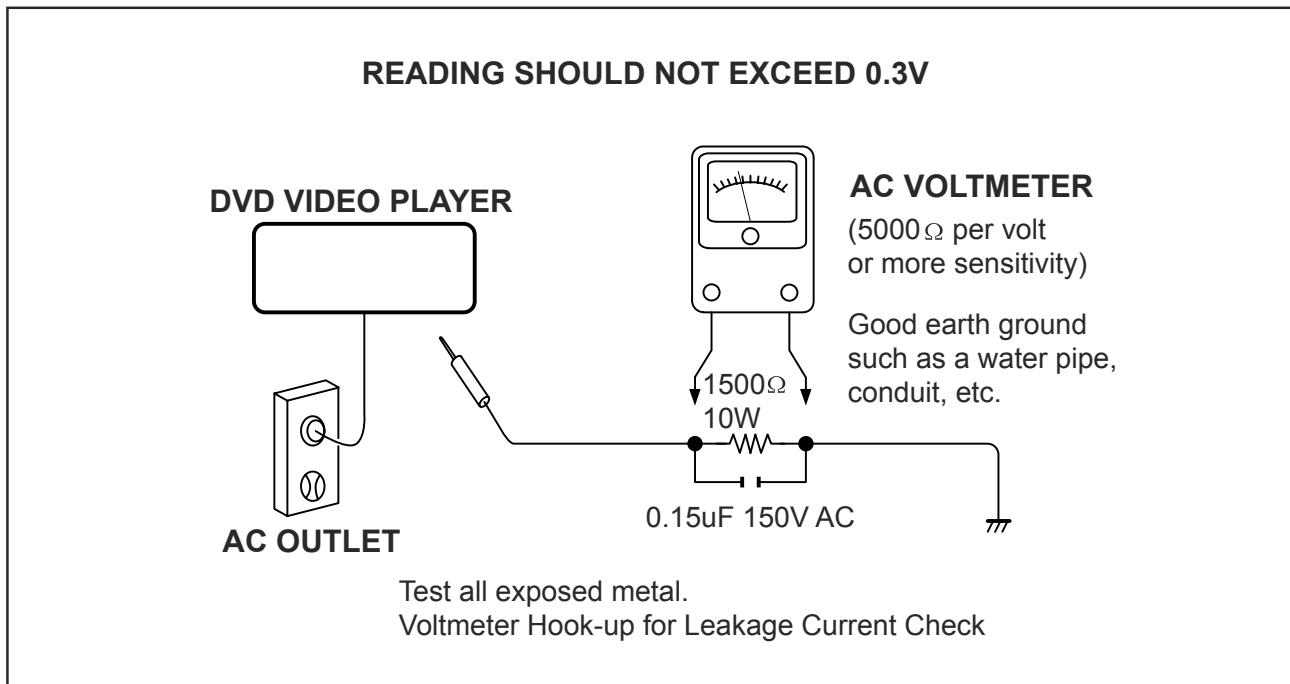
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a $0.15\mu\text{F}$ 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

4.0 MECHANICAL INSTRUCTION

Disassembly Procedure on PET946

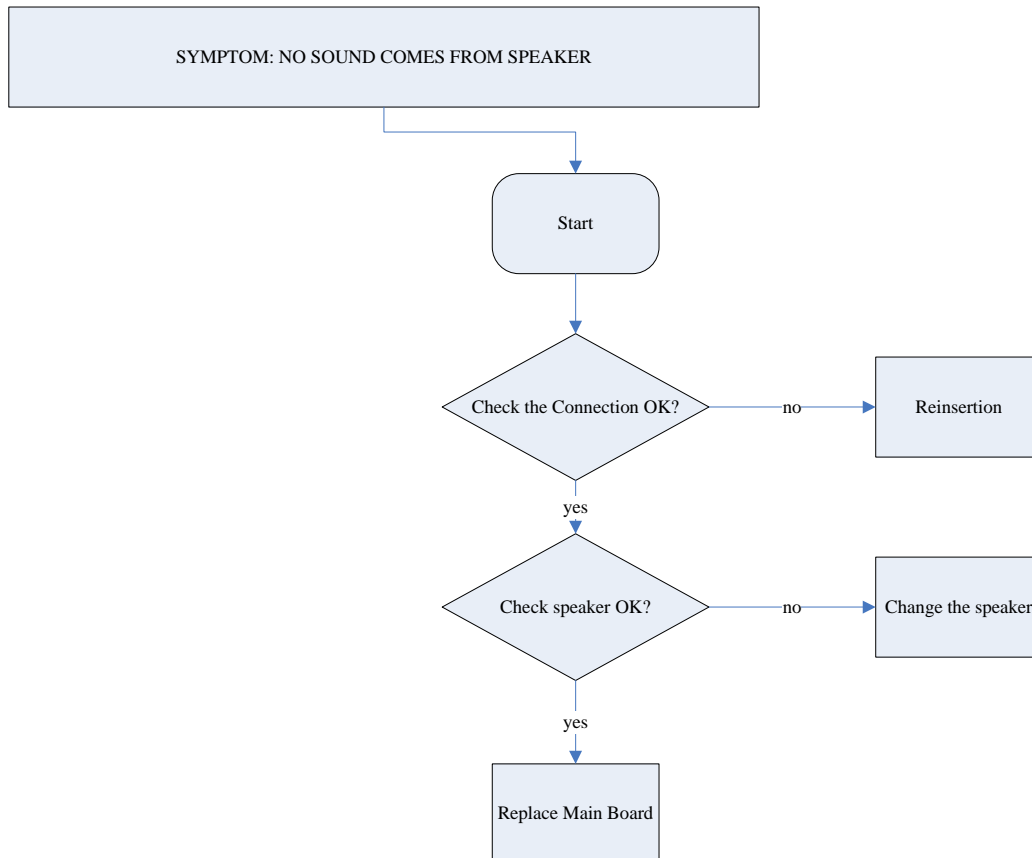
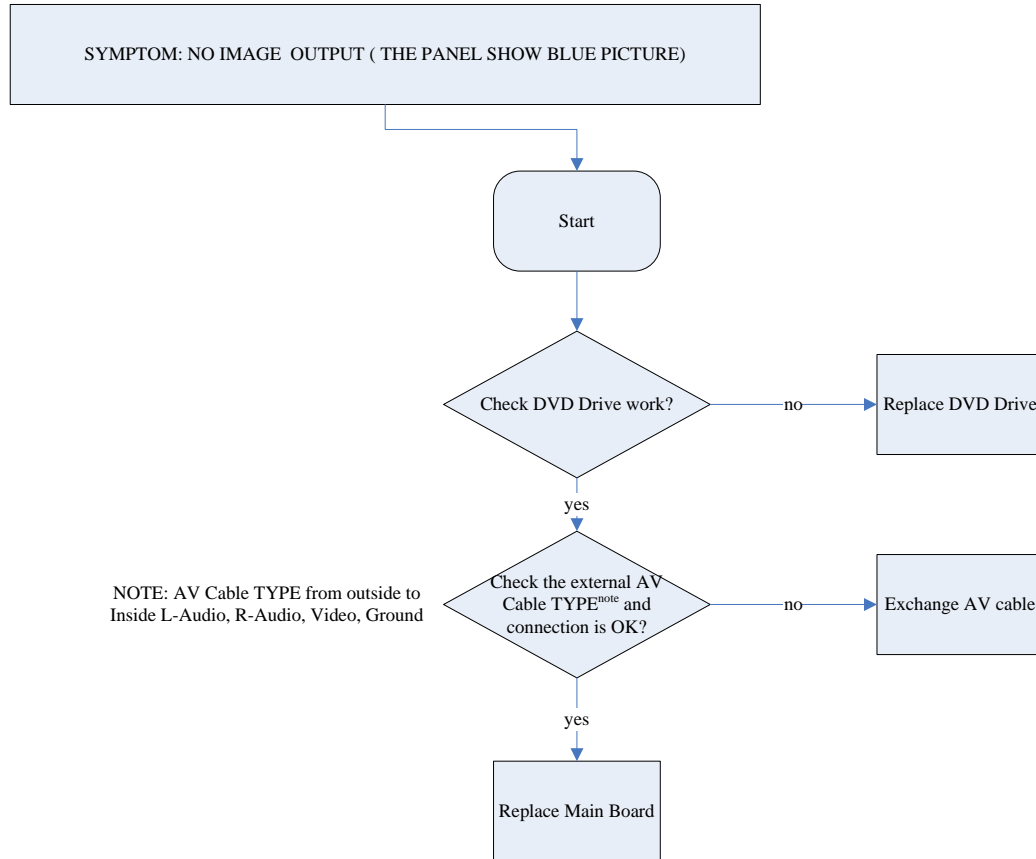
	<p>Remove eleven screws on back cabinet to separate top cabinet and back cabinet.</p>	<p>screws 11pcs</p>
	<p>Generally open the front cabinet.</p>	
	<p>Remove four screws and disassemble the connector on the Main board.</p>	<p>screws 4pcs.connector 8pcs.</p>
	<p>Remove six screws on the battery board and DVD LOADER.</p>	
	<p>Remove four screws on the key board.</p>	
	<p>Remove the speaker grill and 4pcs screws. .</p>	



Remove the 2pcs screws and cabinet on the TFT and IR board.

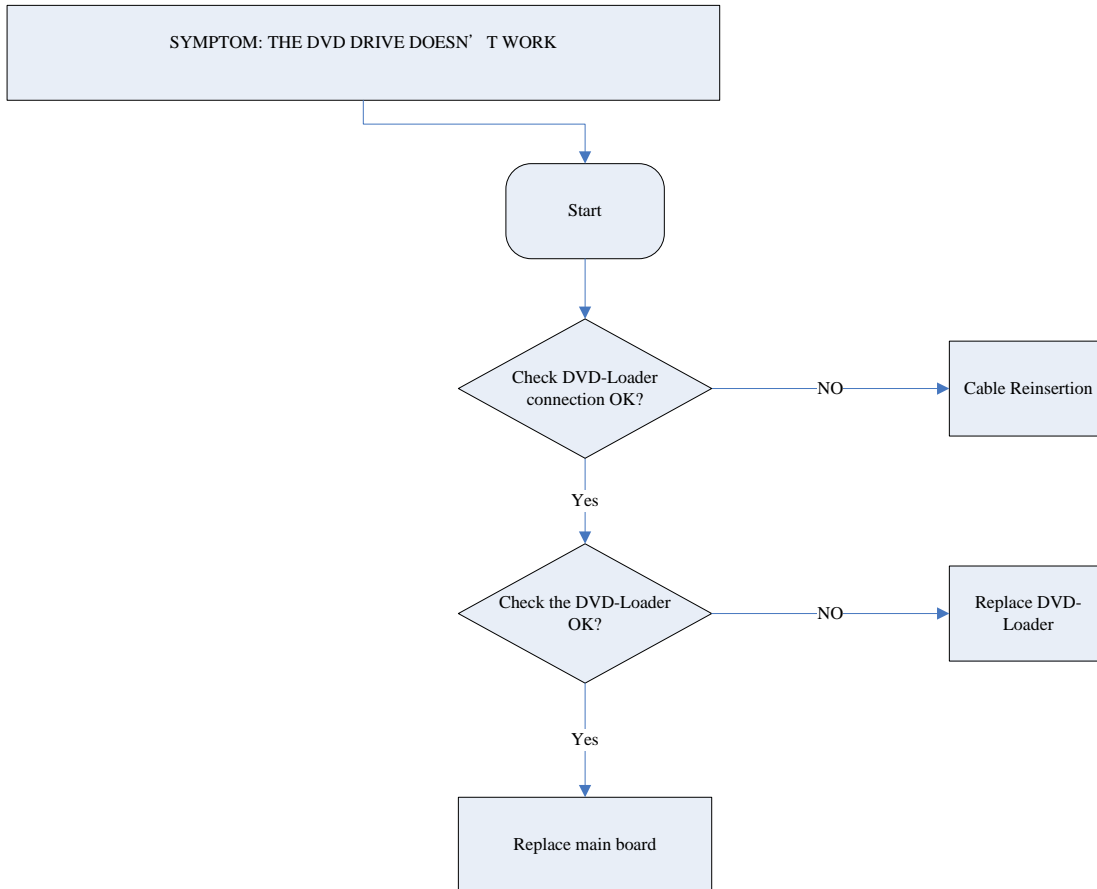
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



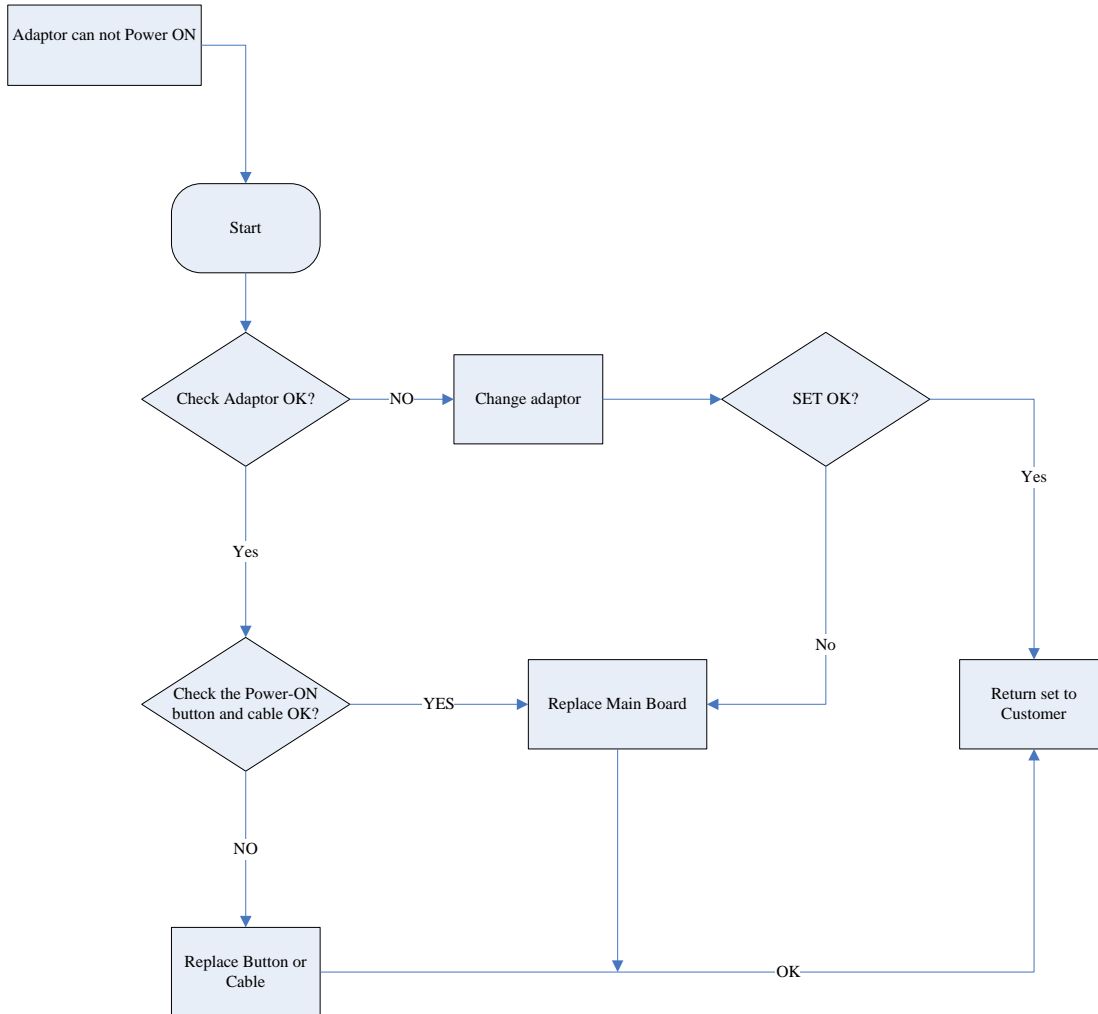
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



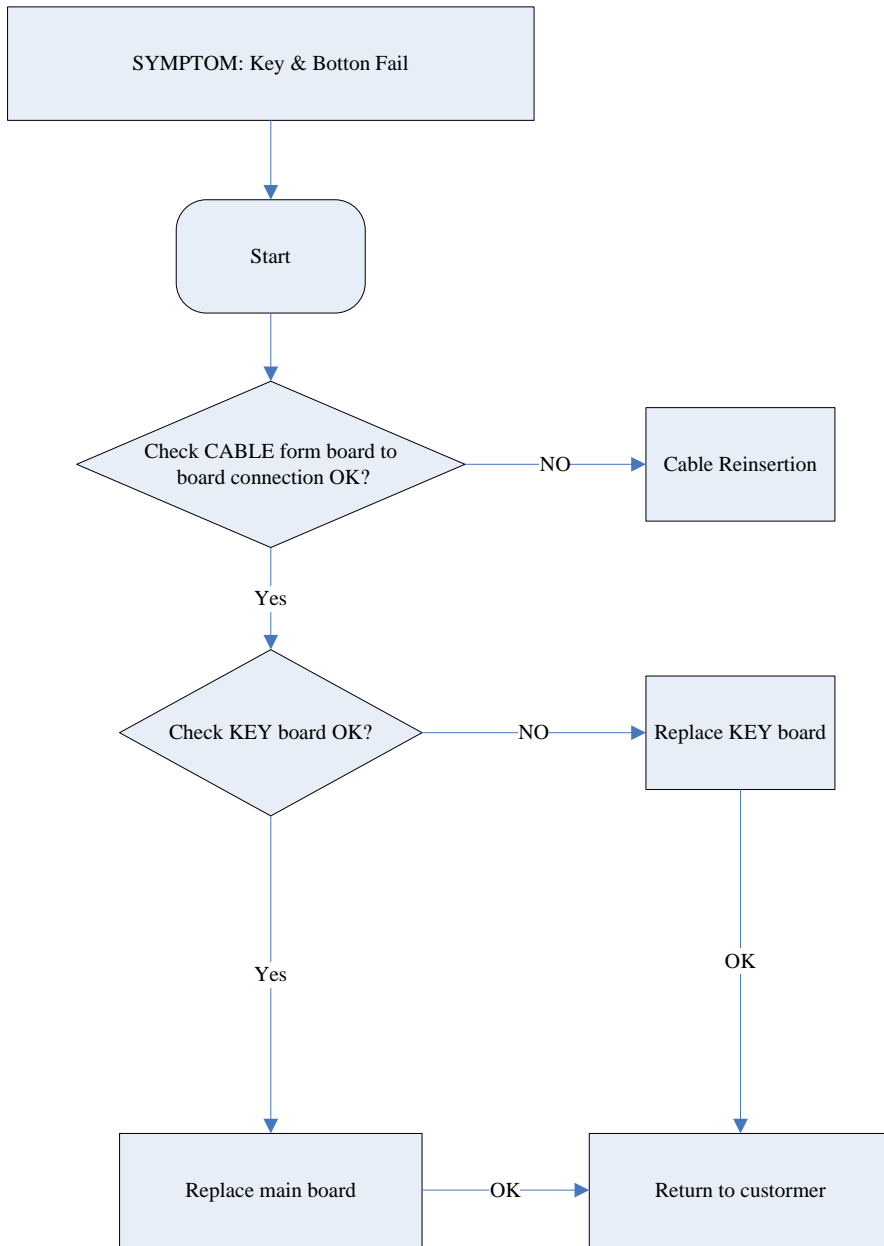
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON

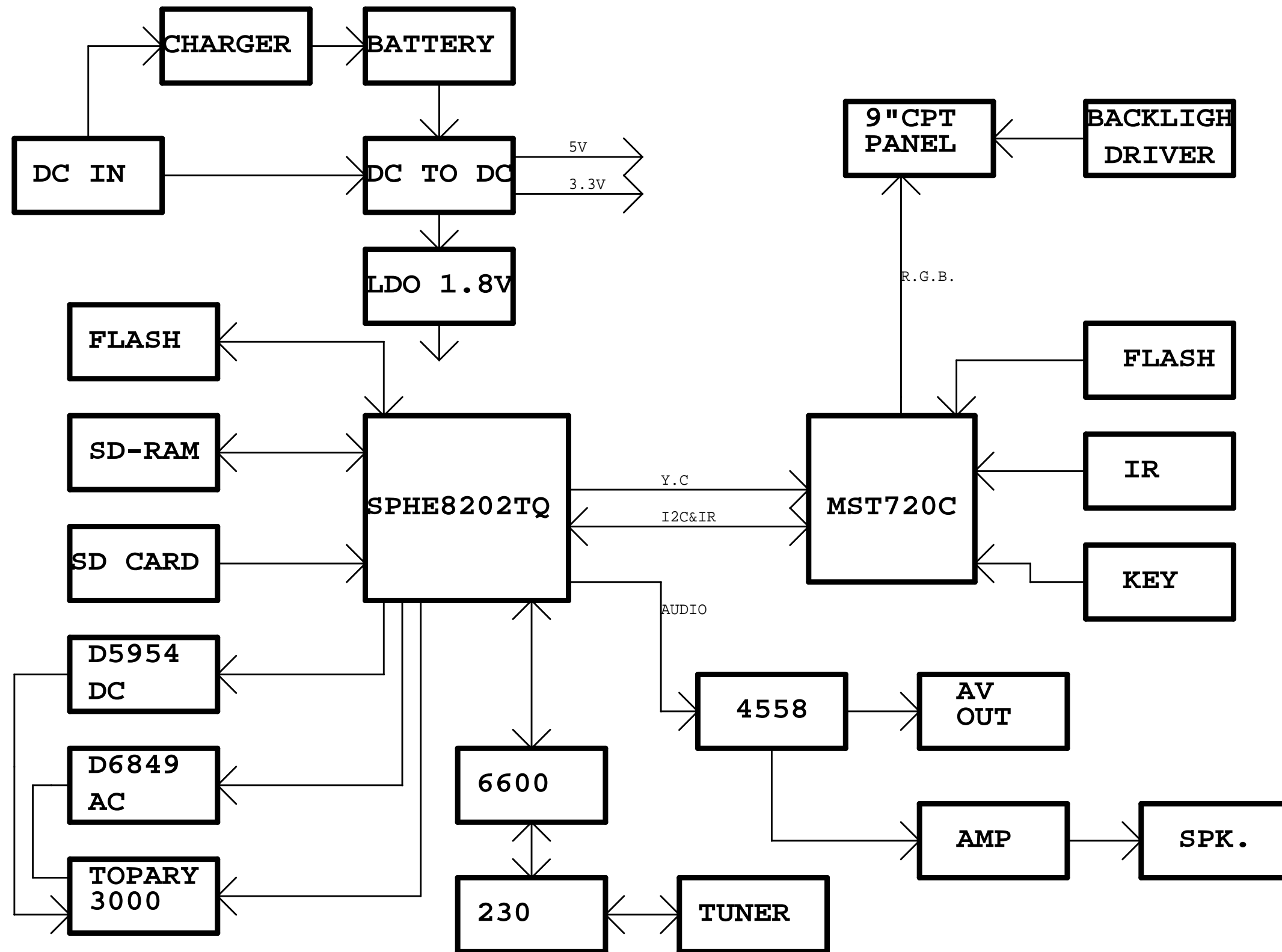


5.0 TROUBLESHOOTING

SYMPTOM: KEY & BOTTON FAILURE

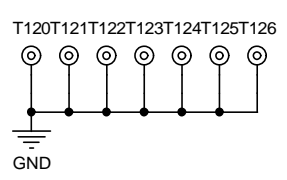
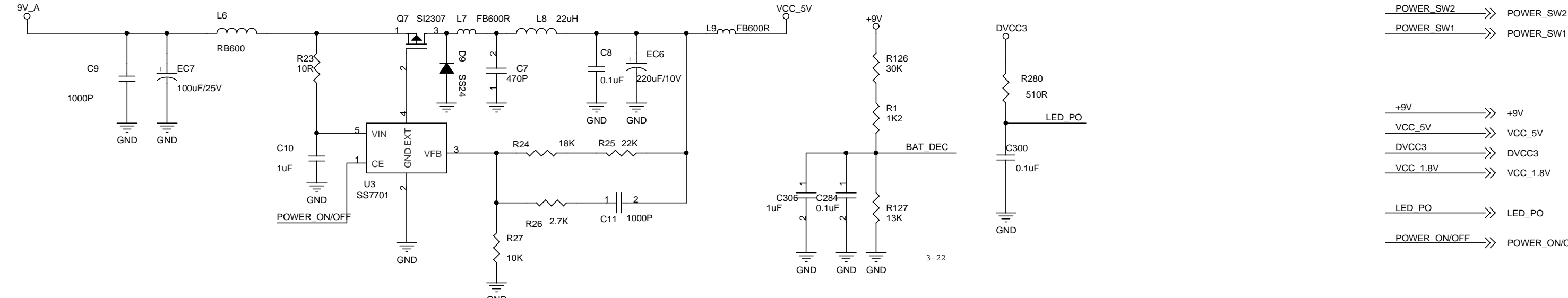
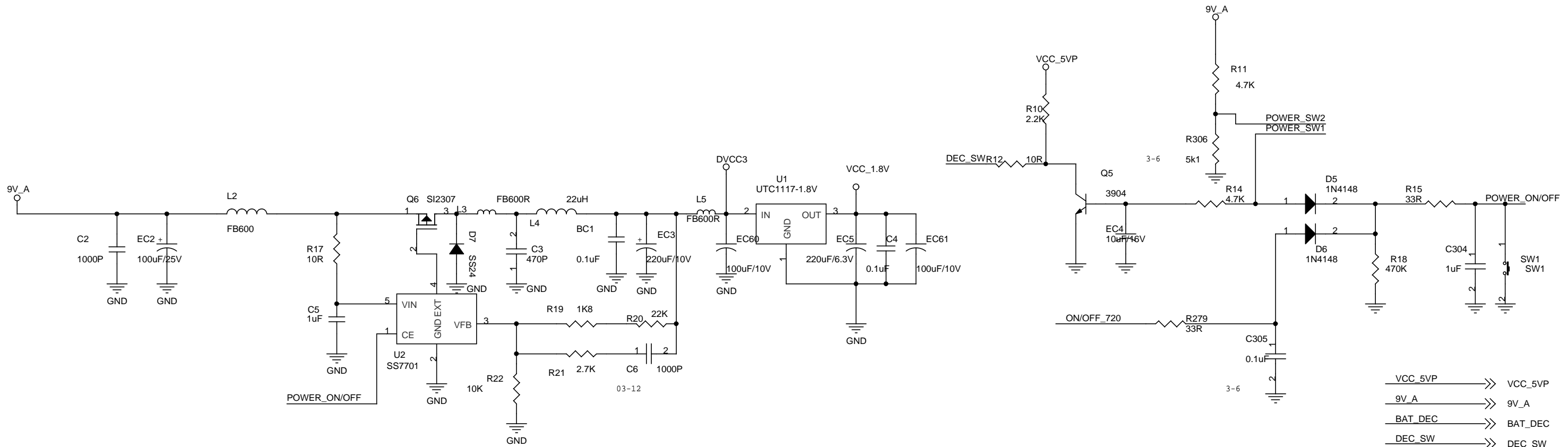


6.0 PET946 BLOCK DIAGRAM



7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-POWER



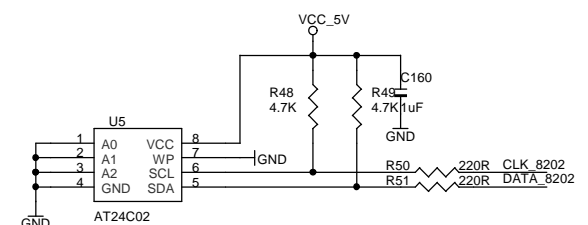
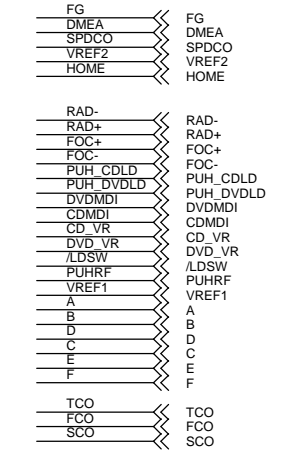
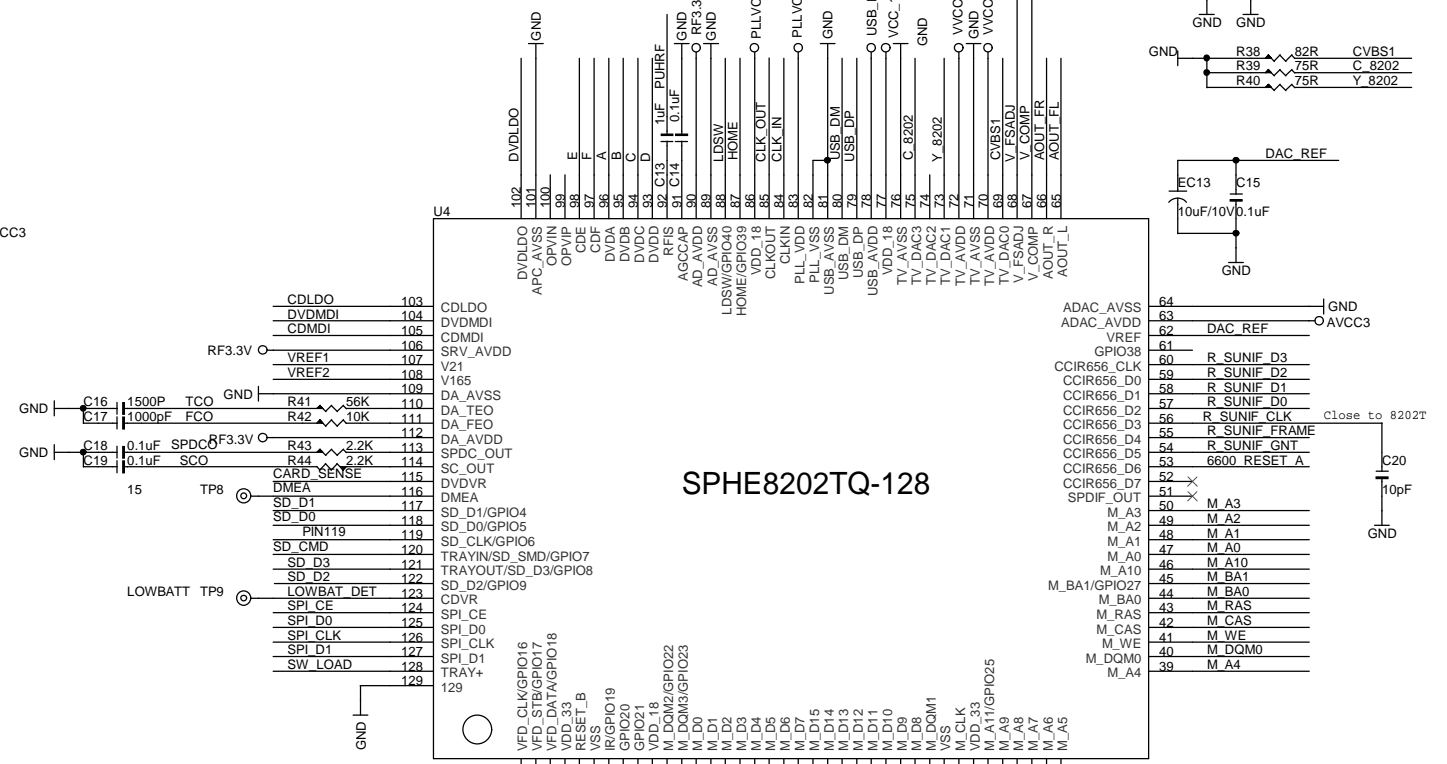
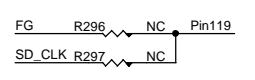
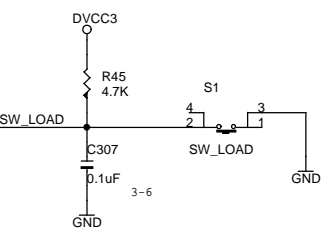
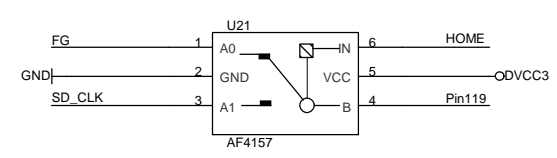
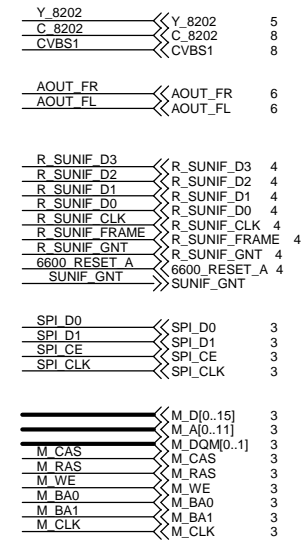
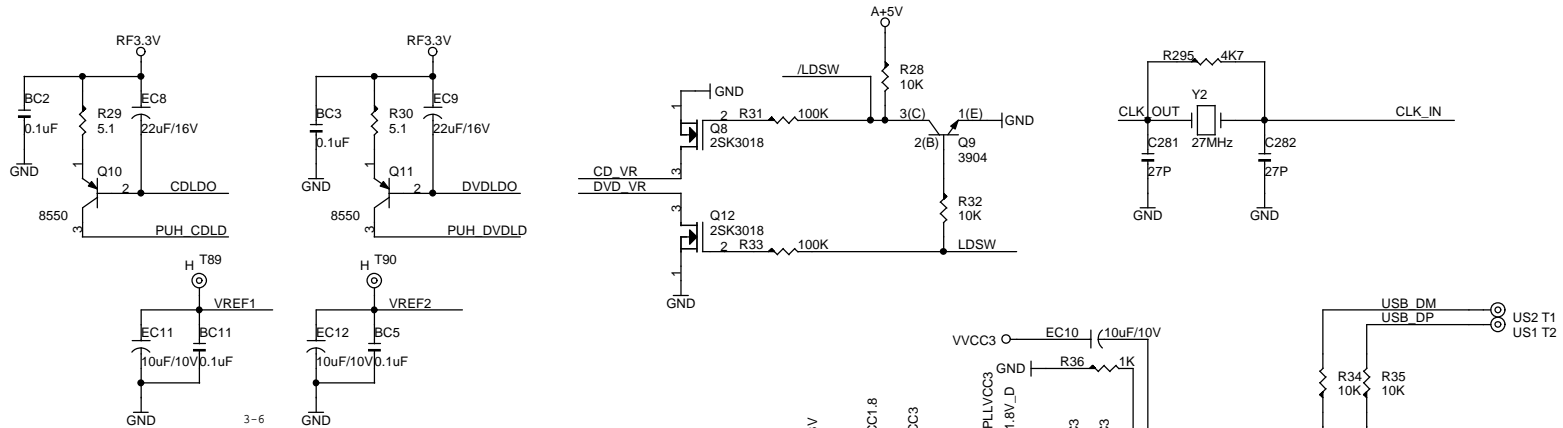
- VCC_5VP → VCC_5VP
- 9V_A → 9V_A
- BAT_DEC → BAT_DEC
- DEC_SW → DEC_SW
- ON/OFF_720 → ON/OFF_720
- POWER_SW2 → POWER_SW2
- POWER_SW1 → POWER_SW1

- +9V → +9V
- VCC_5V → VCC_5V
- DVCC3 → DVCC3
- VCC_1.8V → VCC_1.8V

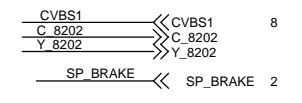
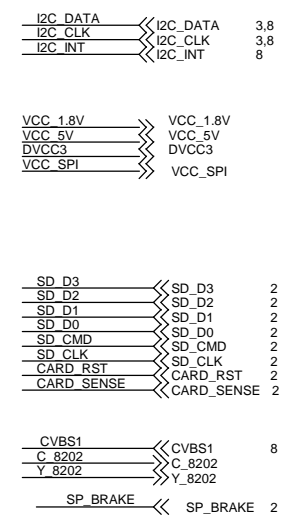
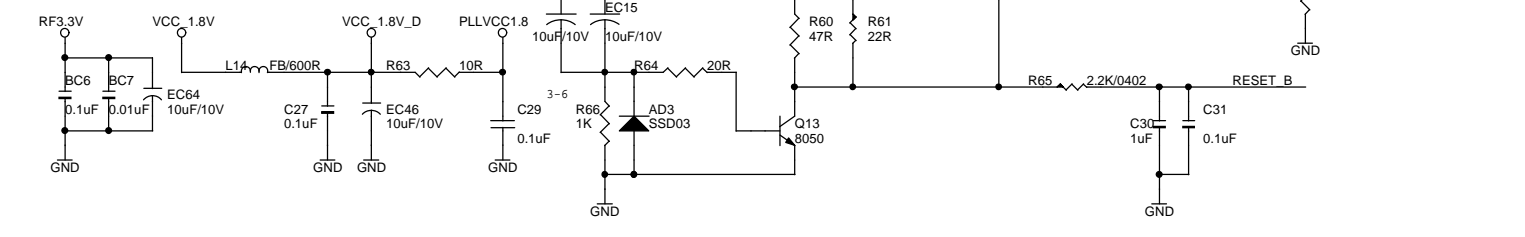
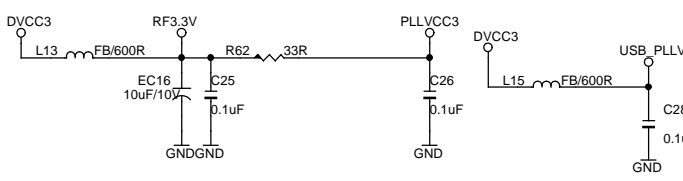
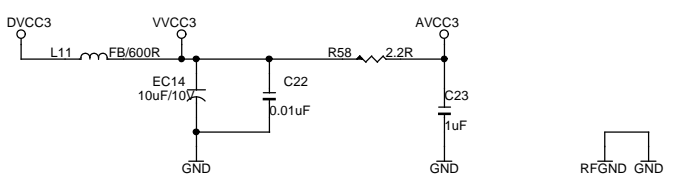
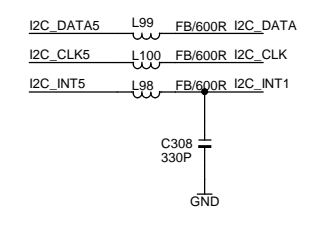
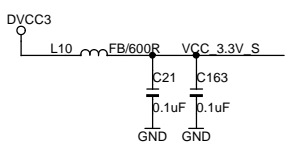
- LED_PO → LED_PO
- POWER_ON/OFF → POWER_ON/OFF

7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-MPEG

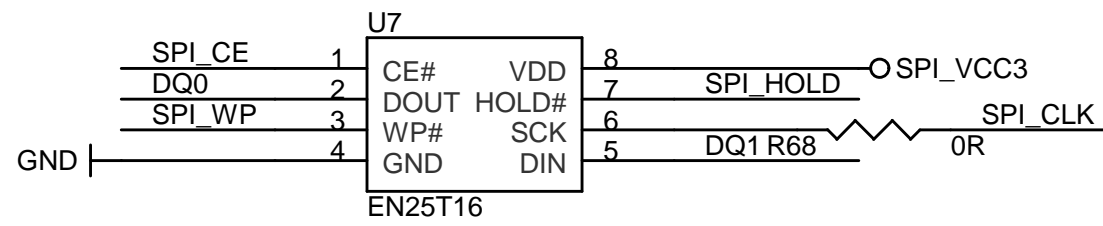


I2C ADDR = 0XA0

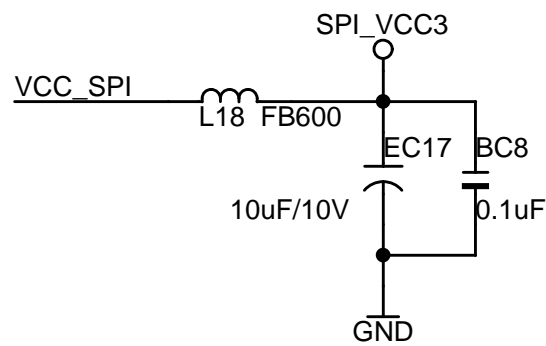
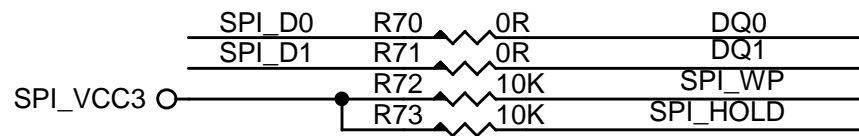


7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-MEMORY

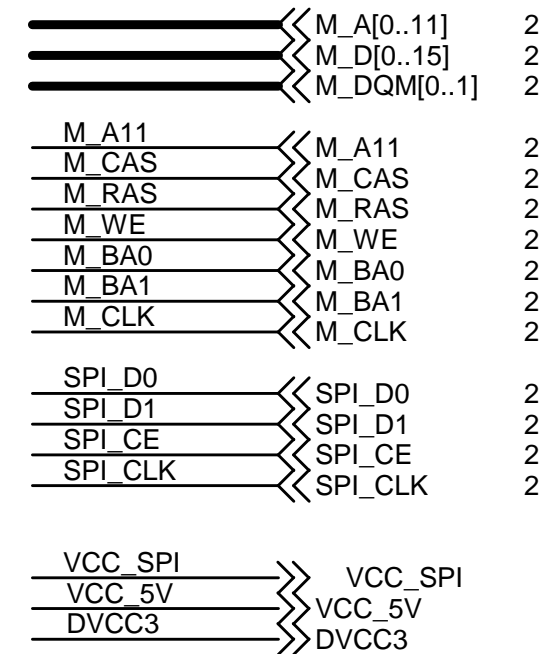
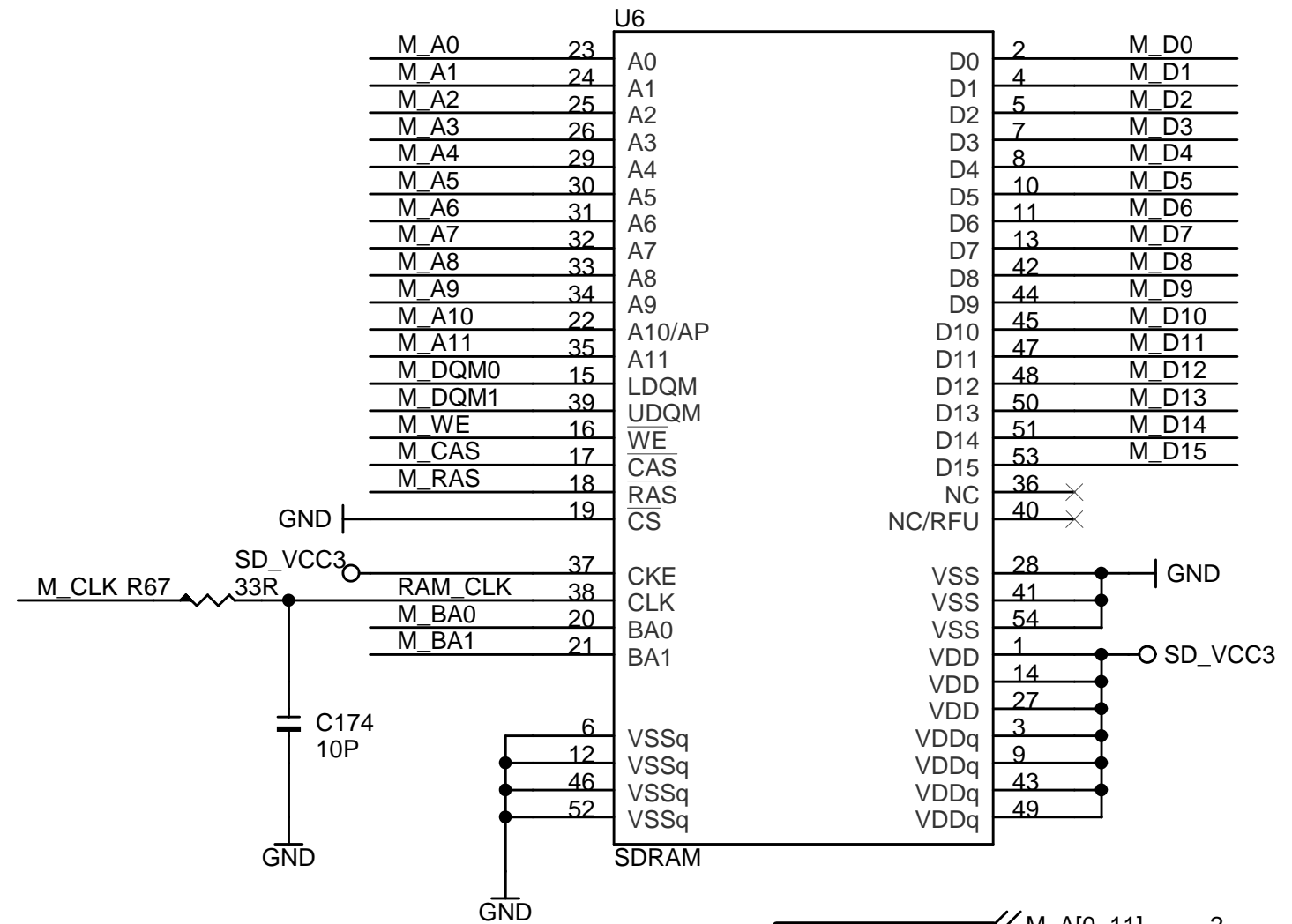
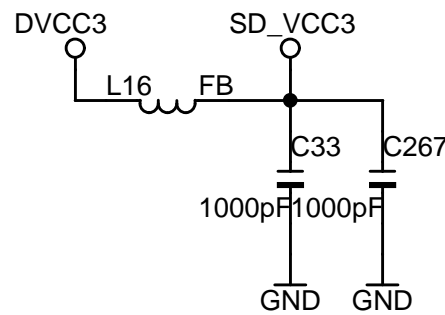
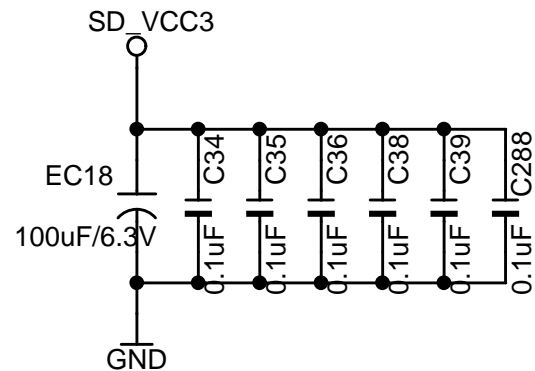


For 1bit SPI Flash



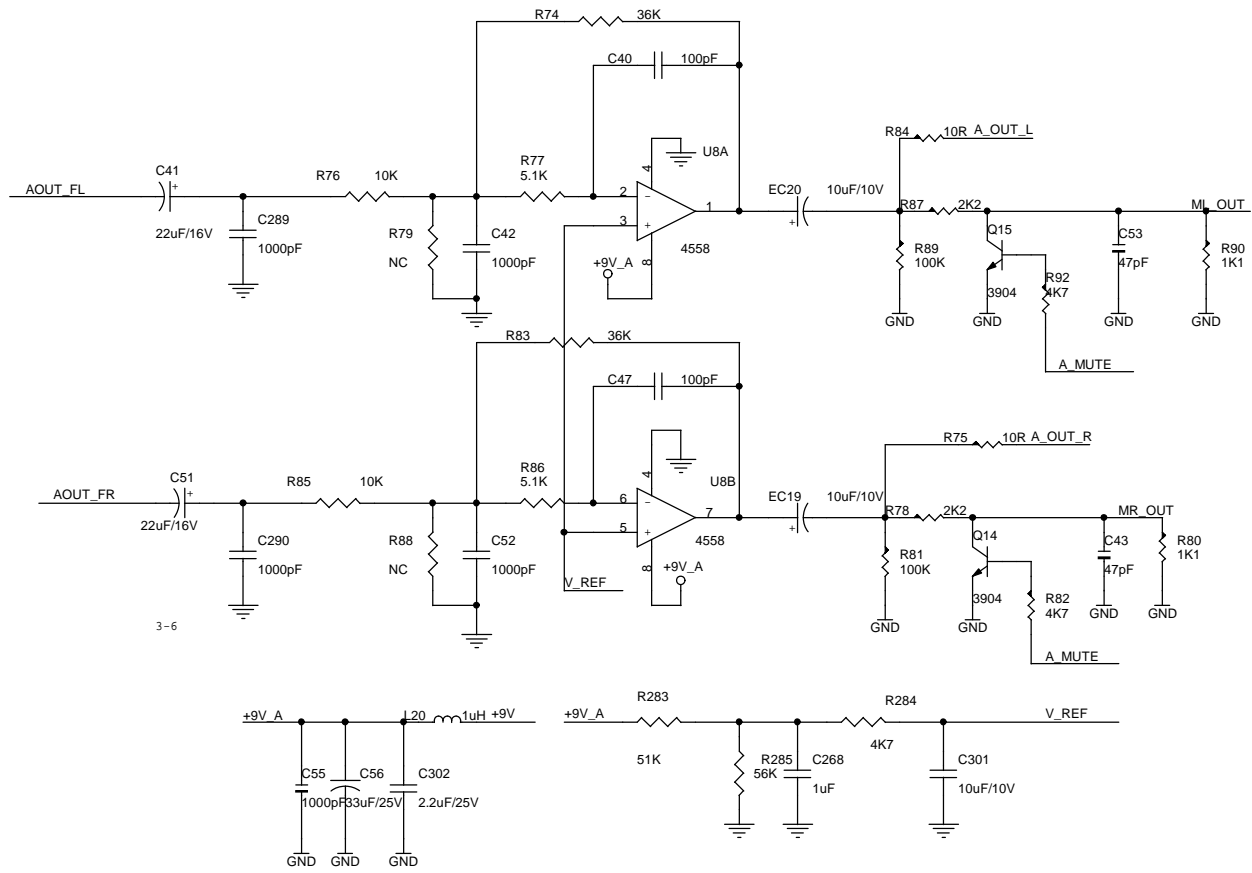
SPI Mode Setting

	2bit	1bit
R119	NC	0
R121	0	NC

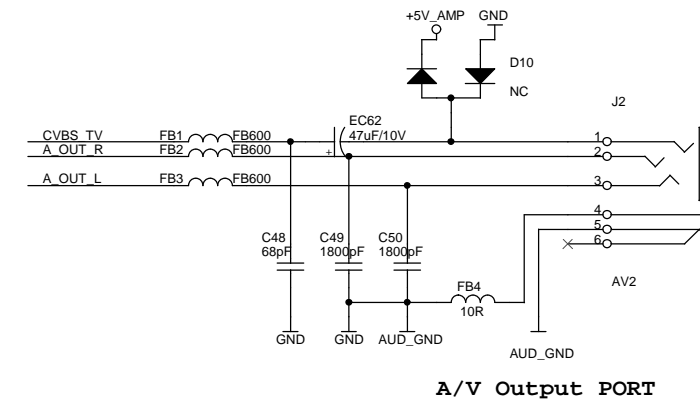
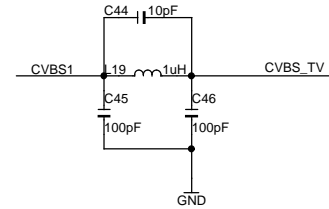


7.0 ELECTRICAL DIAGRAM

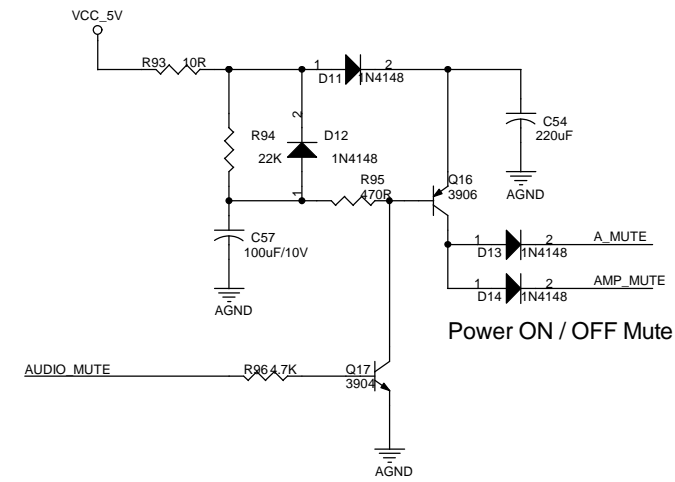
CIRCUIT DIAGRAM-AUDIO&VIDEO



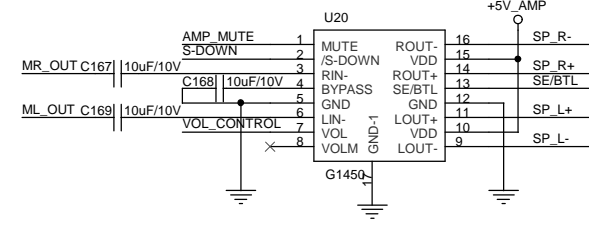
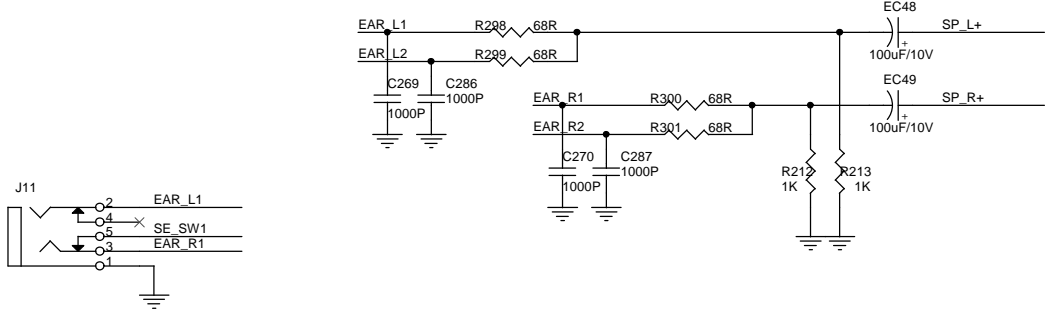
VIDEO PORT (CVBS & COAX)



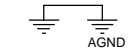
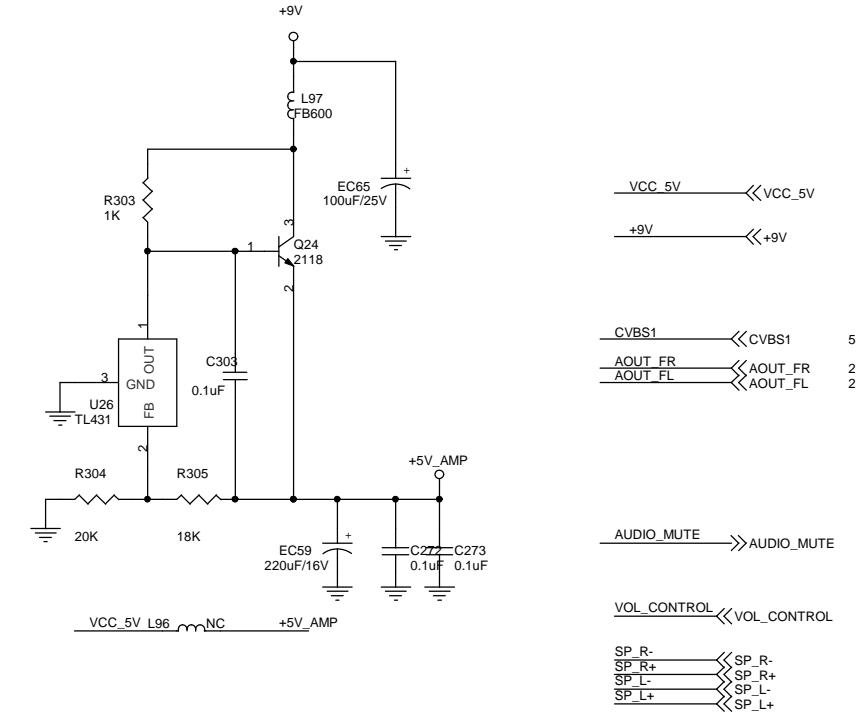
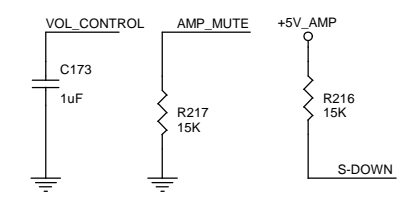
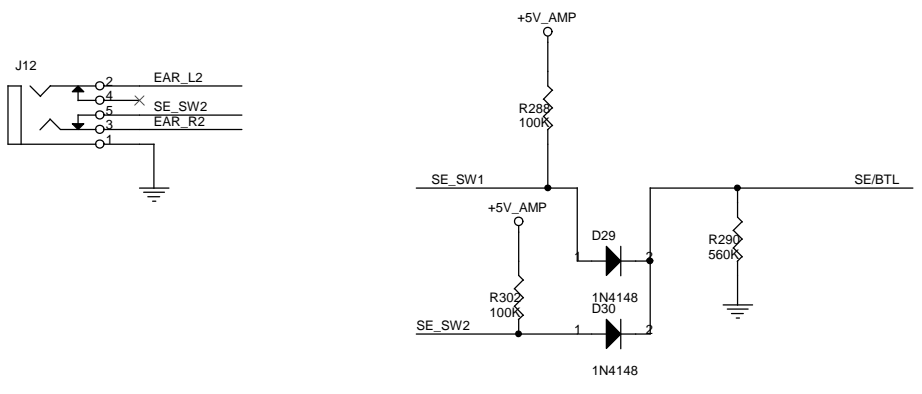
A/V Output PORT



Power ON / OFF Mute

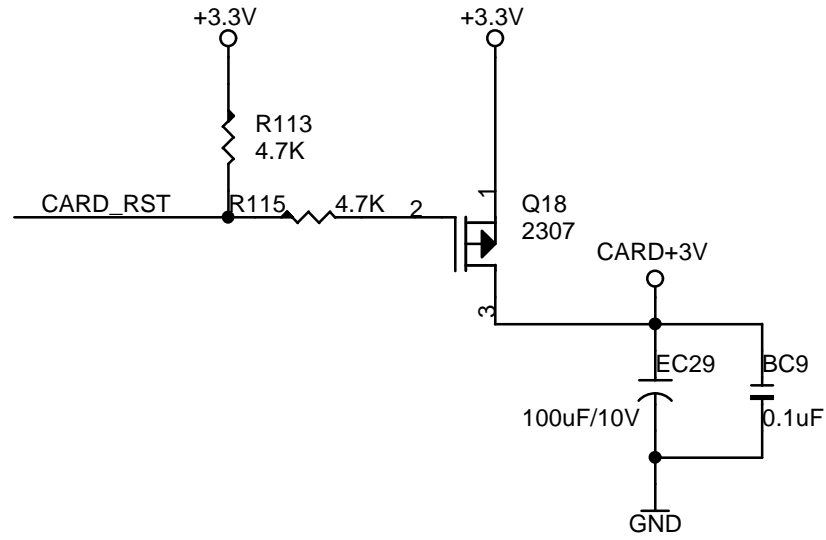
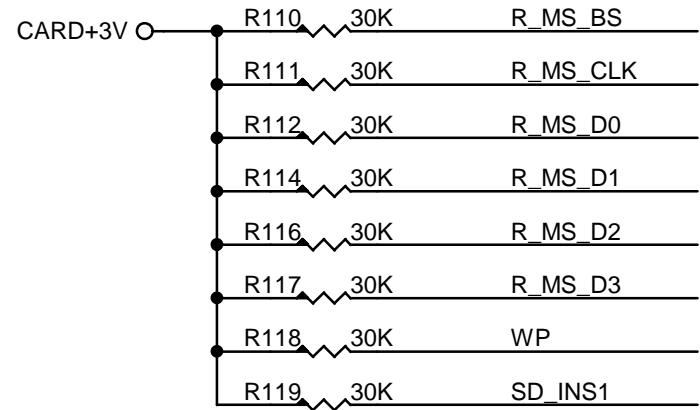


CHANGE PIN 11&9



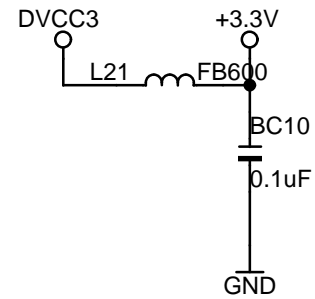
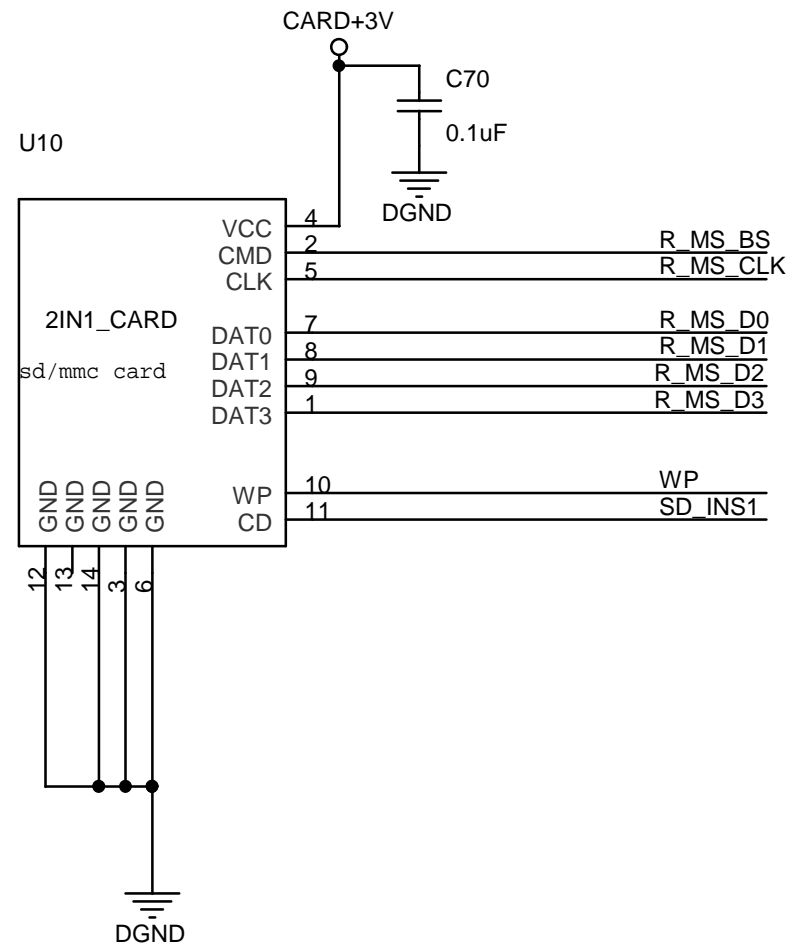
7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-SD CARD



SD_CLK	R120	33	R_MS_CLK
SD_CMD	R121	33	R_MS_BS
SD_D0	R122	33	R_MS_D0
SD_D1	R123	33	R_MS_D1
SD_D2	R124	33	R_MS_D2
SD_D3	R125	33	R_MS_D3
SD_INS1	R222	33	SD_INS

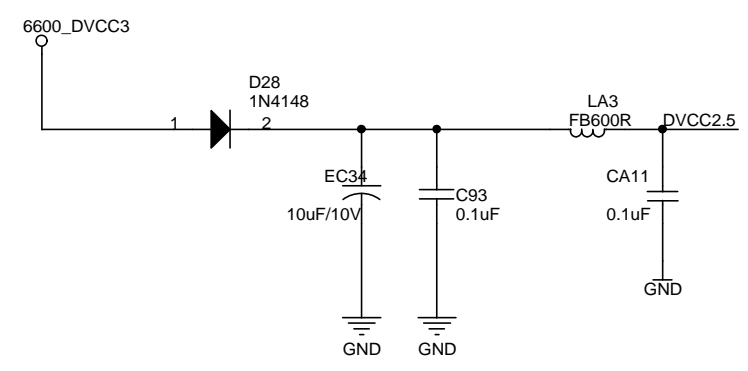
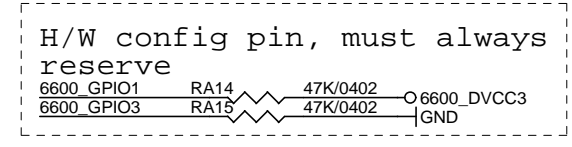
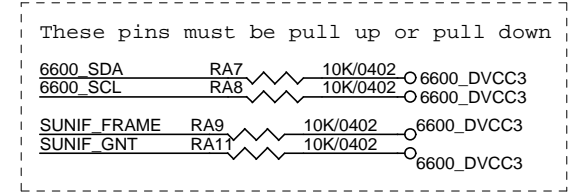
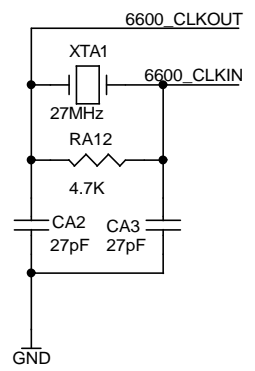
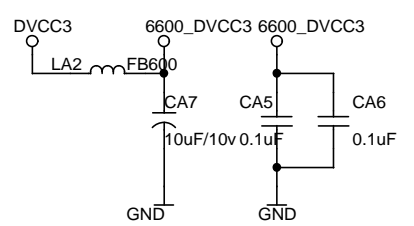
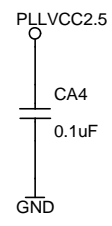
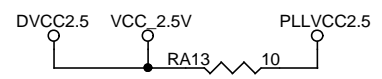
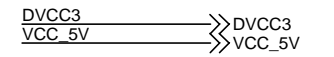
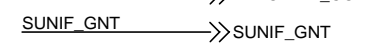
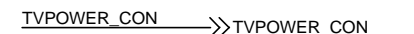
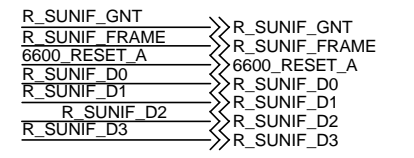
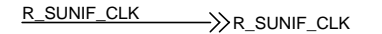
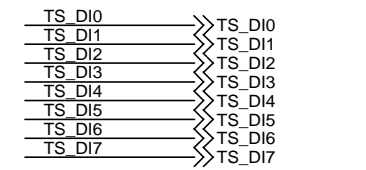
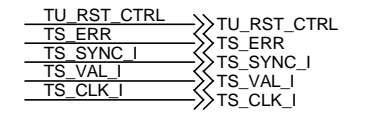
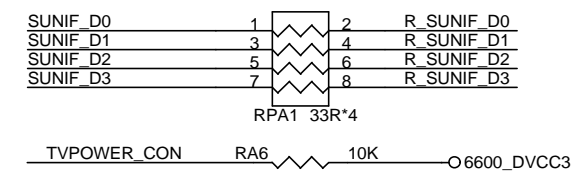
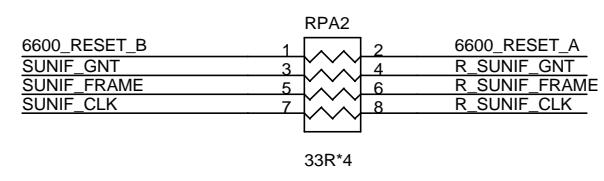
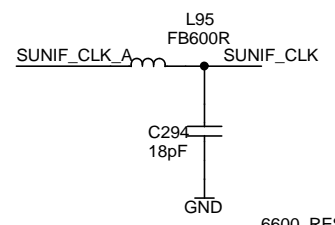
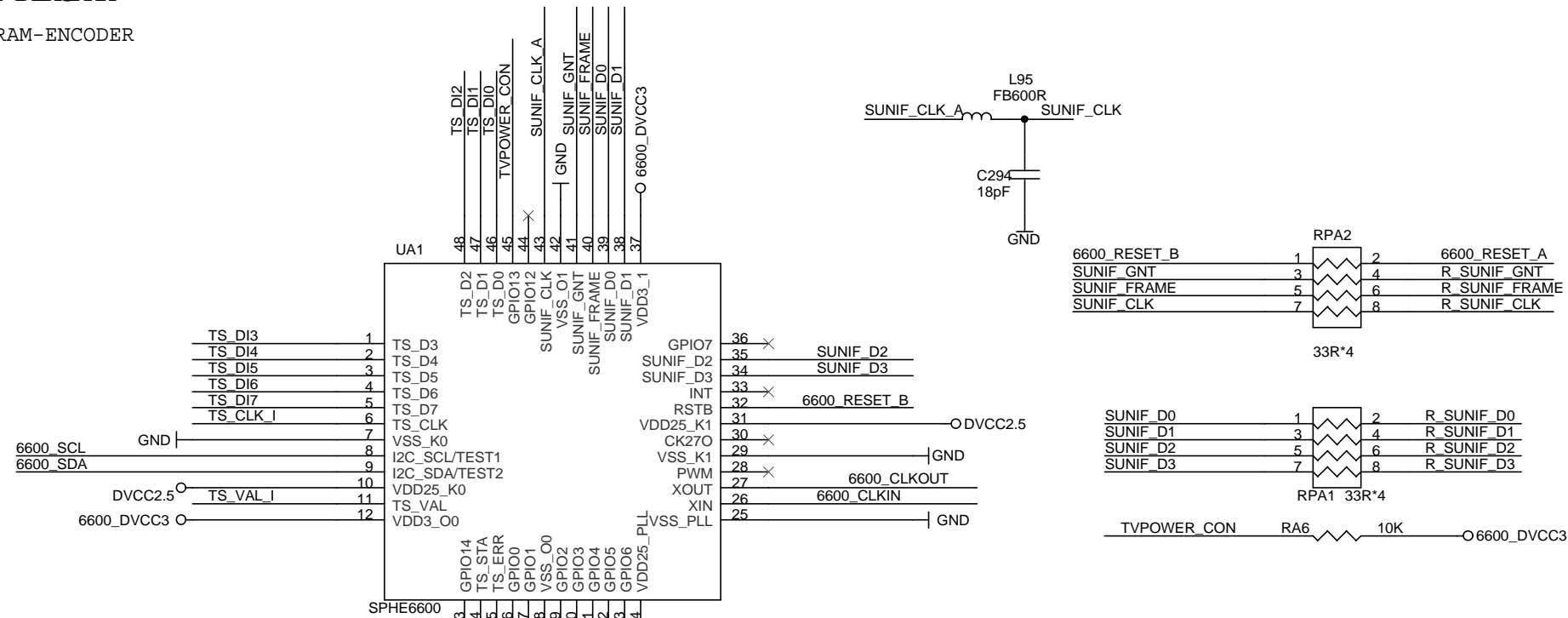
SD_D3	SD_D3	2
SD_D2	SD_D2	2
SD_D1	SD_D1	2
SD_D0	SD_D0	2
SD_CMD	SD_CMD	2
SD_CLK	SD_CLK	2
CARD_RST	CARD_RST	2
SD_INS	CARD_SENSE	2



DVCC3	DVCC3	2
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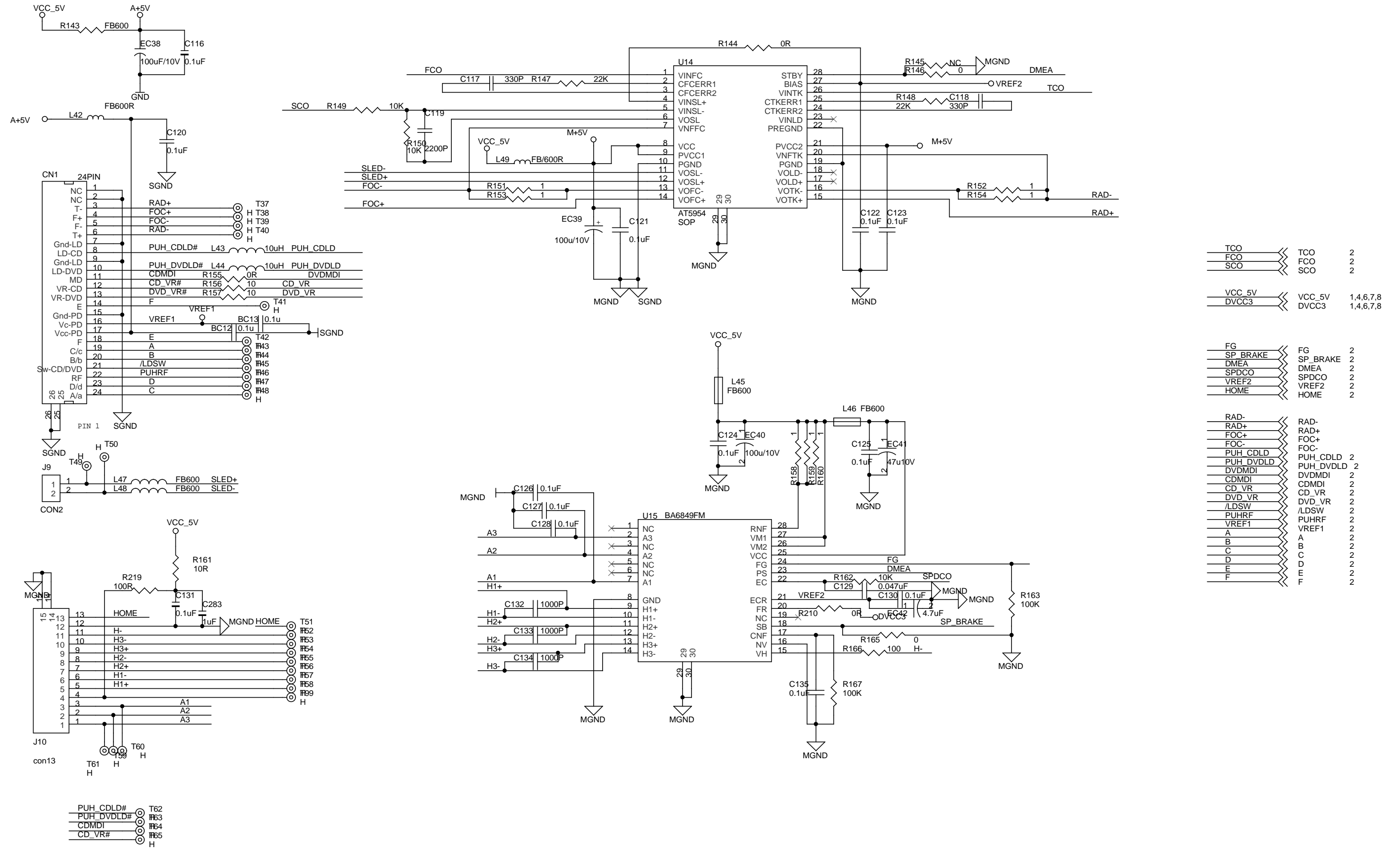
7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-ENCODER



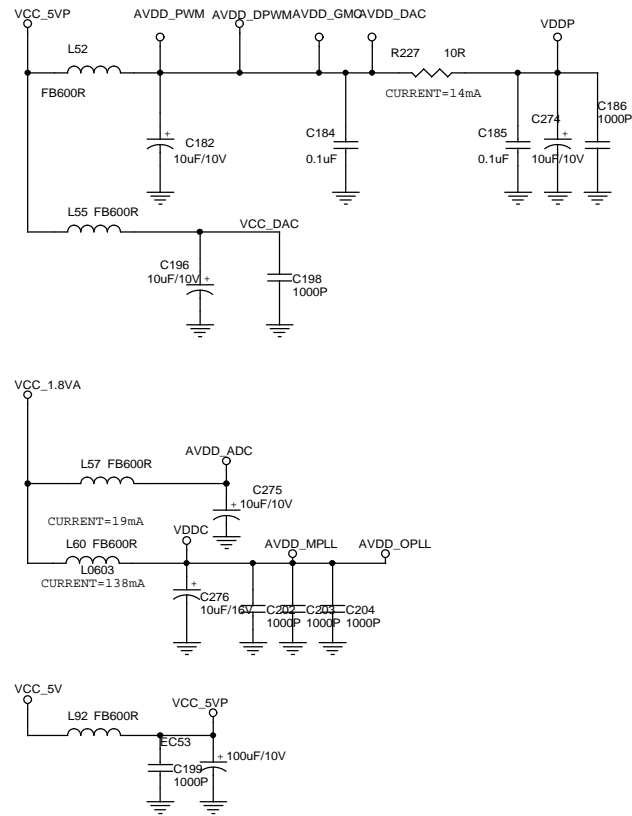
7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-SERVER

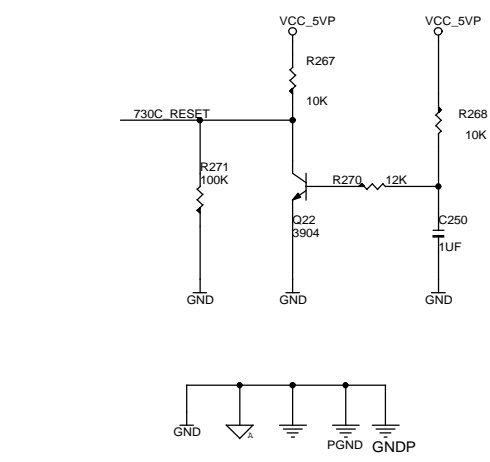
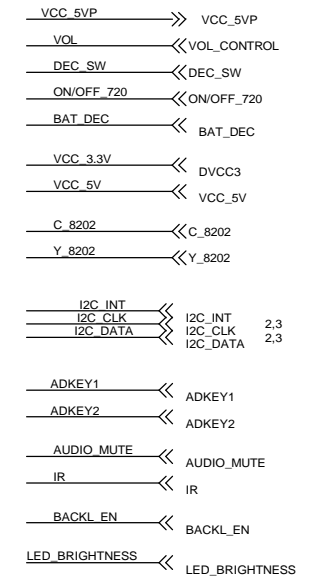
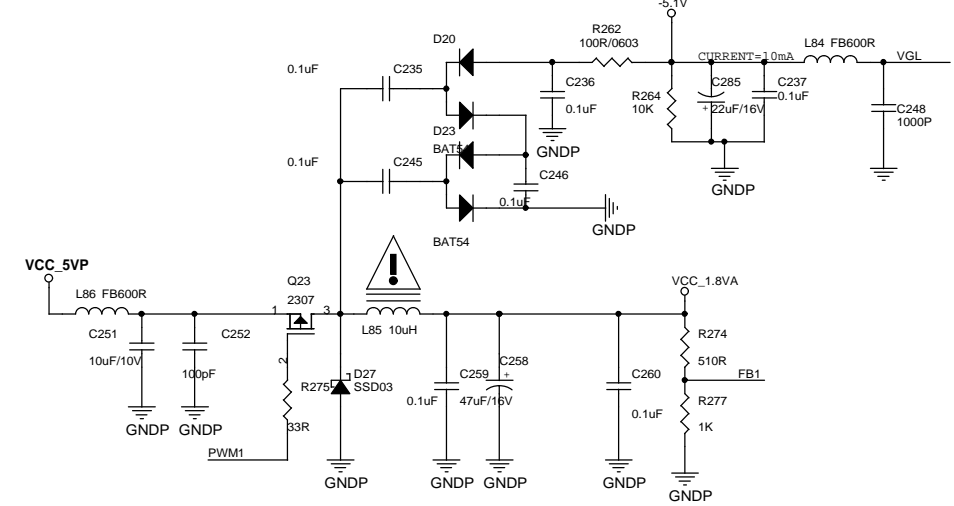
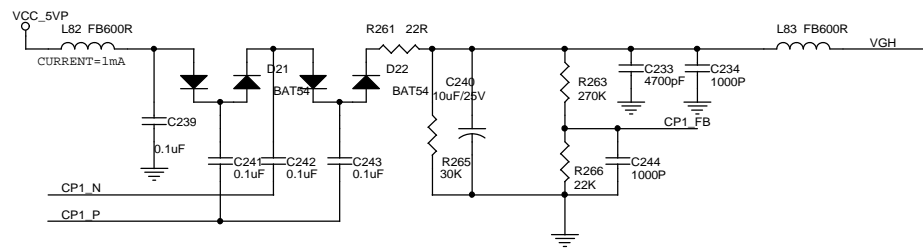
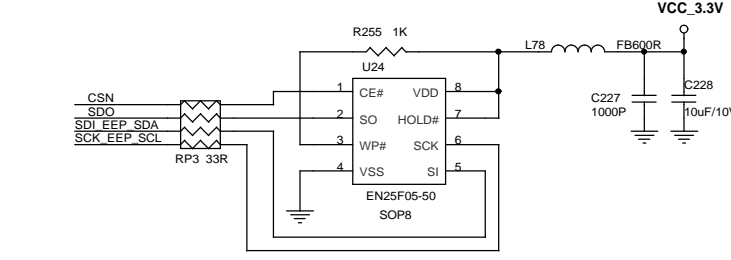
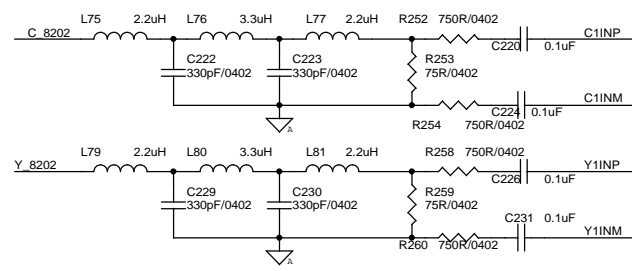
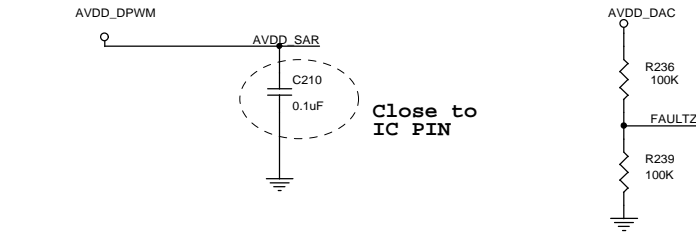
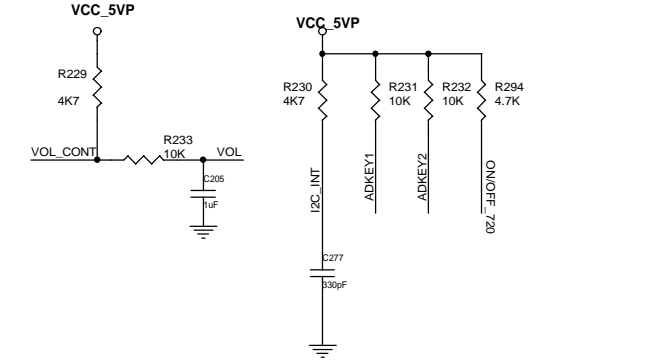
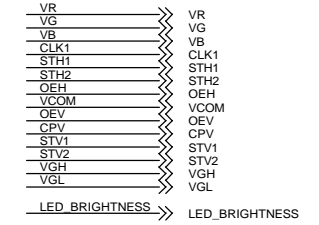
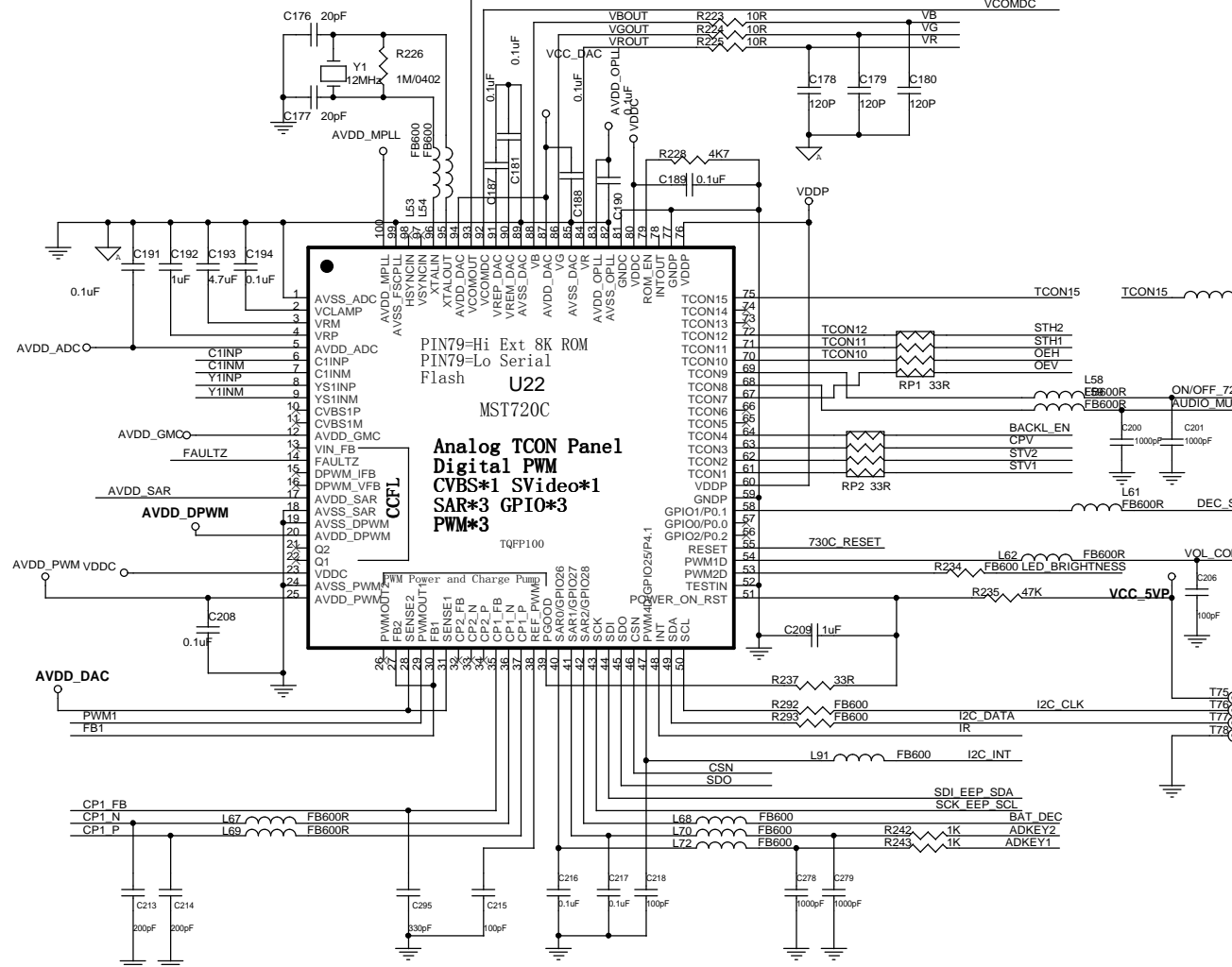


7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-TFT CONTROL



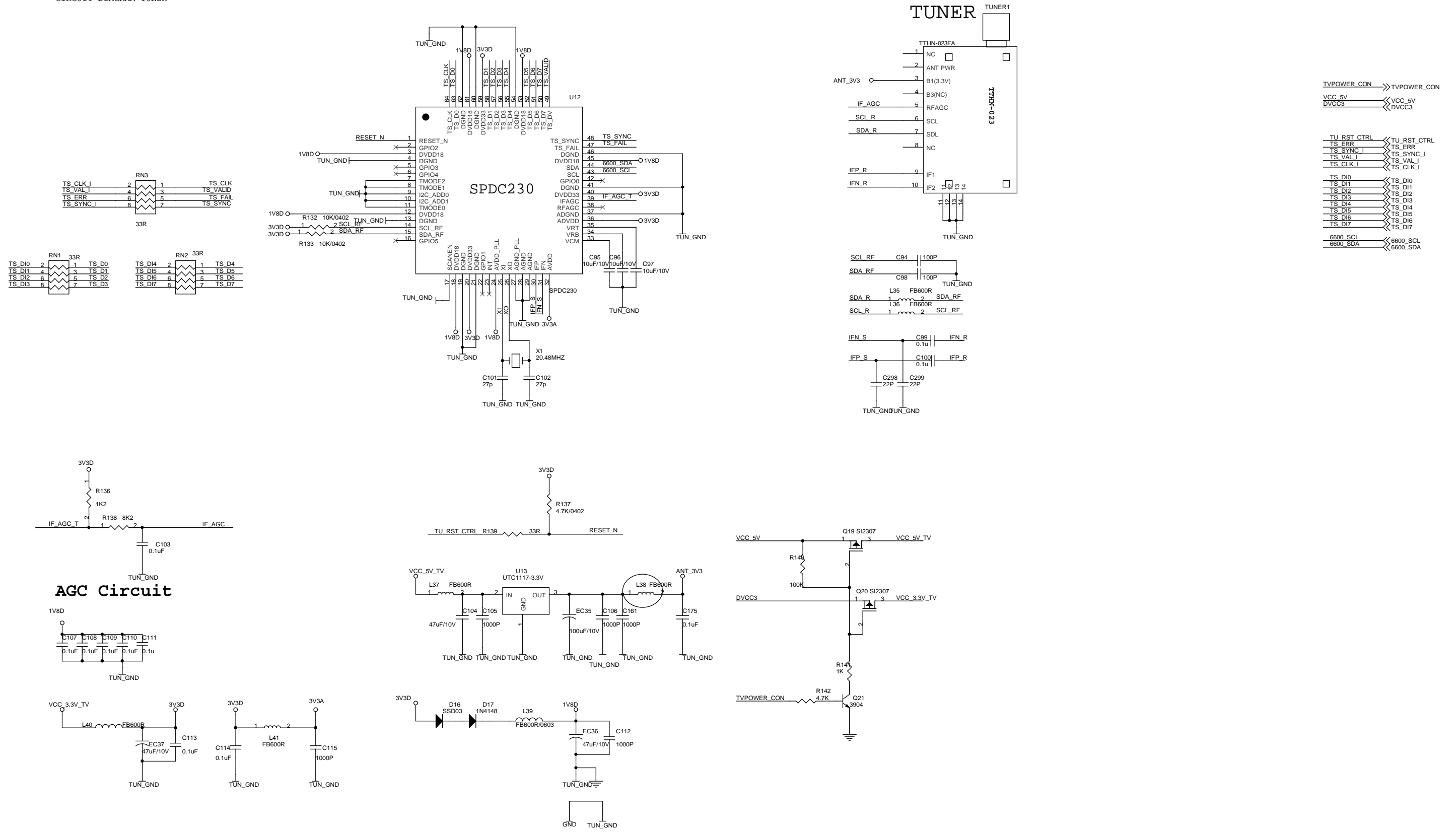
Keep away of Analog Area



For reduce the noise

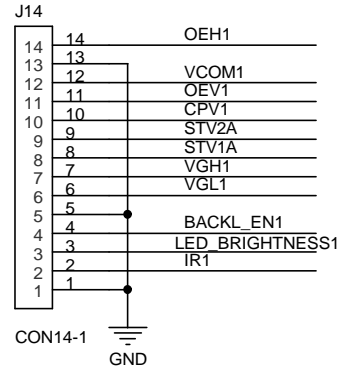
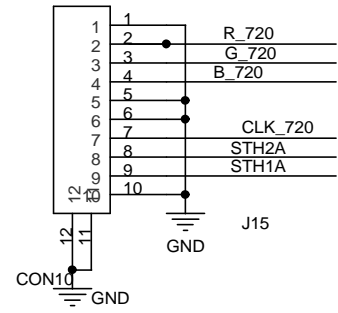
7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-TUNER

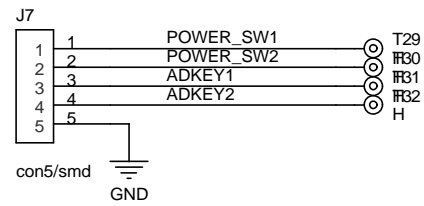


7.0 ELECTRICAL DIAGRAM

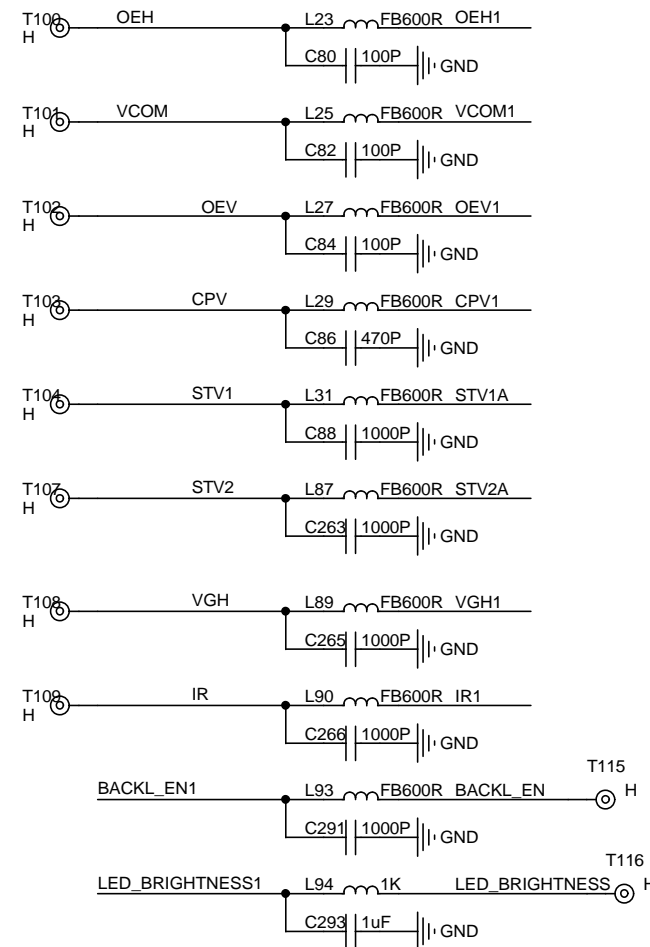
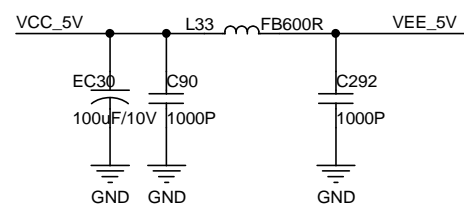
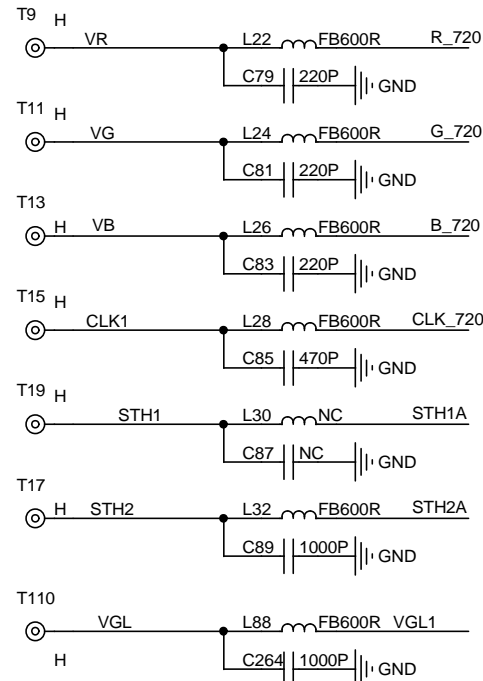
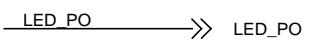
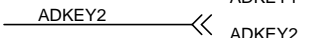
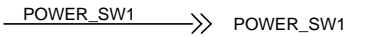
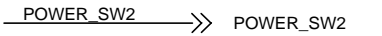
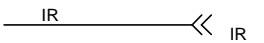
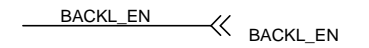
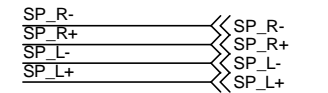
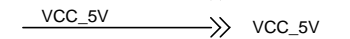
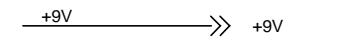
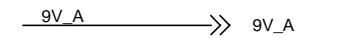
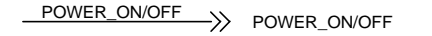
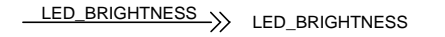
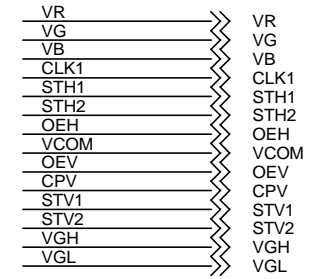
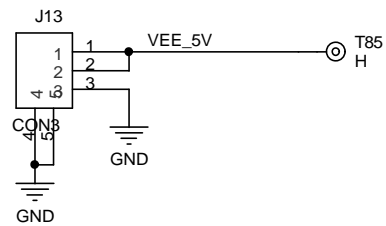
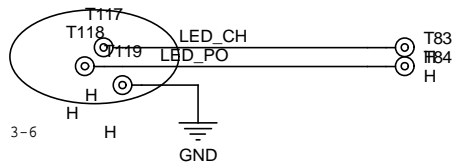
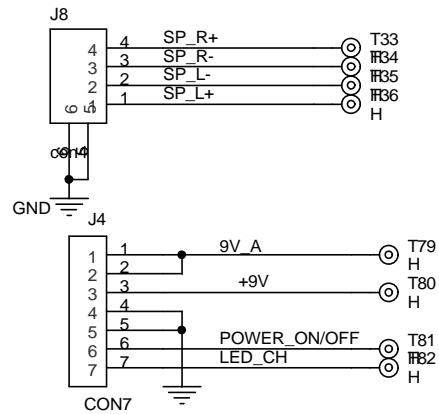
CIRCUIT DIAGRAM-INTERFACE



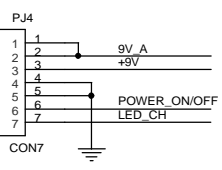
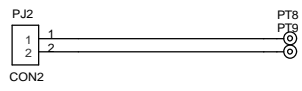
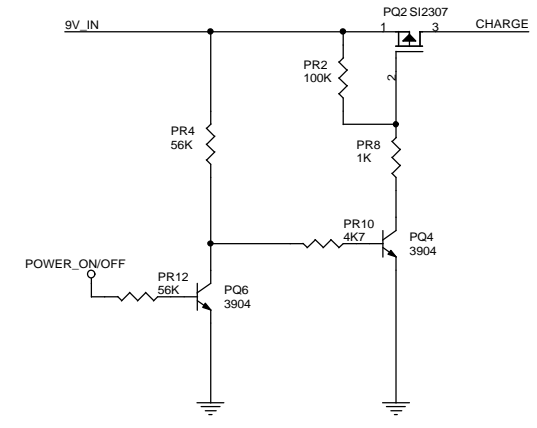
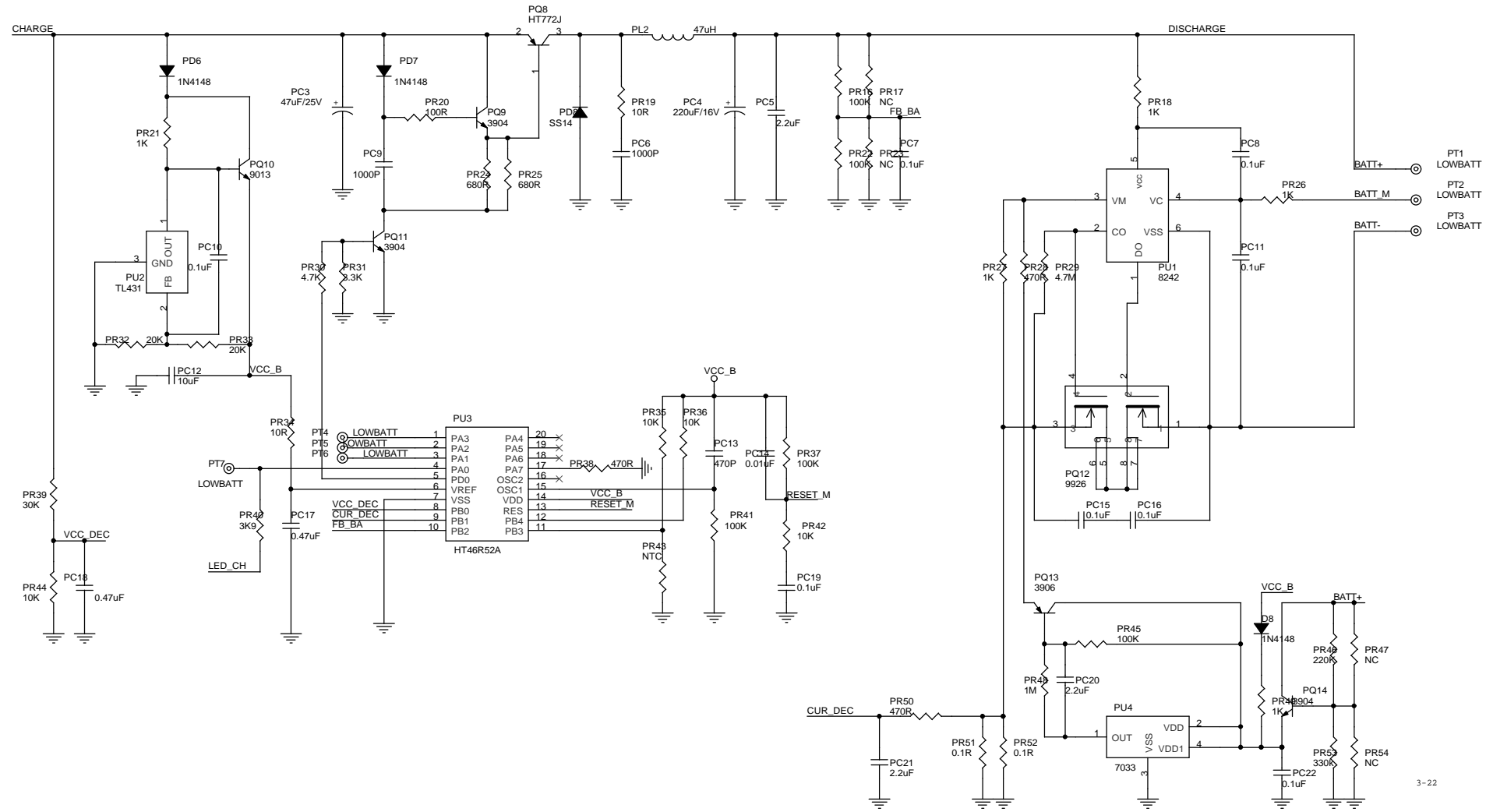
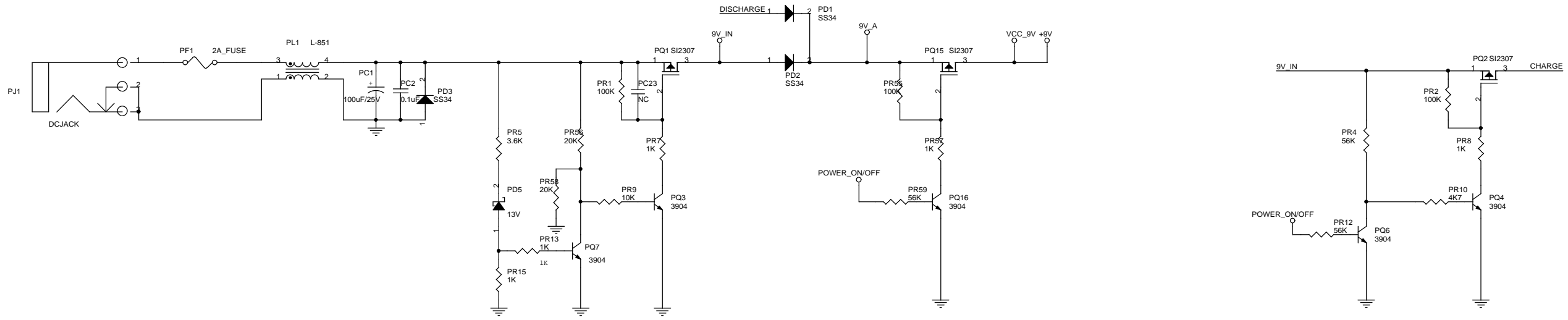
TO TFT BOARD



TO KEY BOARD

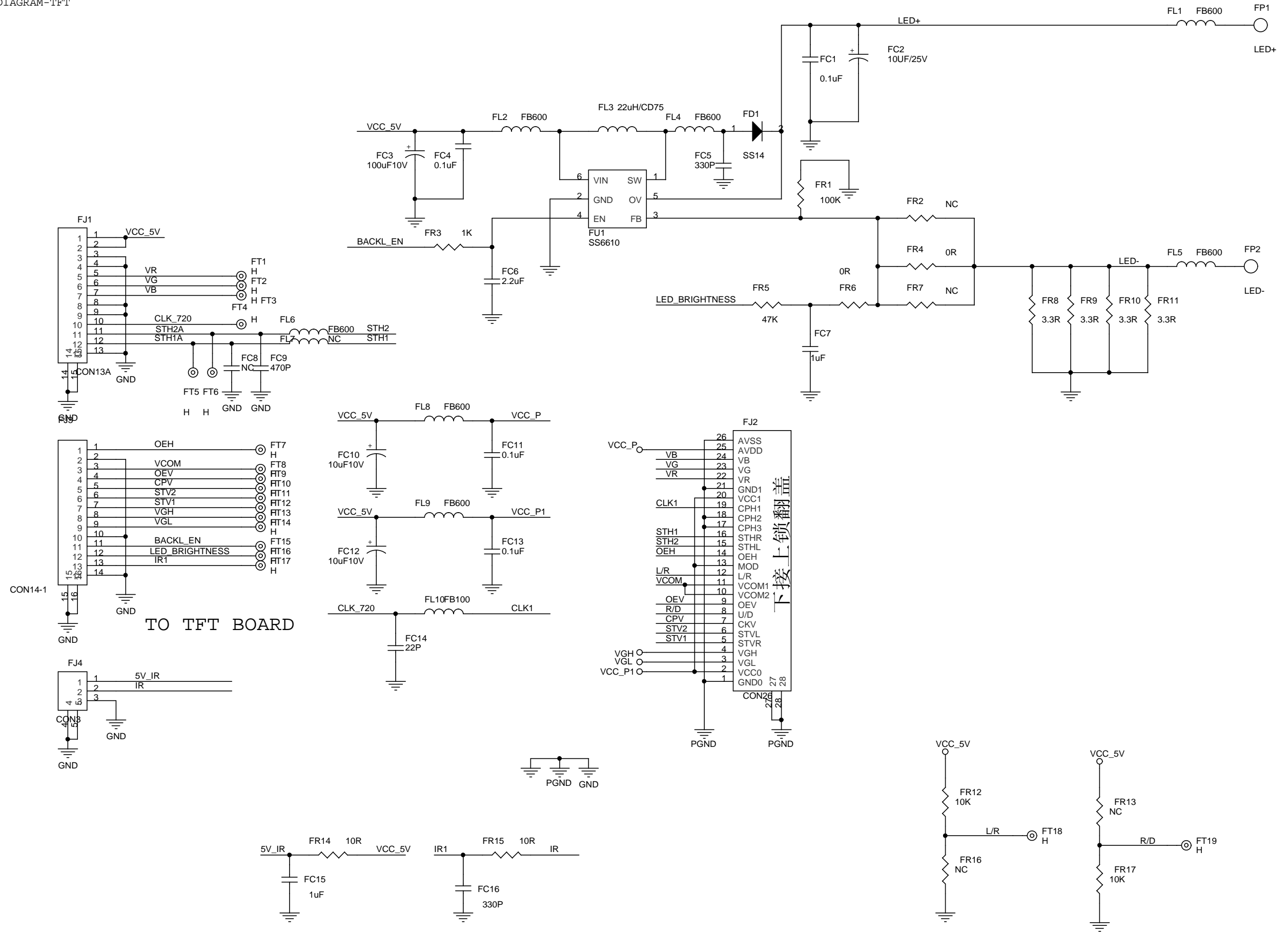


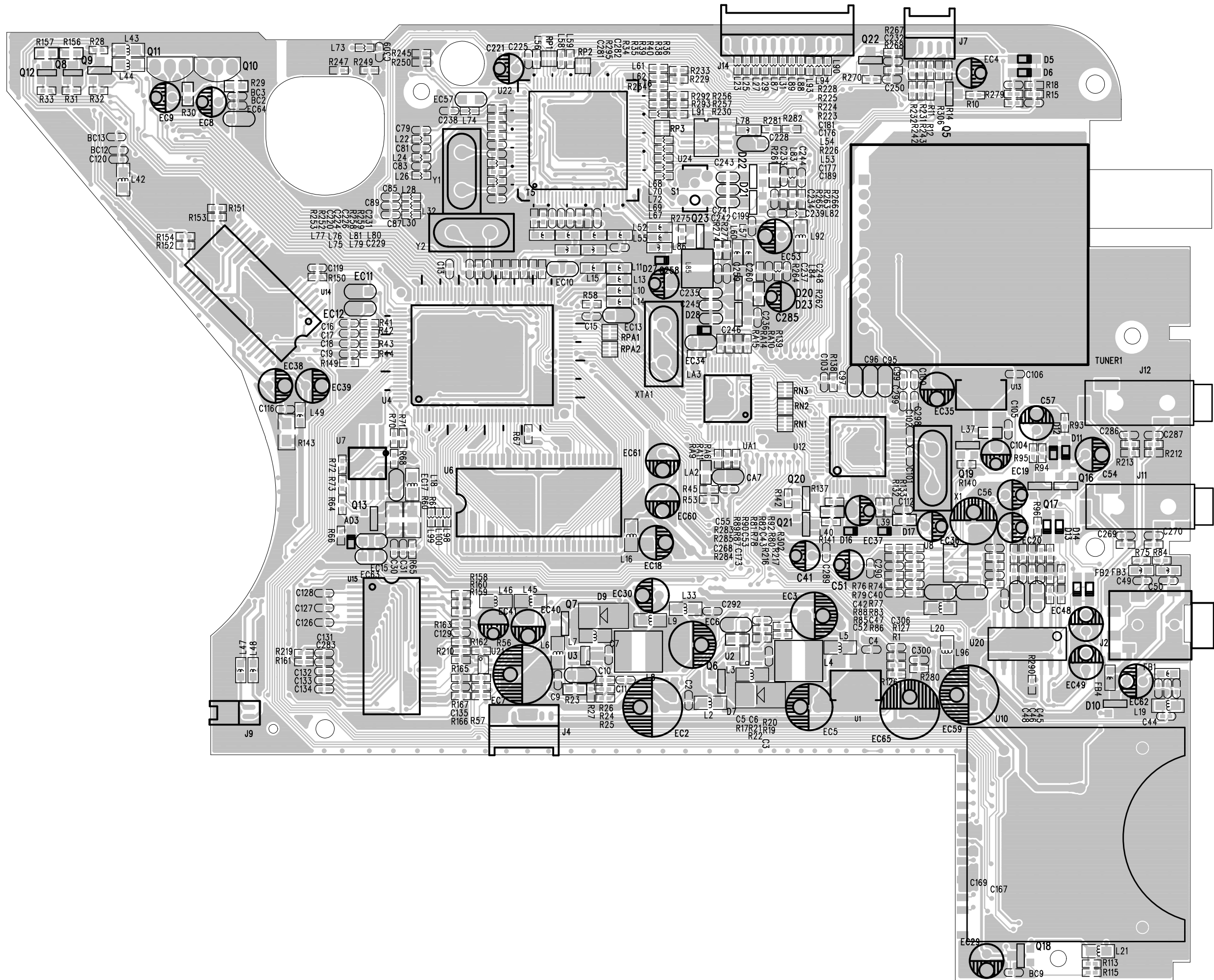
7.0 ELECTRICAL DIAGRAM
CIRCUIT DIAGRAM-BATTERY&POWER

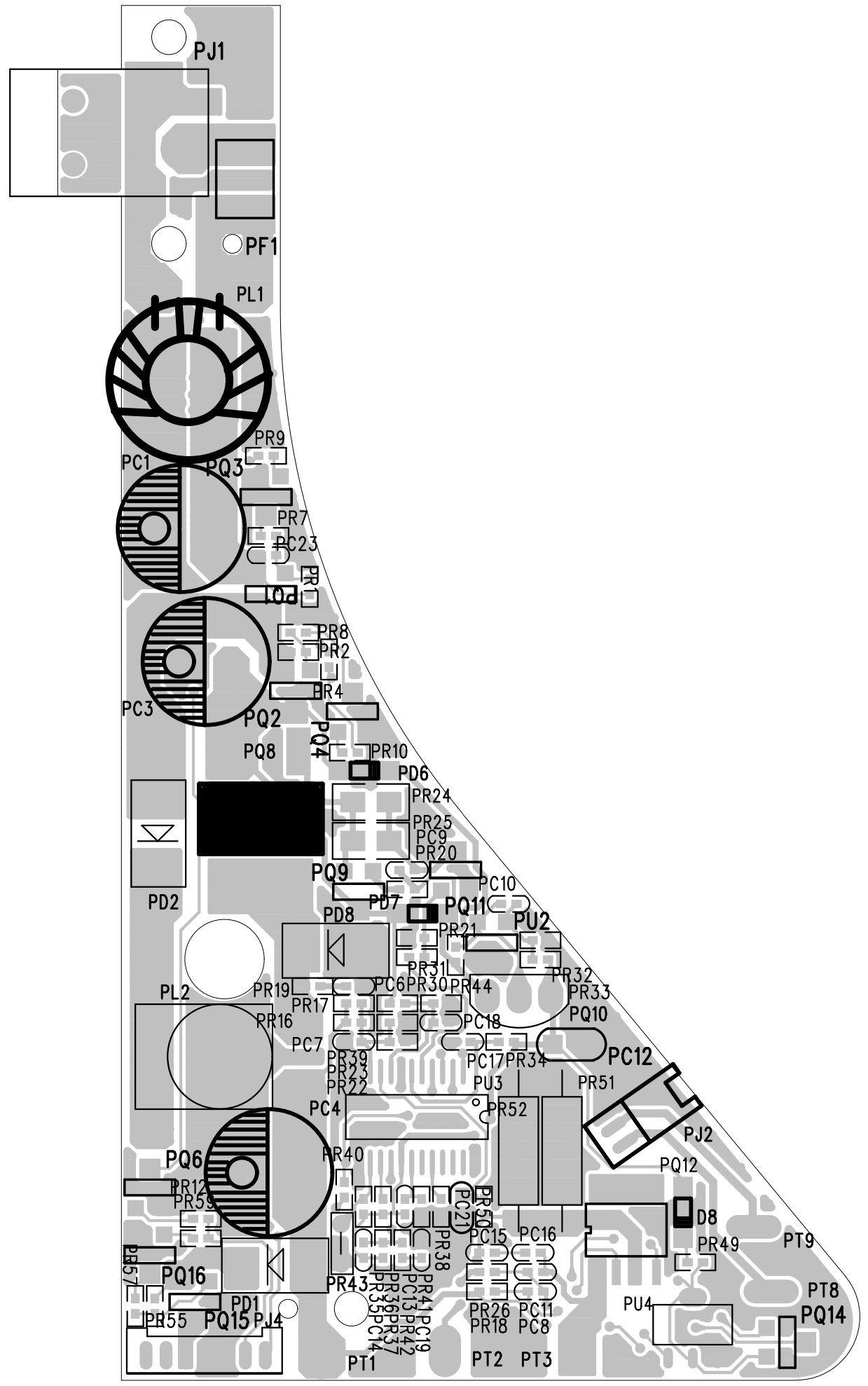


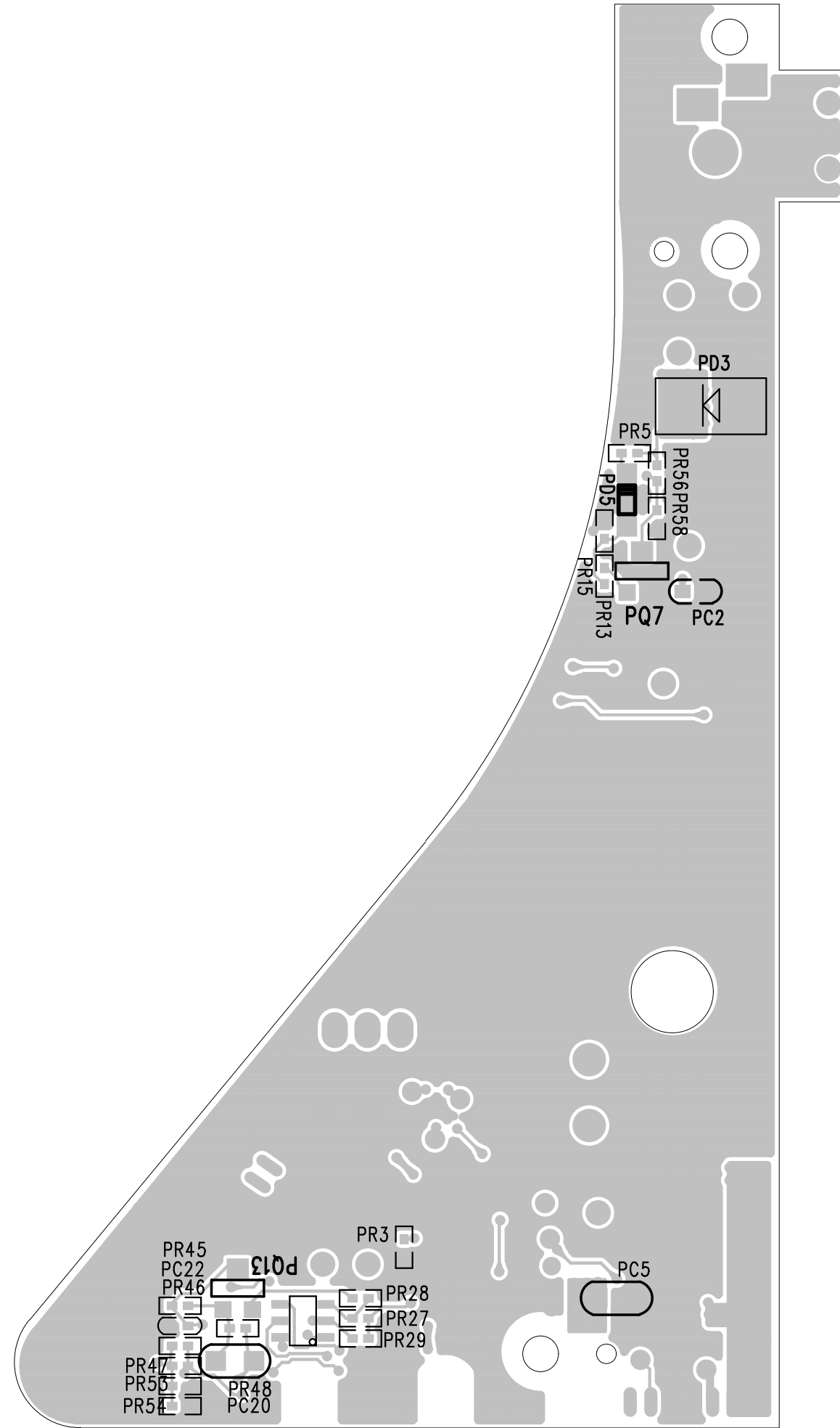
7.0 ELECTRICAL DIAGRAM

CIRCUIT DIAGRAM-TFT

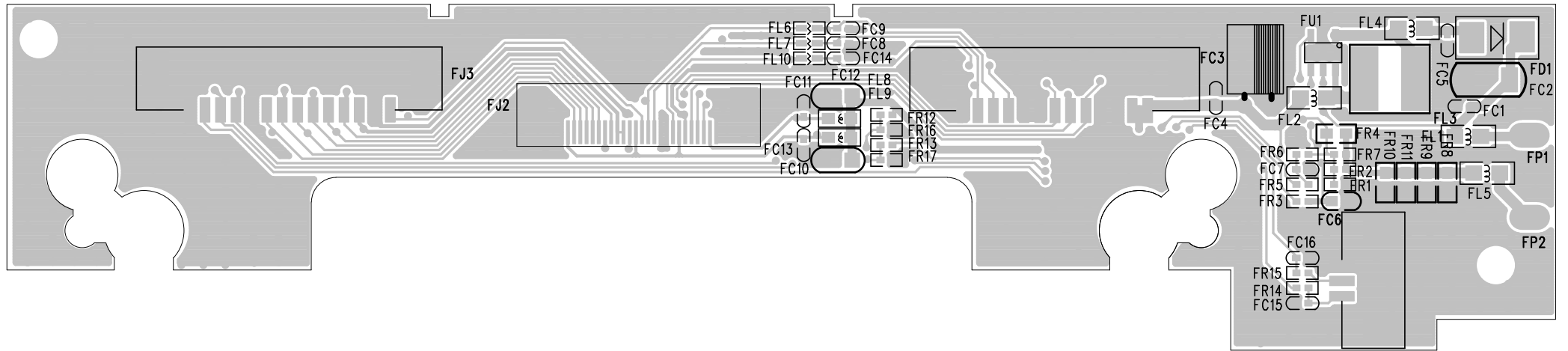




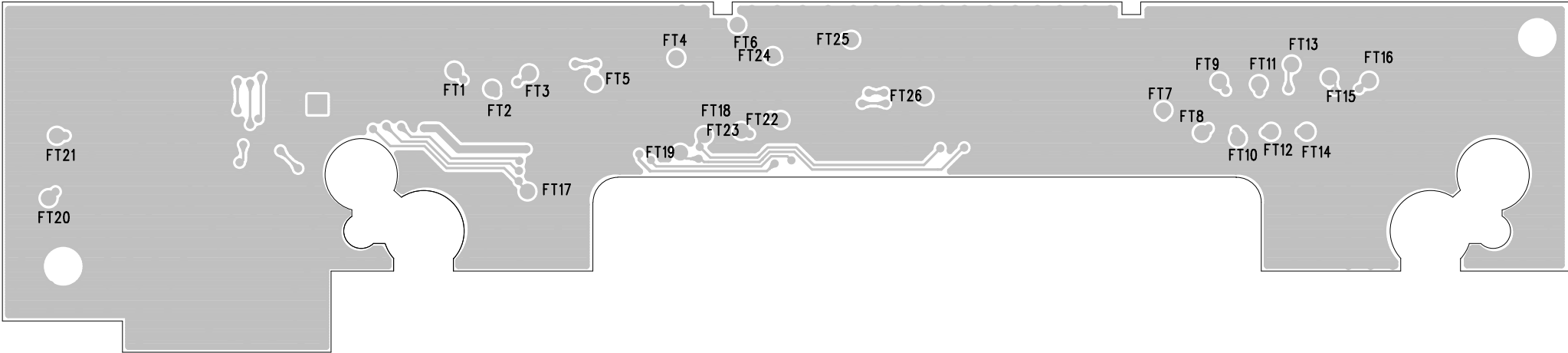


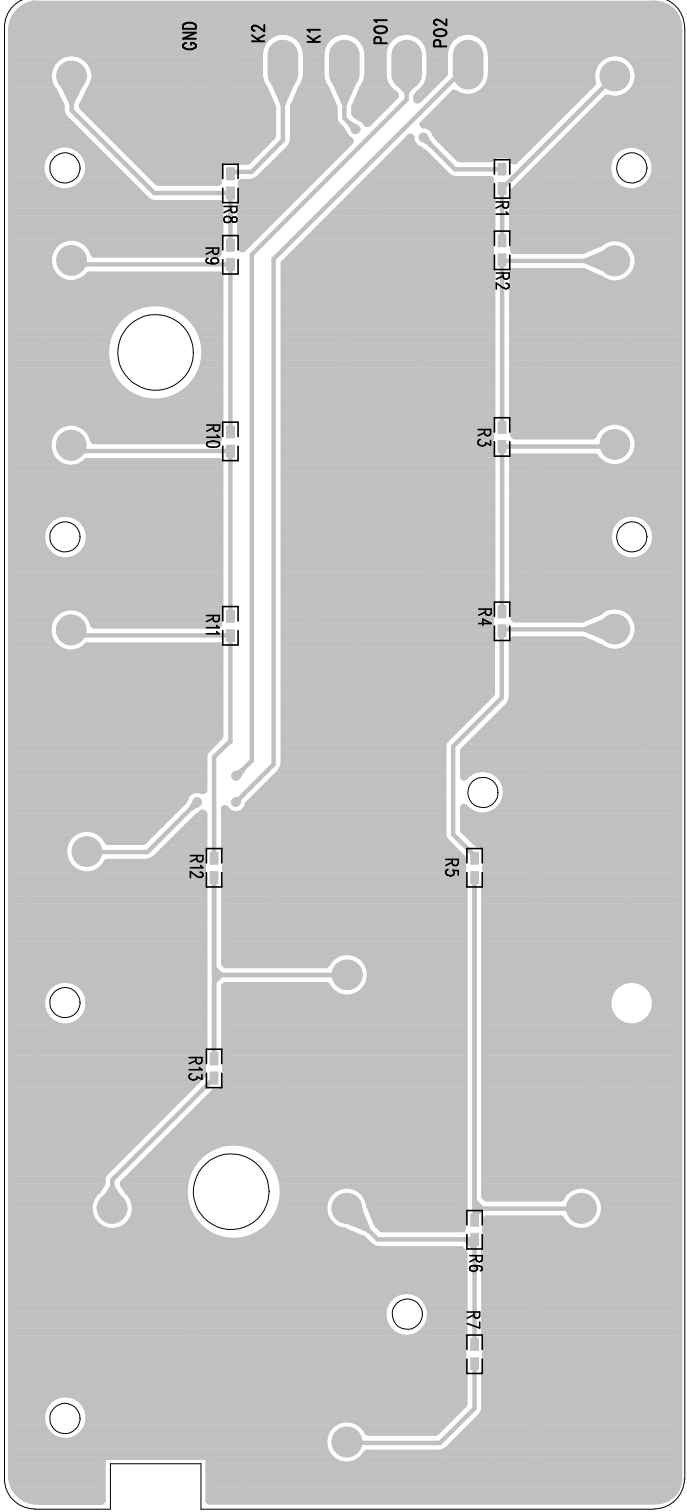


TFT TOP PCB-COMPONENT LAYOUT



TFT BOTTOM PCB-COMPONENT LAYOUT





8.0 SERVICE PARTLIST

Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET946/12	996510023013	LED PCBA ASS'Y PET946		100
PET946/12	996510023016	IR PCBA ASS'Y PET946		110
PET946/12	996510023018	KEY PCBA ASS'Y PET946		120
PET946/12	996510023006	MAIN PCBA ASS'Y PET946		130
PET946/12	996510023023	TFT PCBA ASS'Y PET946		140
PET946/12	996510023021	BAT PCBA & BAT ASS'Y PET946		150
PET946/12	996510023054	9" PANEL FINAL ASS'Y		200
PET946/12	996510024067	DVD DECK MG9703TIH		210
PET946/12	996510023017	HOUS #28 2P/1.25 L85MM		400
PET946/12	996510023007	HOUS #26 7P/1.25 L155MM		410

8.0 SERVICE PARTLIST

PET946/12	996510023034	HOUS (13/14/4PIN) & HINGE		420
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8.0 SERVICE PARTLIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET946/12	996510023015	MONITER BACK CABINET PET944		300
PET946/12	996510023022	DVD BOTTOM CABINET PET944 BLACK		305
PET946/12	996510023028	DVDDOOR PET944 BK		310
PET946/12	996510023009	OPEN_KEY PET944 BK		315
PET946/12	996510023014	POWER_KEY PET944 PLATING		320
PET946/12	996510023024	NAVIGATION_KEY PET944 PLATING		325
PET946/12	996510023037	OK_KEY PET944 PLATING		330

8.0 SERVICE PARTLIST




PET946/12	996510023026	LENS PET944 AUBERGINE		335
PET946/12	996510023029	SOURCE_SETUP_KEY PET944 BK		340
PET946/12	996510023038	DISC_MENU_KEY PET944 BK		345
PET946/12	996510023036	VOLUME_KEY PET944 BK		350
PET946/12	996510023011	PREV_NEXT_KEY PET944 BK		355
PET946/12	996510023025	COSMETIC_KEY PET944 BK		360
PET946/12	996510023033	COSMETIC_COVER_2 PET944 BK		365

8.0 SERVICE PARTLIST

PET946/12	996510023012	BRACKET PET944 BK		370
PET946/12	996510023031	CABLE_COVER PET944 BK		375
PET946/12	996510023027	CD_LATCH PET944 BK		380
PET946/12	996510030917	SPEAKER_GRILL PET944 BK		385
PET946/12	996510023039	DVD TOP CABINET PET946 BALCK		390
PET946/12	996510023035	DISPLAY FRAME & SPK PET946		396

8.0 SERVICE PARTLIST

Accessories Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET946/12	996510000788	AV CORD L1.1M 3P		AVCABLE
PET946/12	996510021031	CAR CORD 1.5A UL1.8m		CARAPT
PET946/12	996510023019	R/C 35KEY PHILIPS PET946		RC
PET946/12	996510022959	SW ADAPTOR 9V/1.5A EU		ADAPT
PET946/12	996510029563	TRAVEL BAG		POUCH
PET946/12	996510029413	ROD ANT DVB-T		ANT

9.0 REVISION LIST

Version 1.0

- Initial release PET946/12

Version 1.1

- Modify SW upgrade procedure

Version 1.2

- Delete the region 0 setting
- Add speaker grill in mechanical spare part list