

# ***SERVICE MANUAL***

*notebook*



**P775TM (-G) / P775TM1 (-G)**



**Notebook Computer**

**P775TM (-G) / P775TM1 (-G)**

**Service Manual**

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## About this Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the **P775TM (-G) / P775TM1 (-G)** series notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.

Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Updating the FLASH ROM BIOS

## IMPORTANT SAFETY INSTRUCTIONS

Follow basic safety precautions, including those listed below, to reduce the risk of fire, electric shock and injury to persons when using any electrical equipment:

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19.5V, 16.9A (**330** Watts) or 16.9A (**330** Watts) minimum AC/DC Adapter.

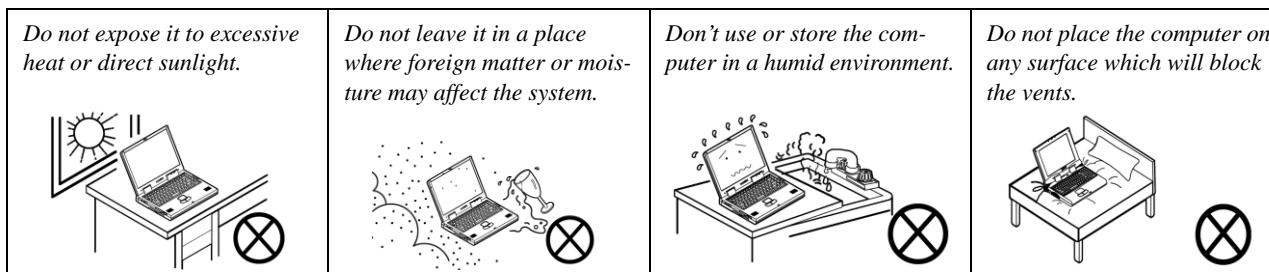
## Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

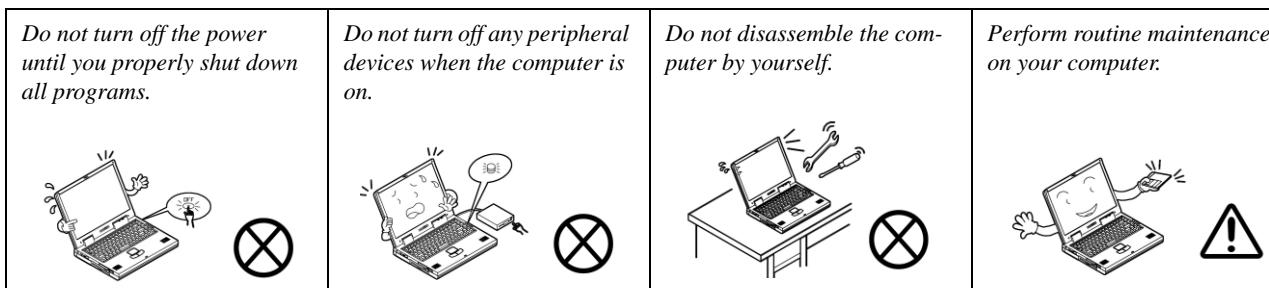
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



## Preface

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### Removal Warning

When removing any cover(s) and screw(s) for the purposes of device upgrade, remember to replace the cover(s) and screw(s) before restoring power to the system.

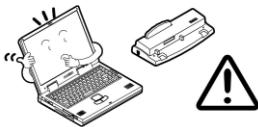
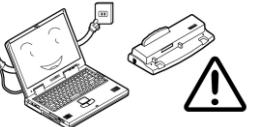
Also note the following when the cover is removed:

- Hazardous moving parts.
- Keep away from moving fan blades

### Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines and power cord). You must also remove your battery in order to prevent accidentally turning the machine on.

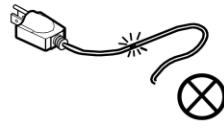
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**

<p><i>Use only approved brands of peripherals.</i></p> 	<p><i>Unplug the power cord before attaching peripheral devices.</i></p> 
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## Power Safety

The computer has specific power requirements:

- Only use a power adapter approved for use with this computer.
- Your AC adapter may be designed for international travel but it still requires a steady, uninterrupted power supply. If you are unsure of your local power specifications, consult your service representative or local power company.
- The power adapter may have either a 2-prong or a 3-prong grounded plug. The third prong is an important safety feature; do not defeat its purpose. If you do not have access to a compatible outlet, have a qualified electrician install one.
- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.

<p><i>Do not plug in the power cord if you are wet.</i></p> 	<p><i>Do not use the power cord if it is broken.</i></p> 	<p><i>Do not place heavy objects on the power cord.</i></p> 
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## Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded.
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.

## Battery Guidelines

The following can also apply to any backup batteries you may have.

- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- Before removing the battery for storage charge it to 60% - 70%.
- Check stored batteries at least every 3 months and charge them to 60% - 70%.



### Battery Disposal

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

### Caution

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

### Battery Level

Click the battery icon in the taskbar to see the current battery level and charge status. A battery that drops below a level of 10% will not allow the computer to boot up. Make sure that any battery that drops below 10% is recharged within one week.

## Related Documents

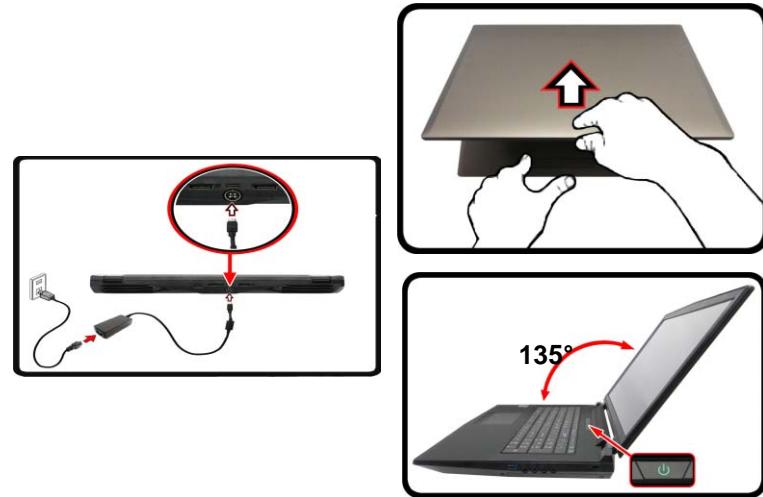
You may also need to consult the following manual for additional information:

### User's Manual on Disc

This describes the notebook PC's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the notebook PC.

## System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Insert the battery and make sure it is locked in position.
4. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
5. **When first setting up the computer use the following procedure** (as to safeguard the computer during shipping, the battery will be locked to not power the system until first connected to the AC/DC adapter and initially set up as below):
  - Attach the AC/DC adapter cord to the DC-In jack at the rear of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter and **leave it there for 6 seconds or longer**.
  - Remove the adapter cord from the computer's DC-In jack, and then plug it back in again; the battery will now be unlocked.
6. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 135 degrees); use the other hand (as illustrated in *Figure 1*) to support the base of the computer (**Note: Never** lift the computer by the lid/LCD).
7. Press the power button to turn the computer "on".



*Figure 1*  
Opening the Lid/LCD/  
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# Chapter 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the **P775TM (-G) / P775TM1 (-G)** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *Windows 10*, etc.) have their own manuals as do application software (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The **P775TM (-G) / P775TM1 (-G)** series notebook is designed to be upgradeable. See [\*\*Disassembly on page 2 - 1\*\*](#) for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the “” symbol.

The balance of this chapter reviews the computer's technical specifications and features.

## Introduction

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# Specifications

### Latest Specification Information

The specifications listed here are correct at the time of sending them to the press. Certain items (particularly processor types/speeds) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for more details.



### CPU Speed & Computer in DC Mode

Note that when the computer is in DC mode (powered by the battery only) the CPU may not run at full speed. This is a design feature implemented in order to protect the battery.

### Processor Options

#### i7-8700K (3.70GHz)\*

12MB Smart Cache, **14nm**, DDR4-2666MHz, TDP 95W

#### i5-8600K (3.60GHz)\*

9MB Smart Cache, **14nm**, DDR4-2666MHz, TDP 95W

#### i7-8700 (3.20GHz)

12MB Smart Cache, **14nm**, DDR4-2666MHz, TDP 65W

#### i5-8400 (2.80GHz)

6MB Smart Cache, **14nm**, DDR4-2666MHz, TDP 65W

#### i3-8350K (4.00GHz) (for P775TM/P775TM1 only)

8MB Smart Cache, **14nm**, DDR4-2400MHz, TDP 91W

#### i3-8100 (3.60GHz) (for P775TM/P775TM1 only)

6MB Smart Cache, **14nm**, DDR4-2400MHz, TDP 65W

\*Supports Intel® XTU overclocking technology depending on CPU SKU

### LCD Options

17.3" (43.94cm), 16:9, QFHD (3840x2160)/FHD (1920x1080)

### Core Logic

Intel® Z370 Chipset

### BIOS

AMI BIOS (64Mb SPI Flash-ROM)

### Pointing Device

Built-In Secure Pad (with Microsoft PTP Multi Gesture & Scrolling Functionality)

### Keyboard

Full Color **Illuminated** Full-size Winkey Keyboard (with numeric keypad and anti-ghost keys)

### Video Adapter Options

#### NVIDIA® GeForce GTX 1060 PCIe Video Card

**6GB** GDDR5 Video RAM on board

Supports GPU Overclocking

#### NVIDIA® GeForce GTX 1070 / GTX 1080 PCIe Video Card (for P775TM1(-G) only)

**8GB** GDDR5 Video RAM

Supports GPU Overclocking

### Memory

Four 260 Pin SO-DIMM Sockets Supporting **DDR4 2400**

#### MHz Memory

(The real memory operating frequency depends on the FSB of the processor.)

Memory Expandable from **8GB (minimum)** up to **64GB (maximum)**

Support XMP 2666/3000 MHz (XMP depends on processor)



### SO-DIMM Memory Types

All SO-DIMM memory modules installed in the system should be identical (the same size and brand) in order to prevent unexpected system behavior.

Do not mix SO-DIMM memory module sizes and brands otherwise unexpected system problems may occur.

### Security

Security (Kensington® Type) Lock Slot

BIOS Password

Fingerprint Reader Module

Trusted Platform Module 2.0

Intel PTT for Systems Without TPM Hardware

### Storage

Two changeable 2.5" (6cm) 7.0mm (h)/ 9.5mm (h) SATA (Serial) Hard Disk Drives/Solid State Drives (SSD) supporting RAID level 0/1

(**Factory Option**) Two M.2 **SATA** 2280 SSDs supporting RAID level 0/1

Or

(**Factory Option**) Two M.2 **PCIe**

**Gen3 x4** 2280 SSDs supporting RAID level 0/1

## Introduction

### Audio

High Definition Audio Compliant Interface  
S/PDIF Digital Output  
Two Speakers  
Sound Blaster Audio  
ESS™ SABRE HIFI DAC for High Resolution Headphone Audio  
Built-In Array Microphone  
Sub-Woofer

**Note:** External 7.1CH Audio Output Supported by 2-In-1 Audio Jacks, Microphone, Line-In and Line- Out Jacks

### Interface

One USB 3.1 Gen 2 Type C Port  
One USB 3.1 Gen 2/Thunderbolt 3 Combo Port (Type C)  
Two Mini DisplayPorts (1.3)  
One HDMI-Out Port  
One 2-In-1 Audio Jack (Headphone/ S/PDIF Optical Output Combo Jack)  
One Microphone-In Jack  
One Line-Out Jack  
One Line-In Jack  
One RJ-45 LAN Jacks  
One DC-In Jack  
Four USB 3.0 (USB 3.1 Gen 1) Ports (Including one AC/DC Powered USB port)

### Communication

Built-In Qualcomm 10/100/1000Mb Base-TX Ethernet LAN  
2.0M FHD PC Camera Module

### WLAN/ Bluetooth M.2 Modules:

(**Factory Option**) Intel® Wireless-AC 8265 Wireless LAN (802.11ac) + Bluetooth 4.1  
(**Factory Option**) Qualcomm® Atheros Killer™ Wireless-AC 1535 Wireless LAN (802.11ac) + Bluetooth 4.1  
(**Factory Option**) Qualcomm® Wireless LAN (802.11ac/ad) + Bluetooth 4.1

### M.2 Slots

Slot 1 for **Combo WLAN and Bluetooth Module**  
Slot 2 for **SATA or PCIe Gen3 x4 SSD**  
Slot 3 for **SATA or PCIe Gen3 x4 SSD**

### Card Reader

Embedded Multi-In-1 Push-Push Card Reader  
MMC (MultiMedia Card) / RS MMC  
SD (Secure Digital) / Mini SD / SDHC/ SDXC (up to UHS-II)

### Features

Supports NVIDIA® G-SYNC™ Technology  
(NVIDIA® G-SYNC™ Technology is supported by some LCD panels and GTX series video adapters Only)  
Intel® Optane™ Technology  
Virtual Reality Ready (*i5 & i7 Processor only*)  
Supports Windows® 10 Cortana with Voice  
(**Factory Option**) USB Drive

### Environmental Spec

#### Temperature

Operating: 10°C - 35°C  
Non-Operating: -20°C - 60°C

#### Relative Humidity

Operating: 20% - 80%  
Non-Operating: 10% - 90%

### Power

Removable 8-cell Smart Lithium-Ion Battery Pack, 82WH

Full Range AC/DC Adapter

AC Input: 100 - 240V, 50 - 60Hz

DC Output: 19.5V, 11.8A (**230W**) - P775TM(-G)

DC Output: 19.5V, 16.9A (**330W**) - P775TM1(-G)

### Dimensions & Weight

418mm (w) \* 295.3mm (d) \* 40.9mm (h)

3.9kg (Barebone System with Video Card and 82WH Battery)

Or

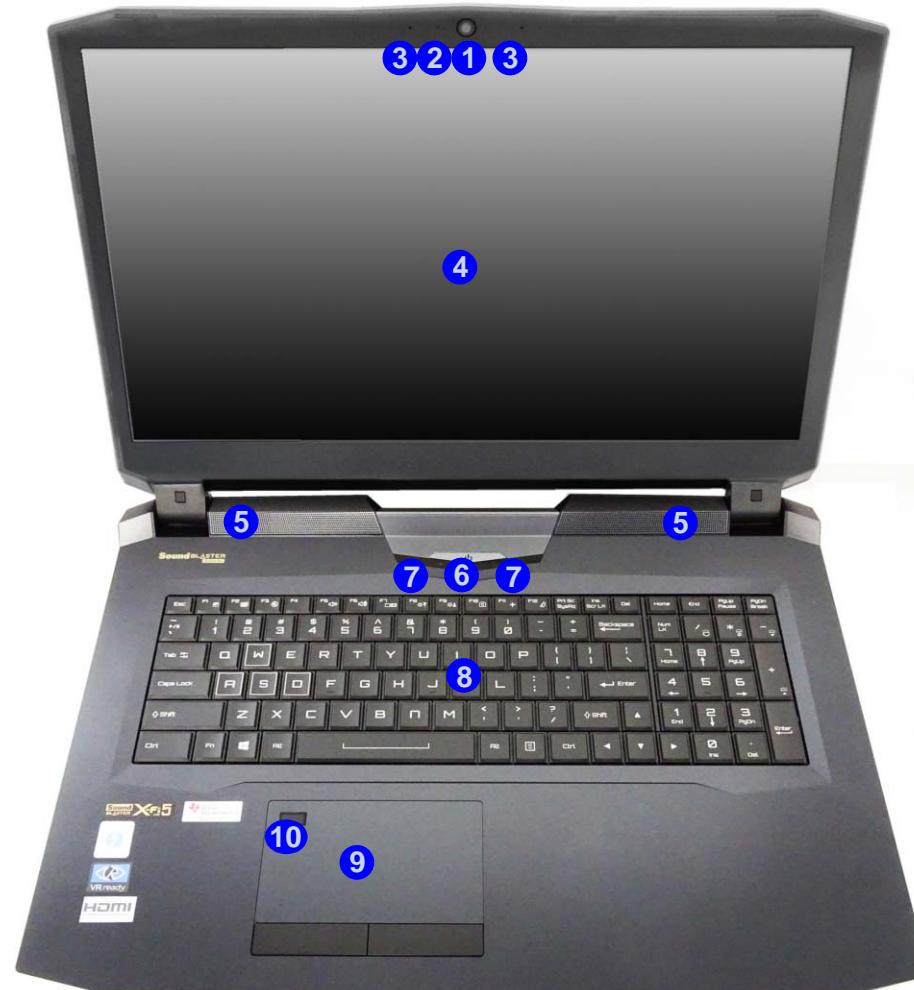
4.3kg (Barebone System with Video Card and 82WH Battery)

### Introduction

Figure 1  
Top View

1. PC Camera
2. PC Camera LED
3. Built-In Microphone
4. LCD
5. Speakers
6. Power Button
7. LED Lock Indicators
8. Keyboard
9. TouchPad and Buttons
10. Fingerprint Reader

### External Locator - Top View with LCD Panel Open



## External Locator - Front & Right side Views

Figure 2  
Front Views

1. LED Power Indicators

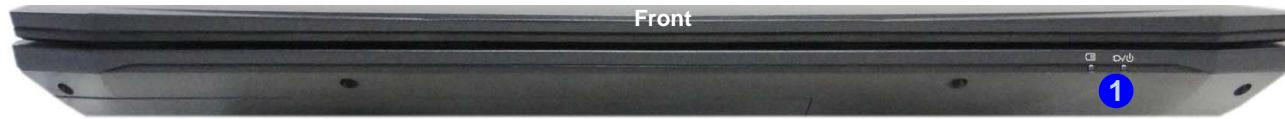


Figure 3  
Right Side Views

1. Line-In Jack
2. Microphone Jack
3. Line-Out Jack
4. Headphone and S/PDIF Combo Jack
5. USB 3.0/3.1 Port
6. Security Lock Slot

## Introduction

### External Locator - Left Side & Rear View

Figure 4

#### Left Side View

1. RJ-45 LAN Jack
2. USB 3.1/  
Thunderbolt  
Combo Port
3. USB 3.1 Port
4. USB 3.0/3.1 Port
5. Powered USB 3.1  
Port
6. Multi-in-1 Card  
Reader



Figure 5

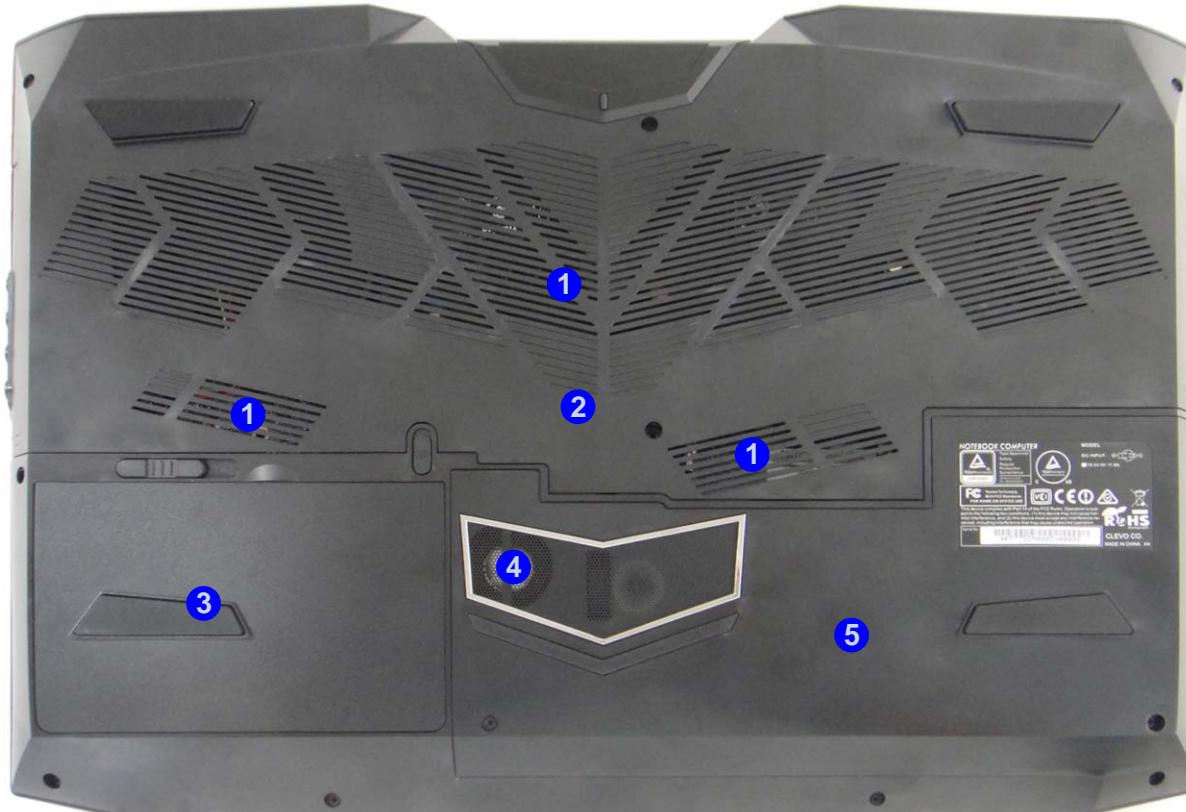
#### Rear View

1. Vent/Fan Intake
2. HDMI-Out Port
3. Mini Display Port 1
4. Mini Display Port 2
5. DC-In Jack



### External Locator - Bottom View

Figure 6  
Bottom View



1. Vent
2. Component Bay Cover
3. Battery
4. Sub Woofer
5. HDD Bay

### 1. Introduction



#### Overheating

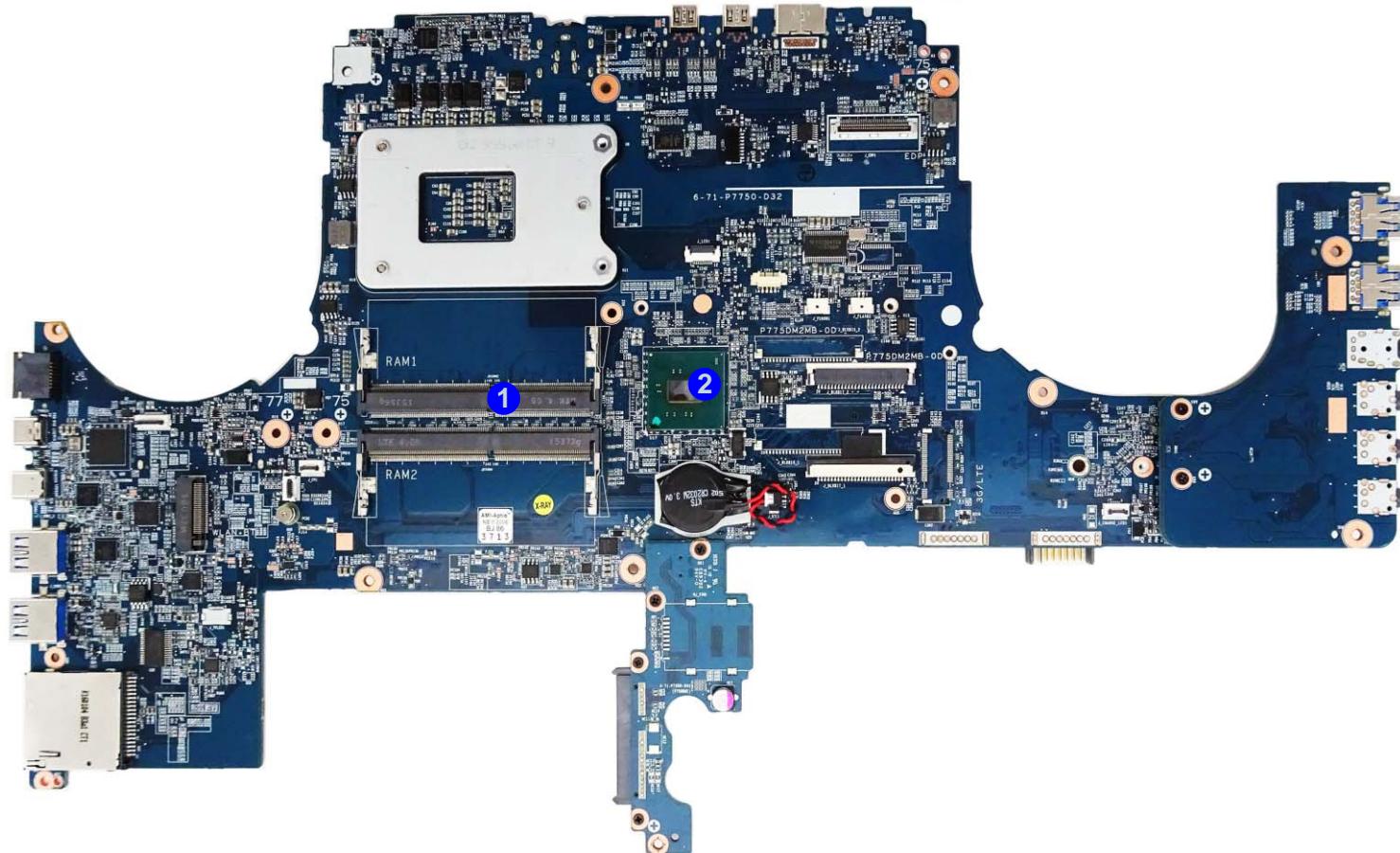
To prevent your computer from overheating make sure nothing blocks the vent/fan intakes while the computer is in use.

## Introduction

*Figure 7*  
**Mainboard Top  
Key Parts**

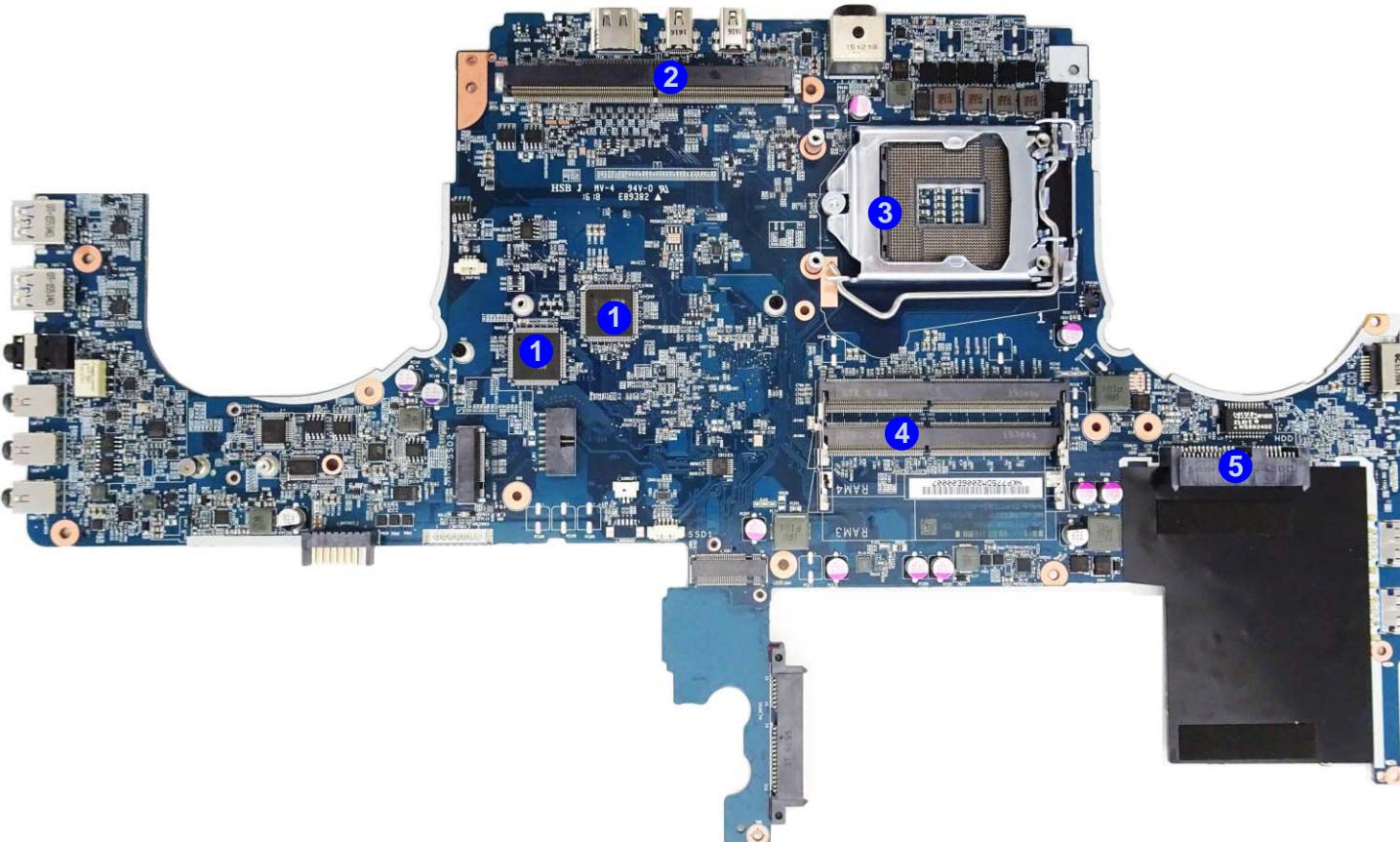
1. Memory Slots  
DDR4 SO-DIMM
2. Platform  
Controller Hub

## Mainboard Overview - Top (Key Parts)



## Mainboard Overview - Bottom (Key Parts)

Figure 8  
Mainboard Bottom  
Key Parts



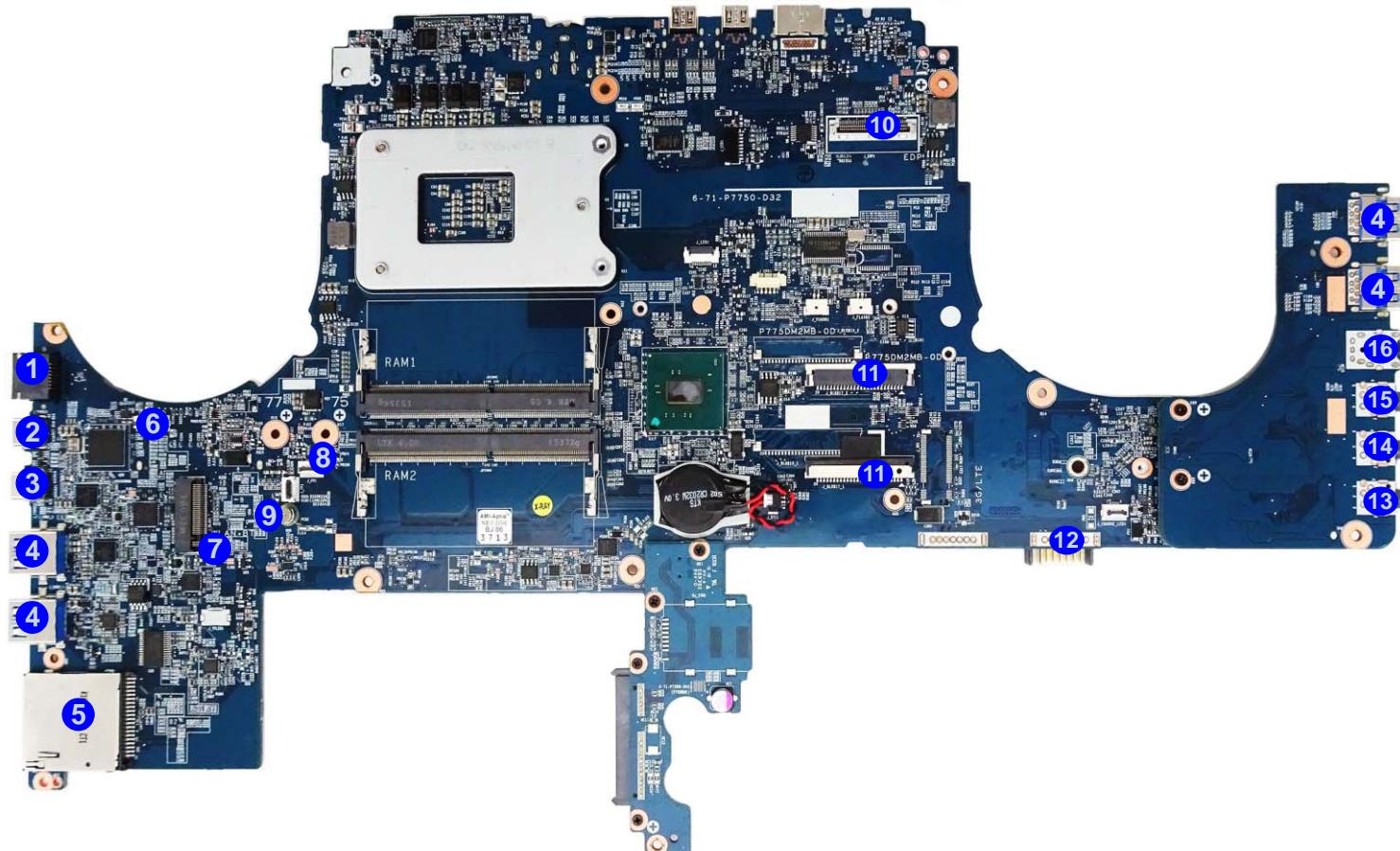
1. KBC ITE IT8587
2. VGA-Card Connector
3. CPU Socket (no CPU installed)
4. Memory Slots DDR4 SO-DIMM (Primary)
5. Hard Disk Connector

### Introduction

Figure 9  
Mainboard Top  
Connectors

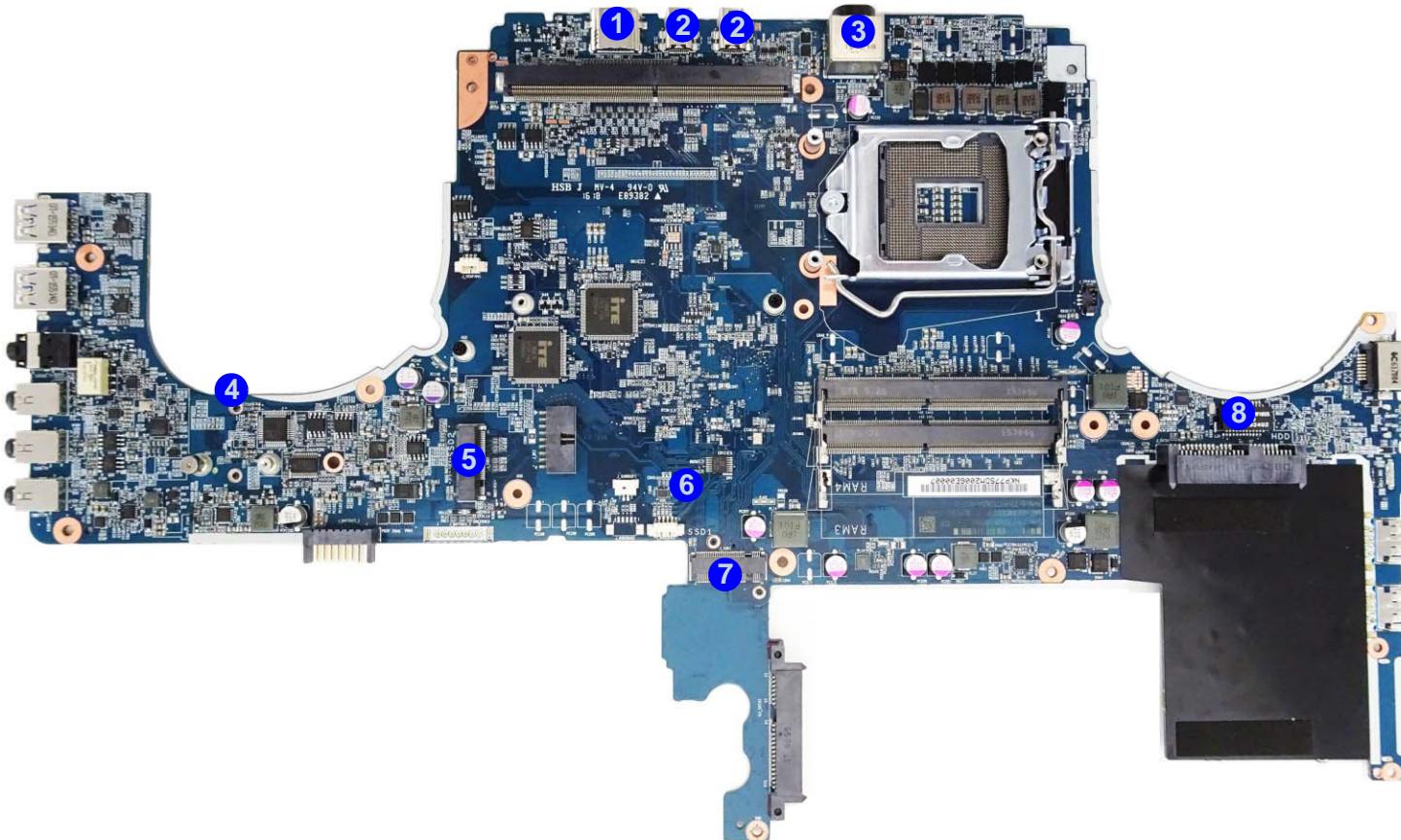
1. RJ-45 LAN Jack
2. USB 3.1/  
Thunderbolt  
Combo Port
3. USB 3.1 Port
4. USB 3.0/3.1 Port
5. Multi-in-1 Card  
Reader
6. KB LED  
Connector
7. WLAN Card  
Connector
8. Fingerprint  
Connector
9. TP FFC Cable  
Connector
10. Panel Cable  
Connector
11. Keyboard Cable  
Connector
12. Battery  
Connector
13. Line-In Jack
14. Microphone Jack
15. Line-Out Jack
16. Headphone and  
S/PDIF Combo  
Jack

### Mainboard Overview - Top (Connectors)



## Mainboard Overview - Bottom (Connectors)

Figure 10  
Mainboard Bottom  
Connectors



## Introduction

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# Chapter 2: Disassembly

## Overview

This chapter provides step-by-step instructions for disassembling the **P775TM (-G) / P775TM1 (-G)** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

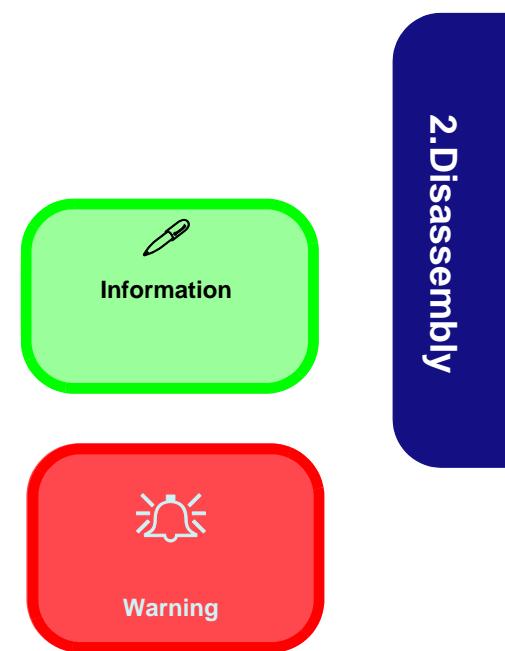
We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, optical device and hard disk are included in the User's Manual but are repeated here for your convenience.

To make the disassembly process easier each section may have a box in the page margin. Information contained under the figure # will give a synopsis of the sequence of procedures involved in the disassembly procedure. A box with a  lists the relevant parts you will have after the disassembly process is complete. **Note:** The parts listed will be for the disassembly procedure listed ONLY, and not any previous disassembly step(s) required. Refer to the part list for the previous disassembly procedure. The amount of screws you should be left with will be listed here also.

A box with a  will also provide any possible helpful information. A box with a  contains warnings.

An example of these types of boxes are shown in the sidebar.



## Disassembly

**NOTE:** All disassembly procedures assume that the system is turned **OFF**, and disconnected from any power supply (the battery is removed too).

### Maintenance Tools

The following tools are recommended when working on the notebook PC:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap



### Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors

To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.

Pressure sockets for multi-wire connectors

To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.

Pressure sockets for ribbon connectors

To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.

Board-to-board or multi-pin sockets

To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

## Maintenance Precautions

The following precautions are a reminder. To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

1. **Don't drop it.** Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it.** Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference.** Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry.** This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power.** Avoid accidental shocks, discharges or explosions.
  - Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
  - When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge.** ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion.** As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean.** Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components.** When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

## Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.

Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

**(For Computer Models Supplied with Light Blue Cleaning Cloth)** Some computer models in this series come supplied with a light blue cleaning cloth. To clean the computer case with this cloth follow the instructions below.

- Power off the computer and peripherals.
- Disconnect the AC/DC adapter from the computer.
- Use a little water to dampen the cloth slightly.
- Clean the computer case with the cloth.
- Dry the computer with a dry cloth, or allow it time to dry before turning on.
- Reconnect the AC/DC adapter and turn the computer on.



### Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines and power cord). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

## Disassembly Steps

The following table lists the disassembly steps, and on which page to find the related information. **PLEASE PERFORM THE DISASSEMBLY STEPS IN THE ORDER INDICATED.**

### To remove the Battery:

1. Remove the battery [page 2 - 5](#)

### To remove the HDD:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)

### To remove the M.2 SSD:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the M.2 SSD [page 2 - 9](#)

### To remove the Primary System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the primary system memory [page 2 - 10](#)

### To remove and install the Processor:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)
3. Remove the processor [page 2 - 12](#)
4. Install the processor [page 2 - 14](#)

### To remove the System Memory under the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the processor [page 2 - 12](#)
3. Remove the keyboard [page 2 - 15](#)
4. Remove the system memory [page 2 - 16](#)

### To remove the WLAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the processor [page 2 - 12](#)
3. Remove the keyboard [page 2 - 10](#)
4. Remove the wireless LAN [page 2 - 17](#)

### To remove the WiGig Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the processor [page 2 - 12](#)
3. Remove the keyboard [page 2 - 10](#)
4. Remove the WiGig [page 2 - 19](#)

### To remove and install the M.2 SSD:

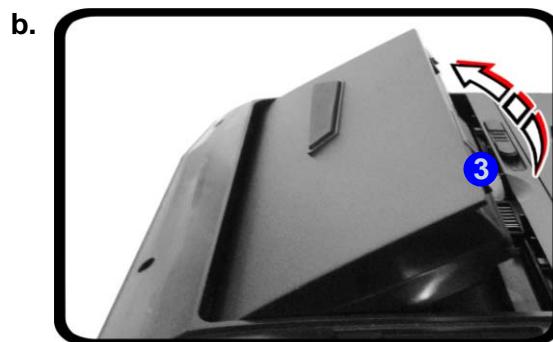
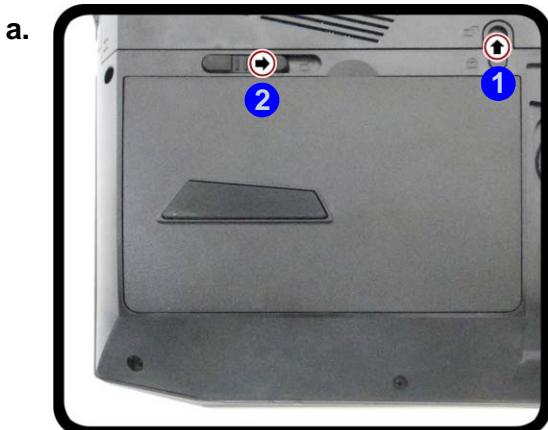
1. Remove the battery [page 2 - 5](#)
2. Remove the primary system memory [page 2 - 10](#)
3. Remove the M.2 SATA [page 2 - 20](#)
4. Install the M.2 SATA [page 2 - 21](#)

### To remove and install the Video Card:

1. Remove the battery [page 2 - 5](#)
2. Remove the video card [page 2 - 22](#)
3. Install the video card [page 2 - 23](#)

## Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Slide the latch **1** in the direction of the arrow (*Figure 1a*).
3. Slide the latch **2** in the direction of the arrow, and hold it in place (*Figure 1a*).
4. Lift the battery in the direction of the arrow **3**.
5. Lift the battery **4** out of the compartment (*Figure 1c*).



*Figure 1*  
**Battery Removal**

- a. Slide the latch and hold in place.
- b. Lift the battery up toward the direction of the arrow.
- c. Lift the battery out.

4. Battery

## Disassembly

---

*Figure 2*  
**HDD Assembly  
Removal**

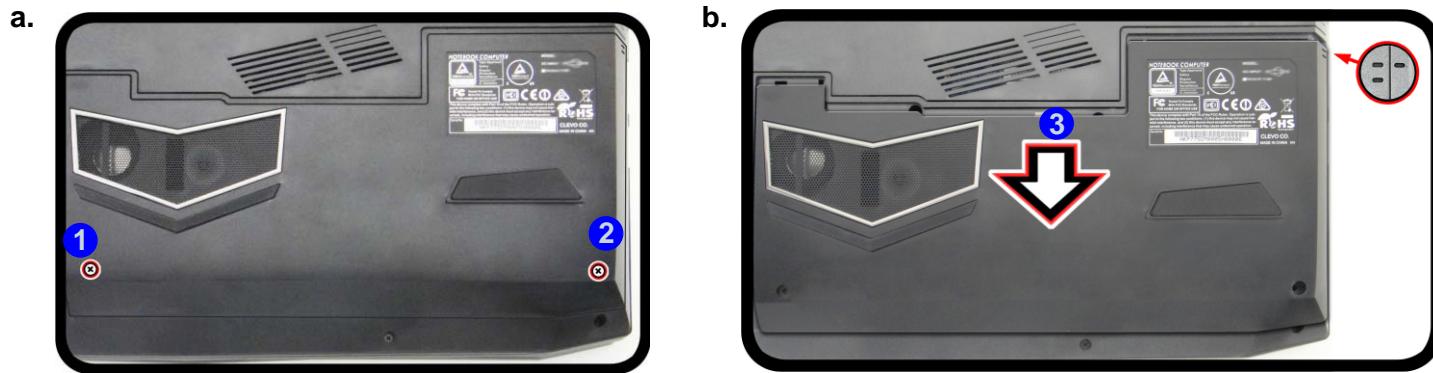
- a. Locate the HDD bay cover and remove the screws.
- b. Remove the hard disk bay cover by sliding the cover at point **3**.

## Removing and Installing the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 7mm/9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

### Hard Disk Removal Process

1. Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
2. Locate the hard disk bay cover and remove screws **1** - **2** (*Figure 2a*).
3. Remove the hard disk bay cover by sliding the cover at point **3** (*Figure 2b*).



- 2 Screws



### HDD System Warning

New HDD's are blank. Before you begin make sure:

You have backed up any data you want to keep from your old HDD.

You have all the CD-ROMs and FDDs required to install your operating system and programs.

If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

## 2. Disassembly

### Disassembly

4. Lift the hard disk bay cover **4** off the computer (**Figure 3c**)
5. Remove the screw **5**. Slightly lift and pull the HDD-1 assembly in the direction of the arrow **6** to remove the hard disk assembly **7** (**Figure 3d**).
6. Remove the screw **8**. Slightly lift and pull the HDD-2 assembly (if available) in the direction of the arrow **9** to remove the hard disk assembly **10** (**Figure 3e**).
7. Remove screws **11** - **16**, HDD bracket **17** and the adhesive cover **18** from the hard disk **19** (**Figure 3f**).
8. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

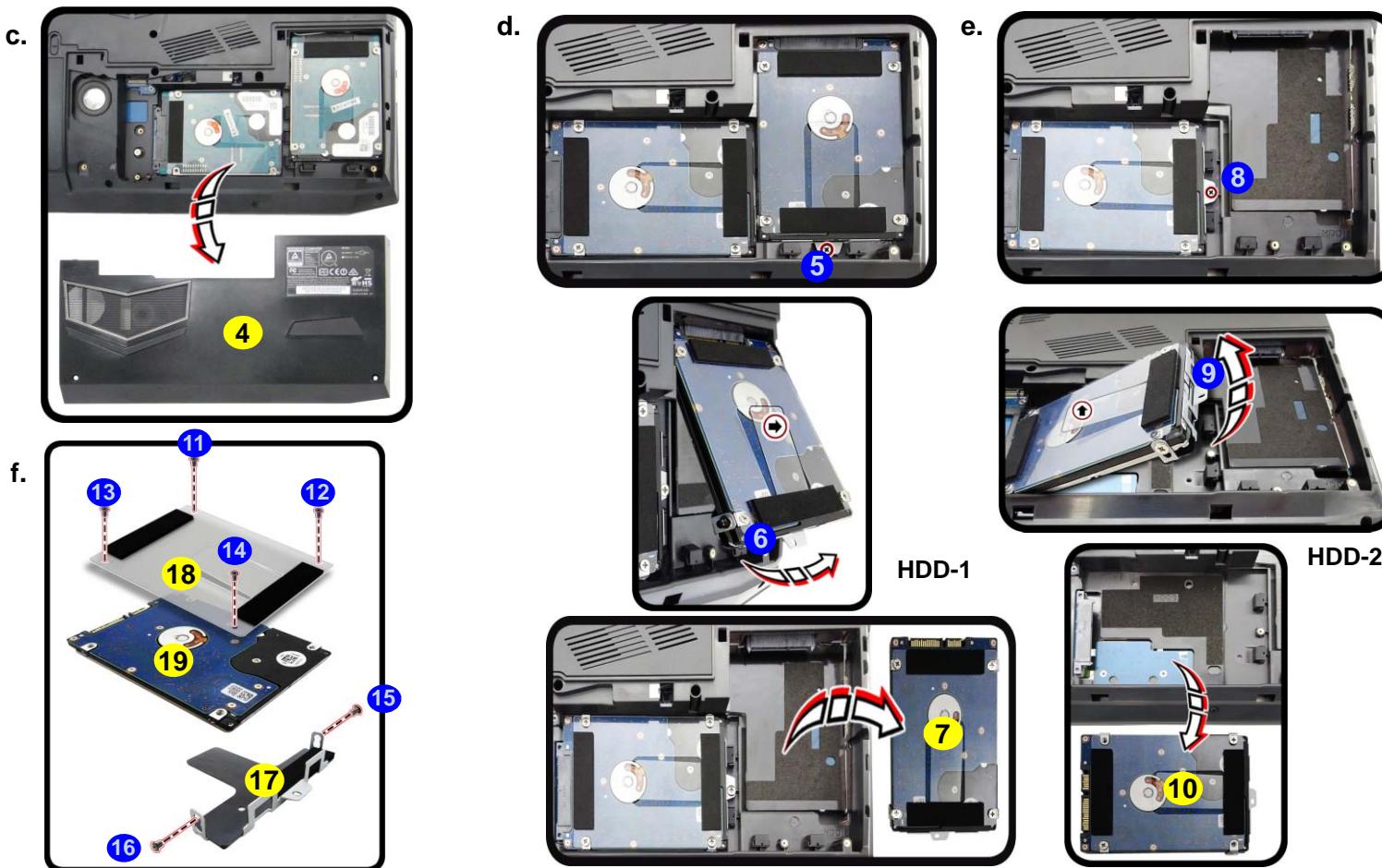


Figure 3  
HDD Assembly  
Removal (cont'd.)

- c. Remove the HDD bay cover.
- d. Remove the screw. Lift and pull the HDD-1 assembly in the direction of the arrow to remove the hard disk assembly.
- e. Remove the screw. Lift and pull the HDD-2 assembly in the direction of the arrow to remove the hard disk assembly.
- f. Remove the screws, hdd bracket and adhesive cover.

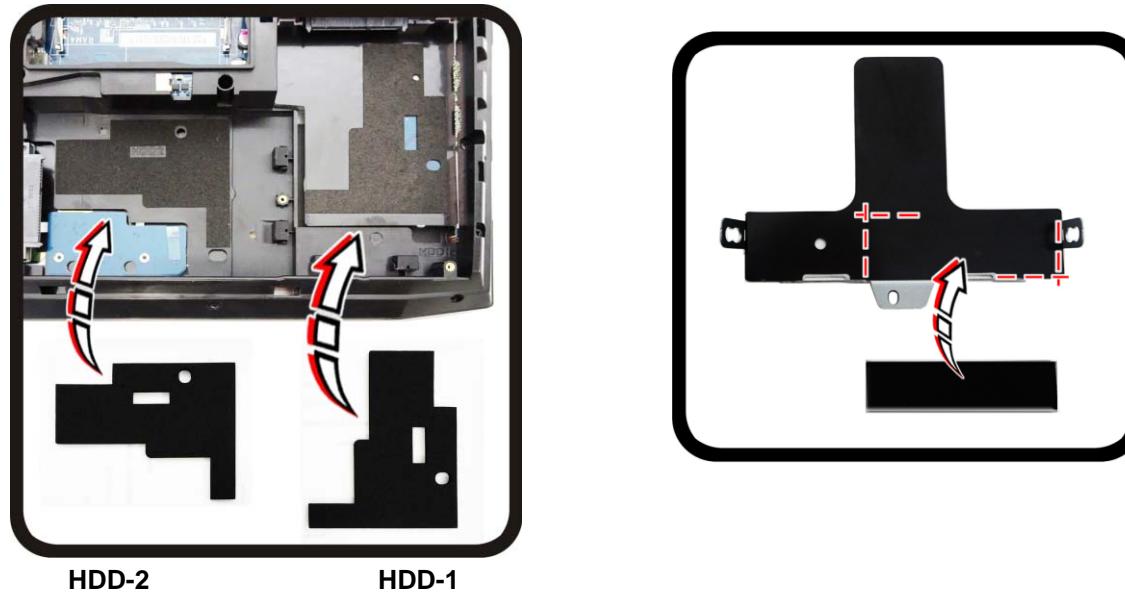
4. HDD Bay Cover  
7. HDD-1 Assembly  
10. HDD-2 Assembly  
17. Adhesive Cover  
18. HDD Bracket  
19. HDD  
• 8 Screws

### Disassembly

#### Hard Disk Size Note (Foam Rubber Insert)

Note that the hard disks pictured on the following pages are all 9.5mm(H) hard disk drives. In some cases 7mm(H) hard disk drives will be installed.

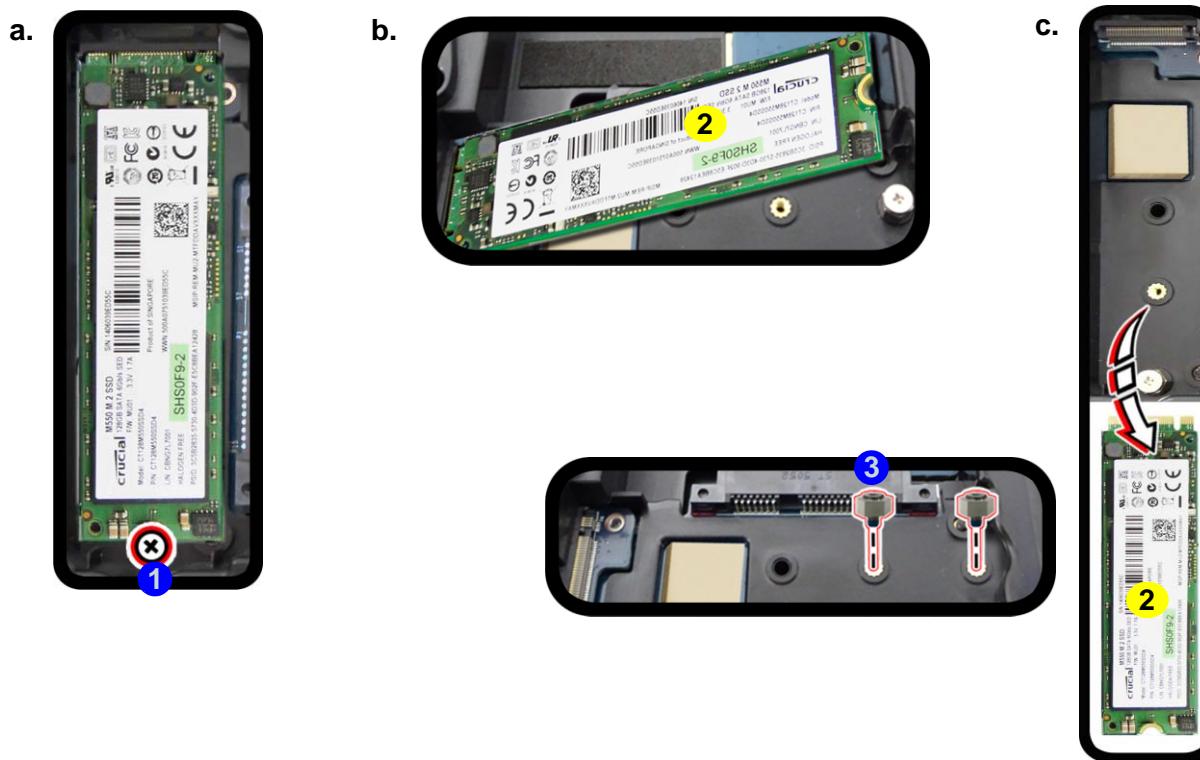
*Figure 4*  
**Foam Rubber  
Insert for 7mm(H)  
HDDs**



- If you are replacing a 9.5mm(H) HDD with a 7mm(H) HDD then insert the foam rubber insert.
- If you are replacing a 7mm(H) HDD with a 9.5mm(H) HDD then remove the foam rubber insert.

*Figure 5*  
**M.2 SSD Module  
Removal**

- a. Remove the screws.
- b. The module will pop up.
- c. Lift the module out.



2. M.2 SSD Module
- 1 Screw

## Disassembly

### Figure 6 RAM Module Removal

- a. Remove the screws.  
Slide the bottom cover until the cover and case indicators are aligned.

## Removing the Primary System Memory (RAM)

The computer has **four** memory sockets for 260 pin Small Outline Dual In-line (SO-DIMM) **DDR 4** type memory modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

**Two primary memory sockets are located under component bay cover (the bottom case cover), and two secondary memory sockets are located under the keyboard (not user upgradable). If you are installing only two RAM modules then they should be installed in the primary memory sockets under the component bay cover.**

Note that the RAM located under the keyboard is not user upgradable.

### Memory Upgrade Process

1. Turn **off** the computer, and turn it over, remove the battery ([page 2 - 5](#)).
2. Remove screws **1** - **5**.
3. Slide the bottom cover until the cover and case indicators **6** are aligned ([Figure 6a](#)).



- 5 Screws

4. Lift the component bay cover **6** off the computer case. The modules will be visible at point **7** (*Figure 7c*).
5. Gently pull the two release latches (**8** & **9**) on the sides of the memory socket(s) in the direction indicated below (*Figure 7d*).
6. The RAM module **10** will pop-up, and you can remove it (*Figure 7e*).
7. Pull the latches to release the second module if necessary.
8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the bay cover and screws.
12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.



#### Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

*Figure 7*  
**RAM Module Removal (cont'd.)**

- c. Lift the component bay cover off the computer case. The modules will be visible at point **7**.
- d. Gently pull the two release latches on the sides of the memory socket(s) in the direction indicated below.
- e. The RAM module will pop-up, and you can remove it.

6. Component Bay Cover  
10. RAM Module

- 4 Screws

## Disassembly

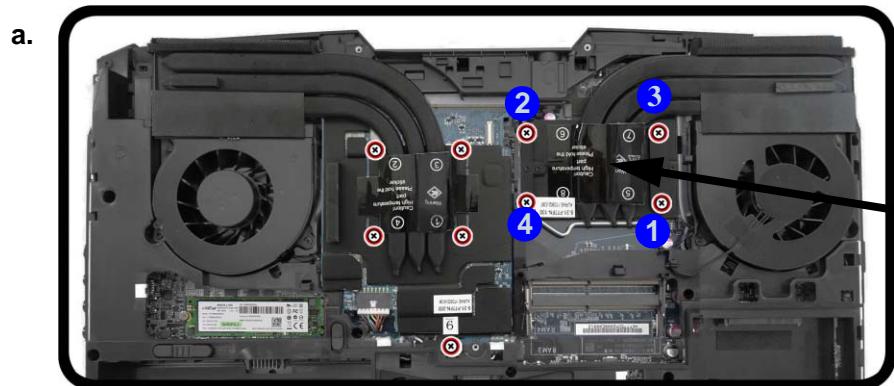
### Figure 8 Processor Removal Procedure

- a. Remove the screws in the correct order.
- b. Carefully remove the heat sink unit.

## Removing and Installing the Processor

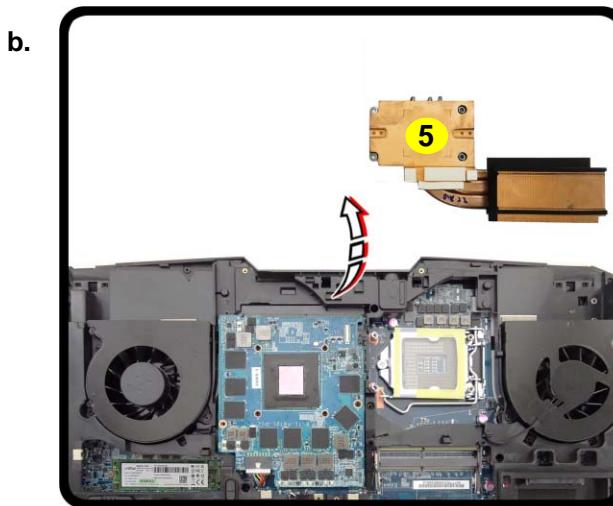
### Processor Removal Procedure

1. Turn off the computer, remove the battery ([page 2 - 5](#)), and component bay cover ([page 2 - 10](#)).
2. Remove screws ① - ④ from the heat sink unit in the order indicated on the label (i.e screw ④ first through to screw ① last [Figure 8a](#)).
3. Carefully (it may be hot) remove the heat sink unit ⑤ ([Figure 8b](#)).



#### Note:

Loosen the screws in the reverse order 4-3-2-1 as indicated.

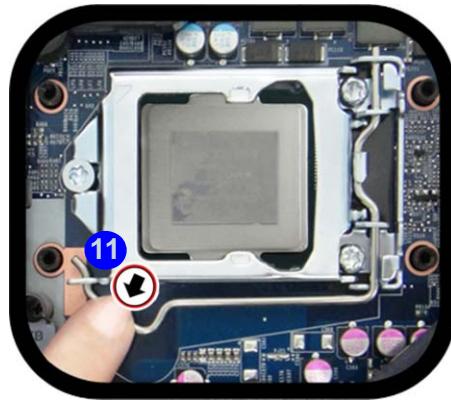


5. Heat Sink Unit
- 4 Screws

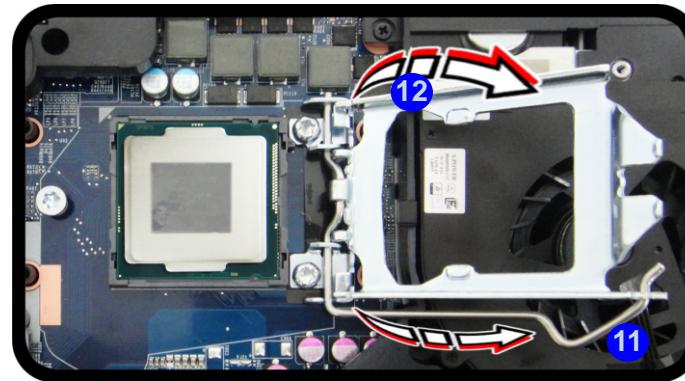
*Figure 9*  
**Processor Removal  
 (cont'd)**

4. Press down and hold the latch ⑪ (with the latch held down you will be able to release it).
5. Move the latch ⑪ and bracket ⑫ fully in the direction indicated to unlock the CPU(*Figure 9c*).
6. Carefully (it may be hot) lift the CPU **A** up out of the socket (*Figure 9d*).
7. See [page 2 - 14](#) for information on inserting a new CPU.
8. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

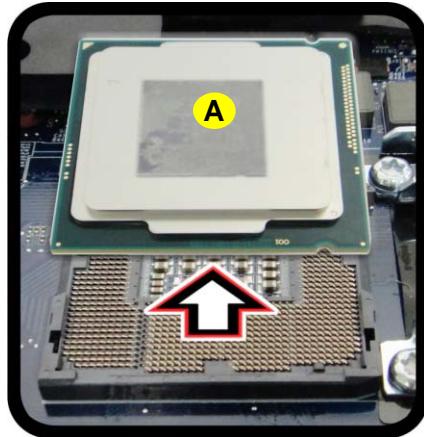
c.



Unlock

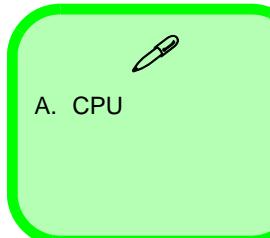


d.

**Caution**

The heat sink, and CPU area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.

- c. Move the latch and bracket fully in the direction indicated to unlock the CPU.
- d. Lift the CPU out of the socket.



A. CPU

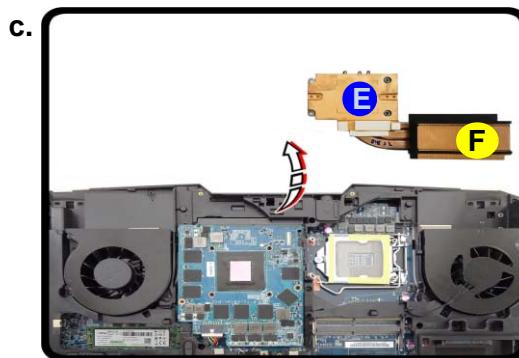
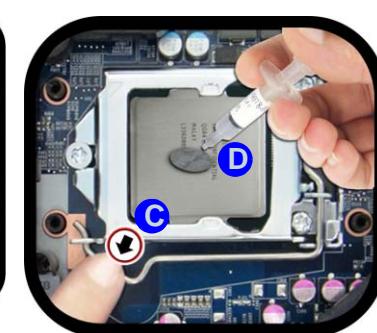
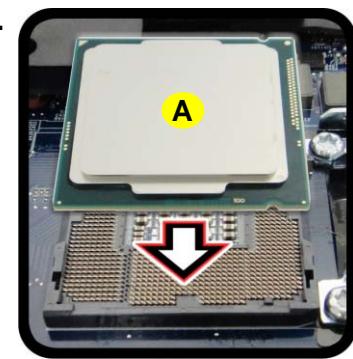
## Disassembly

### Figure 10 Processor Installation

- a. Insert the CPU.
- b. Move the latch and bracket fully in the direction indicated to lock the CPU. Apply thermal grease.
- c. Remove the sticker from the heat sink unit and insert the heat sink.
- d. Tighten the screws.

### Processor Installation Procedure

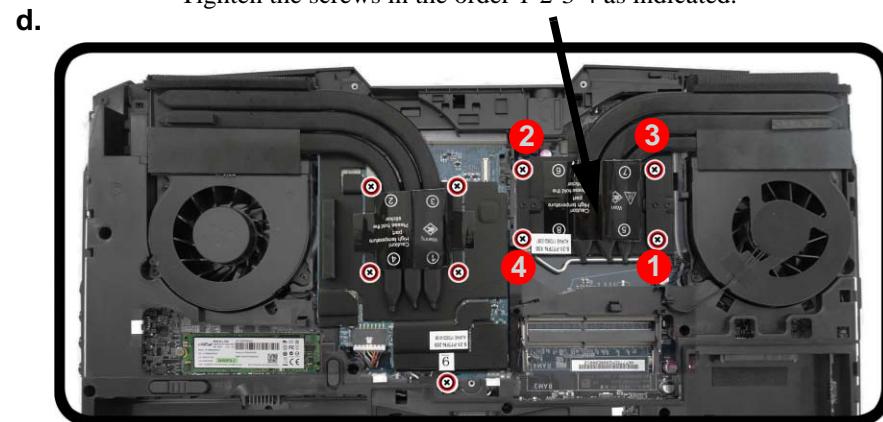
1. Insert the CPU **A**; pay careful attention to the pin alignment (*Figure 10a*), it will fit only one way (DO NOT FORCE IT!).
2. Move the bracket **B** and latch **C** fully in the direction indicated to lock the CPU.
3. Apply the whole tube of thermal grease **D** to the top of the CPU as shown (*Figure 10b*).
4. **Remove the sticker **E**** (*Figure 10c*) from the heat sink unit (if it is a new unit).
5. Insert the heat sink unit **F** as indicated in *Figure 10c*.
6. Tighten the CPU heat sink screws in the order **1 - 4** (the order as indicated on the label and *Figure 10d*).
7. Replace the CPU fan, component bay cover and tighten the screws (*page 2 - 12*).



- A. CPU  
 F. Heat Sink  
 • 4 Screws

#### Note:

Tighten the screws in the order 1-2-3-4 as indicated.



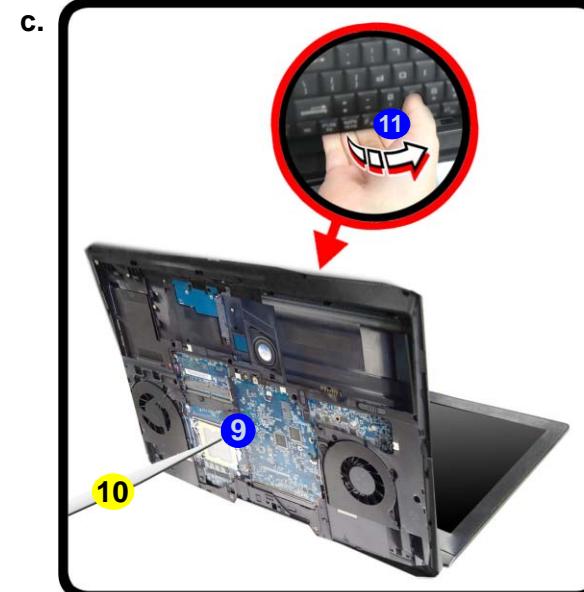
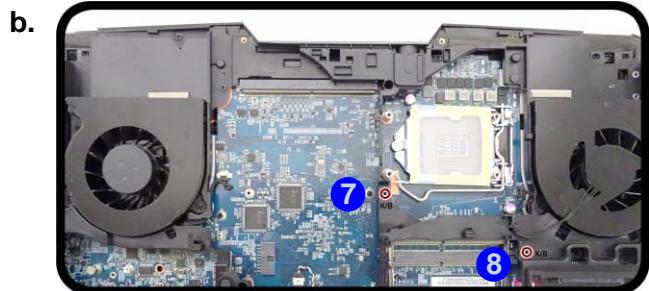
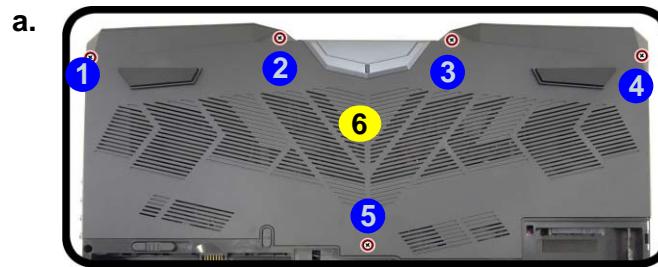
## Removing the System Memory (RAM) from Under the Keyboard

The computer has **four** memory sockets for 260 pin Small Outline Dual In-line (SO-DIMM) **DDR 4** type memory modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

**Two primary memory sockets are located under component bay cover (the bottom case cover), and two secondary memory sockets are located under the keyboard. If you are installing only two RAM modules then they should be installed in the primary memory sockets under the component bay cover.**

### Memory Upgrade Process

1. Turn off the computer, and turn it over, remove the battery ([page 2 - 5](#)).
2. Remove screws **1** - **5** and the component bay cover **6** ([Figure 11a](#)) and CPU heatsink ([page 2 - 12](#)).
3. Remove screws **7** - **8** from the bottom of the computer ([Figure 11b](#)).
4. Open it up with the LCD on a flat surface before pressing at point **9** to release the keyboard module (use an eject stick **10** to do this with a diameter no bigger than 2.5mm) while releasing the keyboard in the direction of the arrow **11** as shown ([Figure 11c](#)).



*Figure 11  
Keyboard  
Removal*

- a. Remove the screws and component bay cover.
- b. Remove the screws.
- c. Eject the keyboard using a special eject stick to push the keyboard out while releasing the keyboard as shown.



## 2. Disassembly

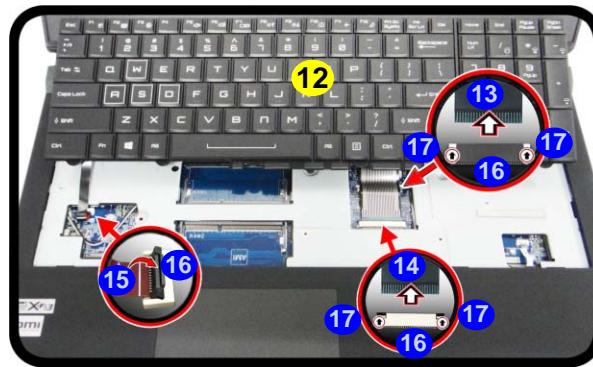
### Disassembly

Figure 12  
RAM Module  
Removal

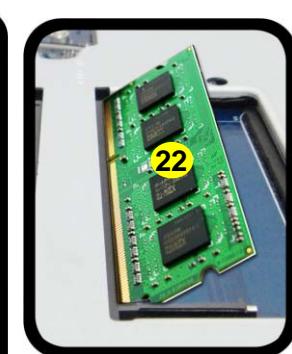
- d. Lift the keyboard up, and disconnect the keyboard ribbon cable from the locking collar socket.
- e. Remove the keyboard and the memory sockets will be visible.
- f. Pull the two release latches on the sides of the memory socket(s) in the direction indicated.

5. Carefully lift the keyboard **12** up, being careful not to bend the keyboard ribbon cables **13** - **15**.
6. Disconnect the keyboard ribbon cables **13** - **15** from the locking collar socket **16** by using a small flat-head screwdriver to pry the locking collar pins **17** away from the base (**Figure 12d**).
7. Remove the keyboard and the memory sockets **18** & **19** will be visible.
8. Gently pull the two release latches (**20** & **21**) on the sides of the memory socket(s) in the direction indicated below.
9. The RAM module **22** will pop-up, and you can remove it.
10. Pull the latches to release the second module if necessary.
11. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
12. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
13. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
14. Replace the bay cover and screws.
15. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

d.



f.



e.



12. Keyboard  
22. RAM Modules

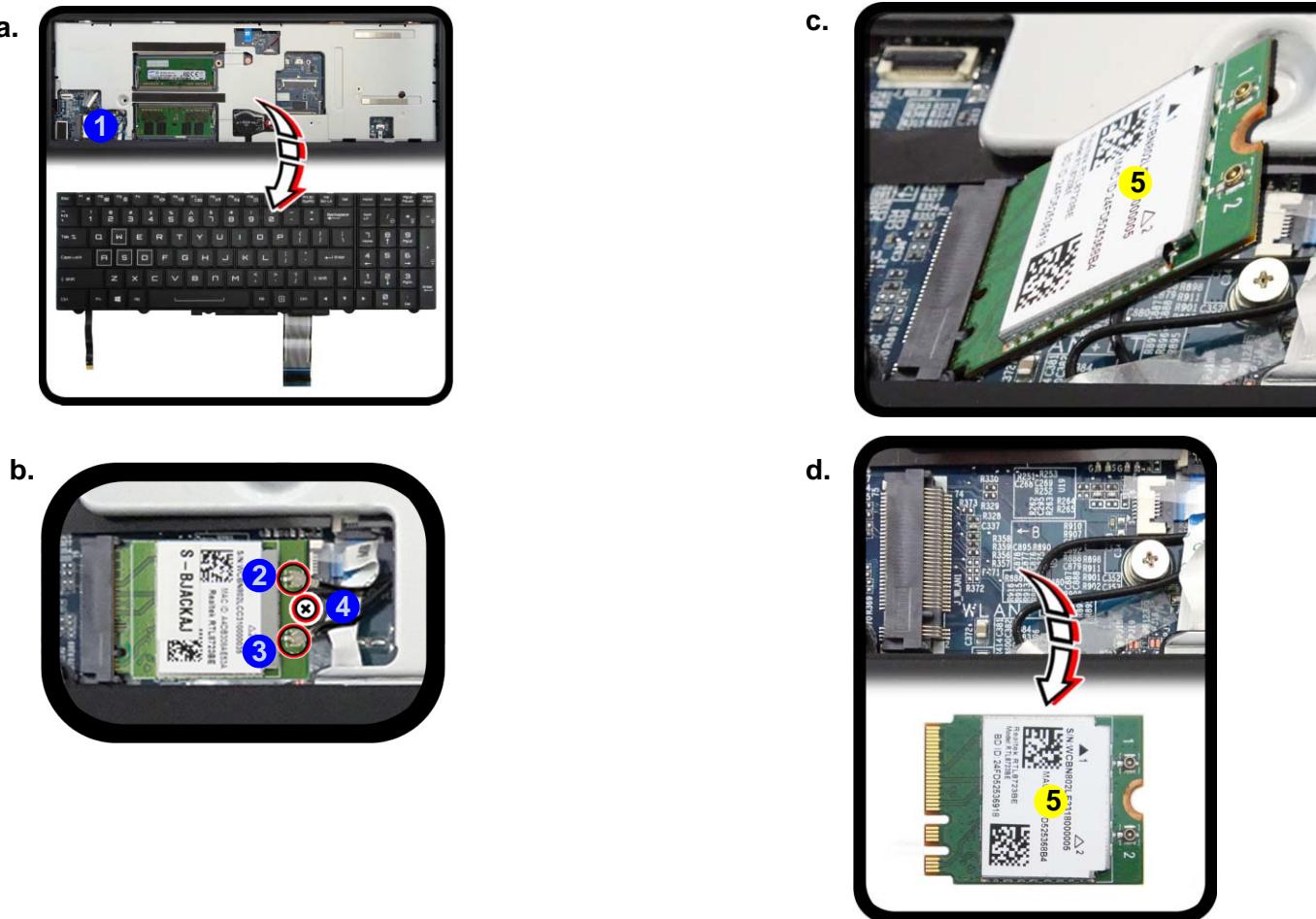


#### Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

Figure 13  
Wireless LAN  
Module Removal

- The Wireless LAN module will be visible at point 1 under the keyboard (Figure 13a).
- Disconnect cables 2 - 3, then remove screw 4 from the module socket (Figure 13b).
- The WLAN module 5 will pop up (Figure 13c).
- Lift the WLAN module (Figure 13d) up and off the computer.



#### 5. WLAN Module

- 1 Screw

## Disassembly

### Wireless LAN, Combo Module Cables

Note that the cables for connecting to the antennae on WLAN, WLAN & Bluetooth Combo, 3G and LTE modules are not labelled. The cables/covers (each cable will have either a black or transparent cable cover) are color coded for identification as outlined in the table below.

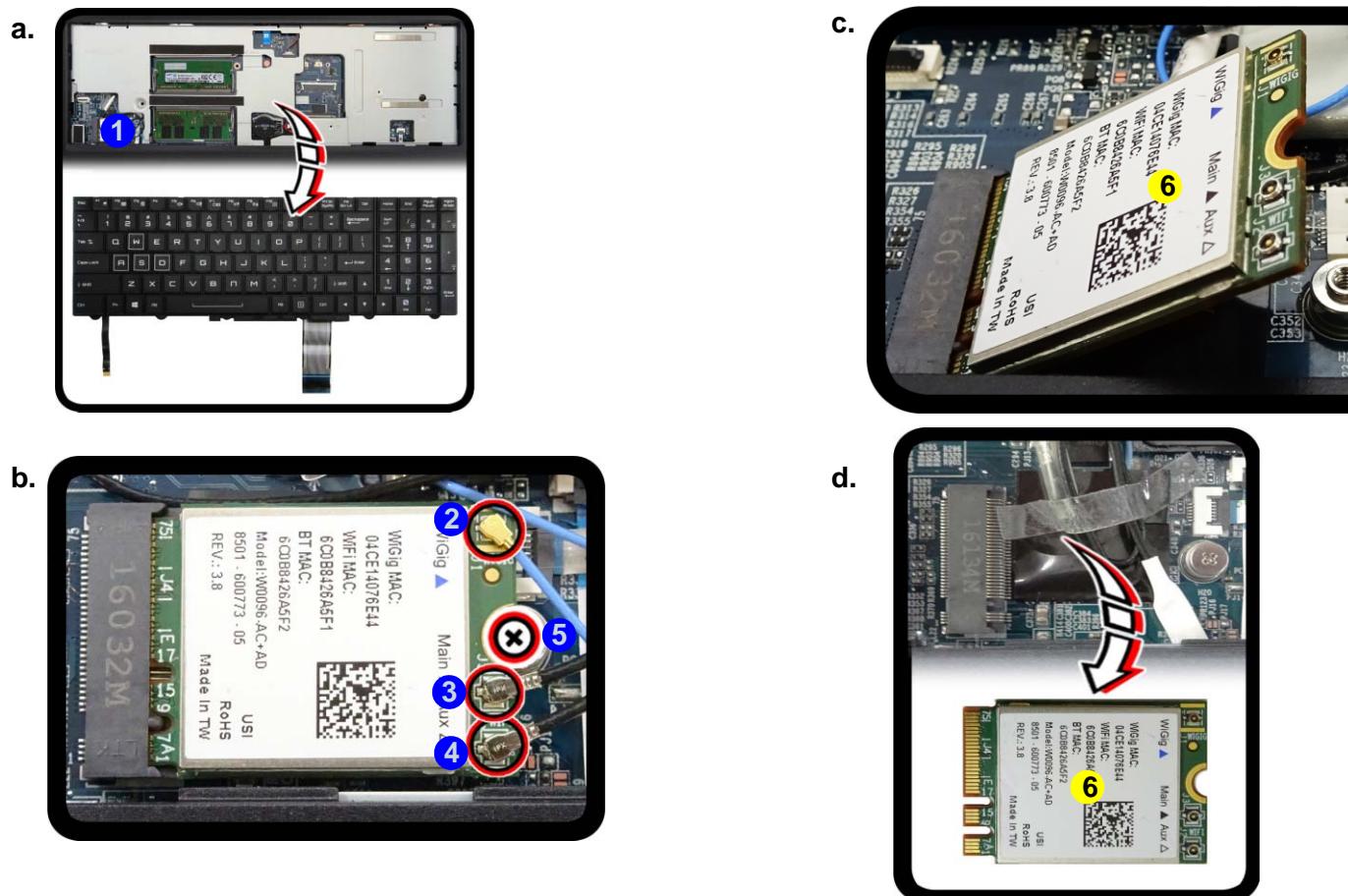
Module Type	Antenna Type	Cable Color	Cable Cover Type
WLAN/WLAN & Bluetooth Combo	WM 1	Black	Transparent
	WM 2	Black	White
WiGig	WG 1	Blue	Black

Cable 1 is usually connected to antenna 1 (Main) on the module, and cable 2 to antenna 2 (Aux).

Figure 14  
WiGig Module  
Removal

## Removing the WiGig Module

1. Turn off the computer, remove the battery ([page 2 - 5](#)), CPU ([page 2 - 12](#)) and the keyboard ([page 2 - 15](#)).
2. The module will be visible at point **1** under the keyboard ([Figure 13a](#)).
3. Carefully disconnect cables **2** - **4**, then remove screw **5** from the module socket ([Figure 13b](#)).
4. The module **6** will pop-up ([Figure 13c](#)).
5. Lift the module ([Figure 13d](#)) up and off the computer.



- a. The module will be visible at point **1** under the keyboard
- b. Disconnect the cables and remove the screw.
- c. The module will pop up.
- d. Lift the module out.

## Disassembly

---

*Figure 15*

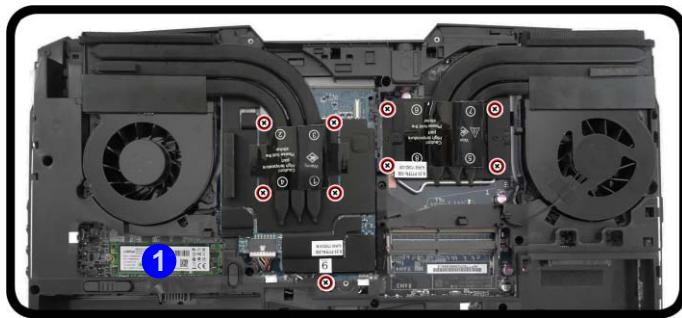
### M.2 SSD Module Removal

- a. Locate the module.
- b. Remove the screw.
- c. The module will pop-up.
- d. Lift the module up off the socket.

## Removing the M.2 SSD Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)), and component bay cover ([page 2 - 10](#)).
2. Locate the module; it is visible at point **1** ([Figure 15a](#)).
3. Carefully remove the screw **2** from the module ([Figure 15b](#)).
4. The M.2 SATA module **3** will pop-up ([Figure 15c](#)).
5. Lift the M.2 SATA module **3** up and off the computer ([Figure 15d](#)).
6. Reverse the process to install a new SSD (make sure that the hexagonal screw **4** is in the correct location).

a.



b.



c.



d.



3. SSD Module  
• 1 Screw

## M.2 SSD Installation Procedure

1. Place the thermal pad **1** on the computer as shown (*Figure 16a*).
2. Insert the module **2** in the computer. Make sure that the hexagonal screw **3** is in the correct location (*Figure 16b*).
3. Tighten the screw **4** to secure it in place (*Figure 16c*).



*Figure 16*  
**M.2 SSD Module  
Installation**

- a. Place the thermal pad.
- b. Insert the module.
- c. Tighten the screw.

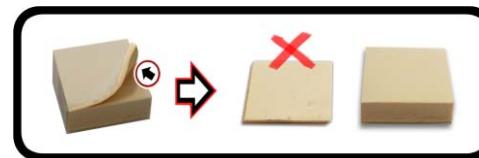


### Thermal Pad

Make sure you place the thermal pad's adhesive side down onto the computer surface as illustrated.

The usage of the thermal pad will depend upon the thickness of the module being used.

- If you are using the thinner module, then apply the whole thermal pad provided on the computer.
- If you are using the thicker module, separate the pad into its two parts. Use the larger part and place the adhesive side onto the computer (discard the smaller part that you have separated).



1. Thermal Pad
  2. M.2 SATA Module
- 1 Screw

## Disassembly

---

*Figure 17*  
Video Card  
Removal Procedure

- Remove the screws in the correct order.
- Carefully remove the heat sink units.
- Remove the video card screws. The video card will pop up.
- Remove the video card.



### Caution

The heat sink, and video card area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.

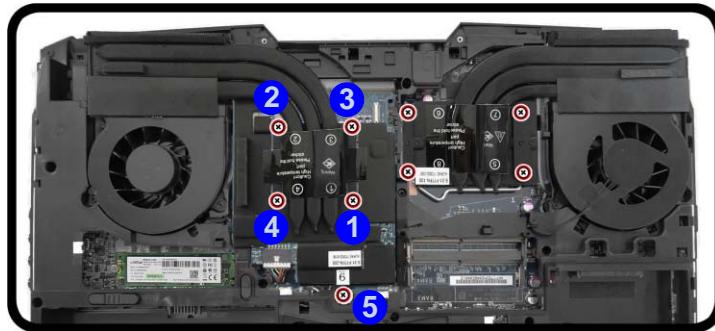
6. Heat Sink Units  
10. Video Card  
• 5 Screws

# Removing and Installing the Video Card

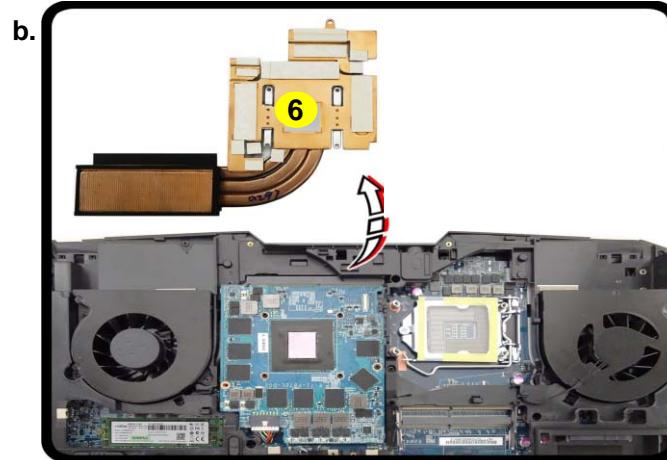
## Video Card Removal Procedure

- Turn off the computer, turn it over and remove the battery ([page 2 - 5](#)) and component cover ([page 2 - 10](#)).
- Remove screws ① - ⑤ from the heat sink unit in the order indicated on the label (i.e screw ④ first through to screw ① last) ([Figure 17a](#)).
- Carefully (it may be hot) remove the heat sink unit ⑥ ([Figure 17b](#)).
- Disconnect cable ⑦ and remove screws ⑧ & ⑨ from the video card. The video card ⑩ will pop up ([Figure 17c](#)).
- Remove the video card ⑩ ([Figure 17d](#)).

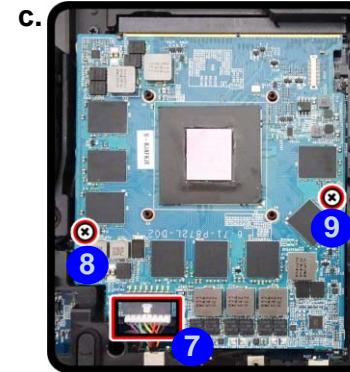
a.



b.



c.



d.



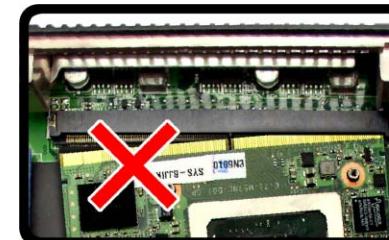
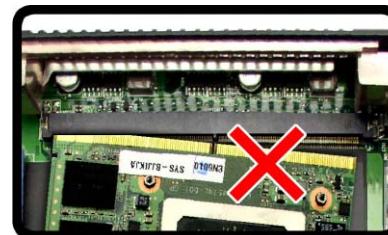
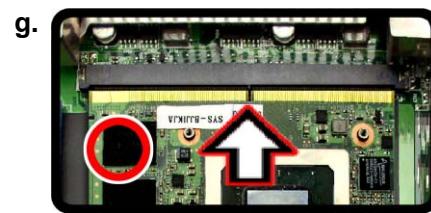
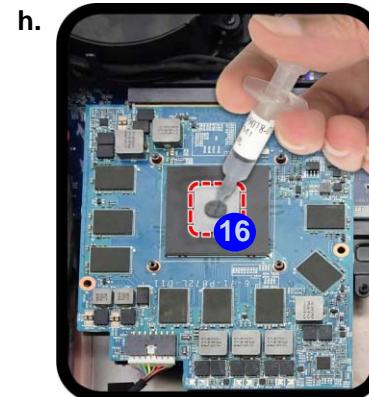
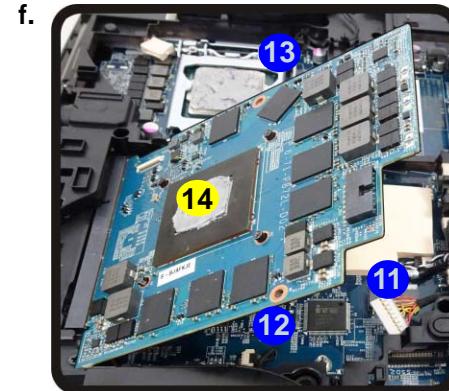
### Heat Sink Screw Removal and Insertion

Remove the screws from the heat sink in the order indicated here: 9-8-7-6-5-4-3-2-1.

When tightening the screws, make sure that they are tightened in the order: 1-2-3-4-5-6-7-8-9.

## Installing a New Video Card

1. Place the thermal pad **15** on the computer as shown (*Figure 18e*).
2. Prepare to fit the video card **14** into the slot by holding it at about a 30° angle (*Figure 18f*).
3. The card needs to be fully into the slot, and the video card and socket have a guide-key and pin which align to allow the card to fit securely (*Figure 18g*).
4. Fit the connectors firmly into the socket, straight and evenly.



5. DO NOT attempt to push one end of the card in ahead of the other.
6. The card's pin alignment will allow it to only fit one way. **Make sure the module is seated as far into the socket as it will go.** DO NOT FORCE the card; it should fit without much pressure.
7. Connect the cable **11** and secure the card with screws **12 & 13** (*Figure 17 on page 2 - 22*).
8. Apply the whole tube of the thermal grease **16** to the center of the main VGA chip as shown (*Figure 18h*).
9. Place the heat sink back on the card, and secure the screws in the order indicated in *Figure 17 on page 2 - 22*.
10. Reinsert the component bay cover, and secure with the screws as indicated in *Figure 11 on page 2 - 15*.

*Figure 18  
Installing a New  
Video Card*

- e. Insert the video card at a 30 degree angle.
- f. Fit the connectors straight and even, and secure the card with the screws.



### Caution

The heat sink, and video card area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.



- 14. Video Card
- 15. Thermal Pad
- 2 Screws

## Disassembly

---

# Appendix A: Part Lists

This appendix breaks down the **P775TM (-G) / P775TM1 (-G)** series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

**Note:** This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

**Note:** Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

**Note:** Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

## Part Lists

### Part List Illustration Location

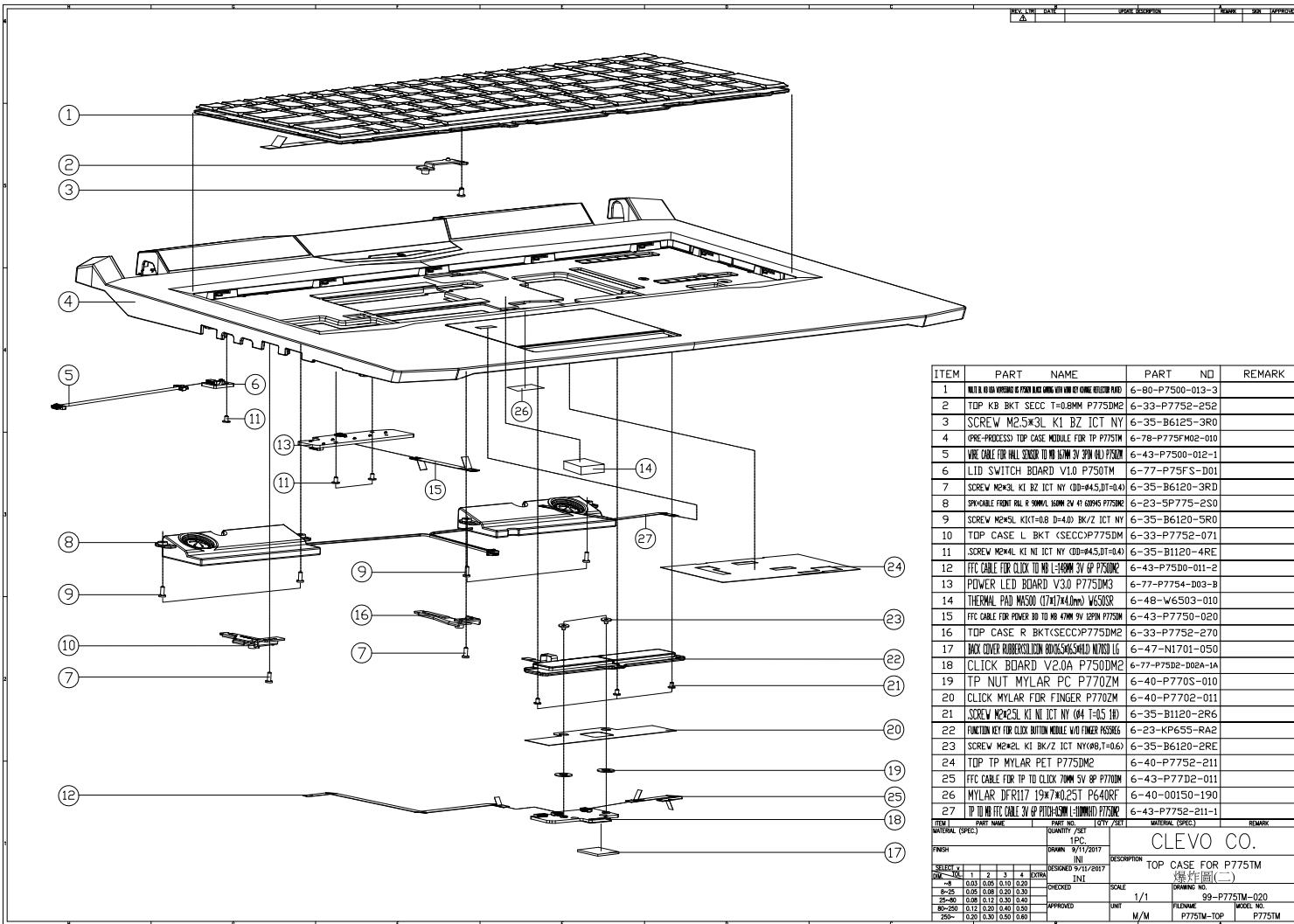
The following table indicates where to find the appropriate part list illustration.

*Table A- 1*

#### Part List Illustration Location

Parts	
Top	<i>page A - 3</i>
Bottom	<i>page A - 4</i>
LCD (LG-AU)	<i>page A - 5</i>
LCD (AU)	<i>page A - 6</i>
MB	<i>page A - 7</i>
HDD	<i>page A - 8</i>
VGA (G1/G3)	<i>page A - 9</i>
VGA (G2)	<i>page A - 10</i>

## Top

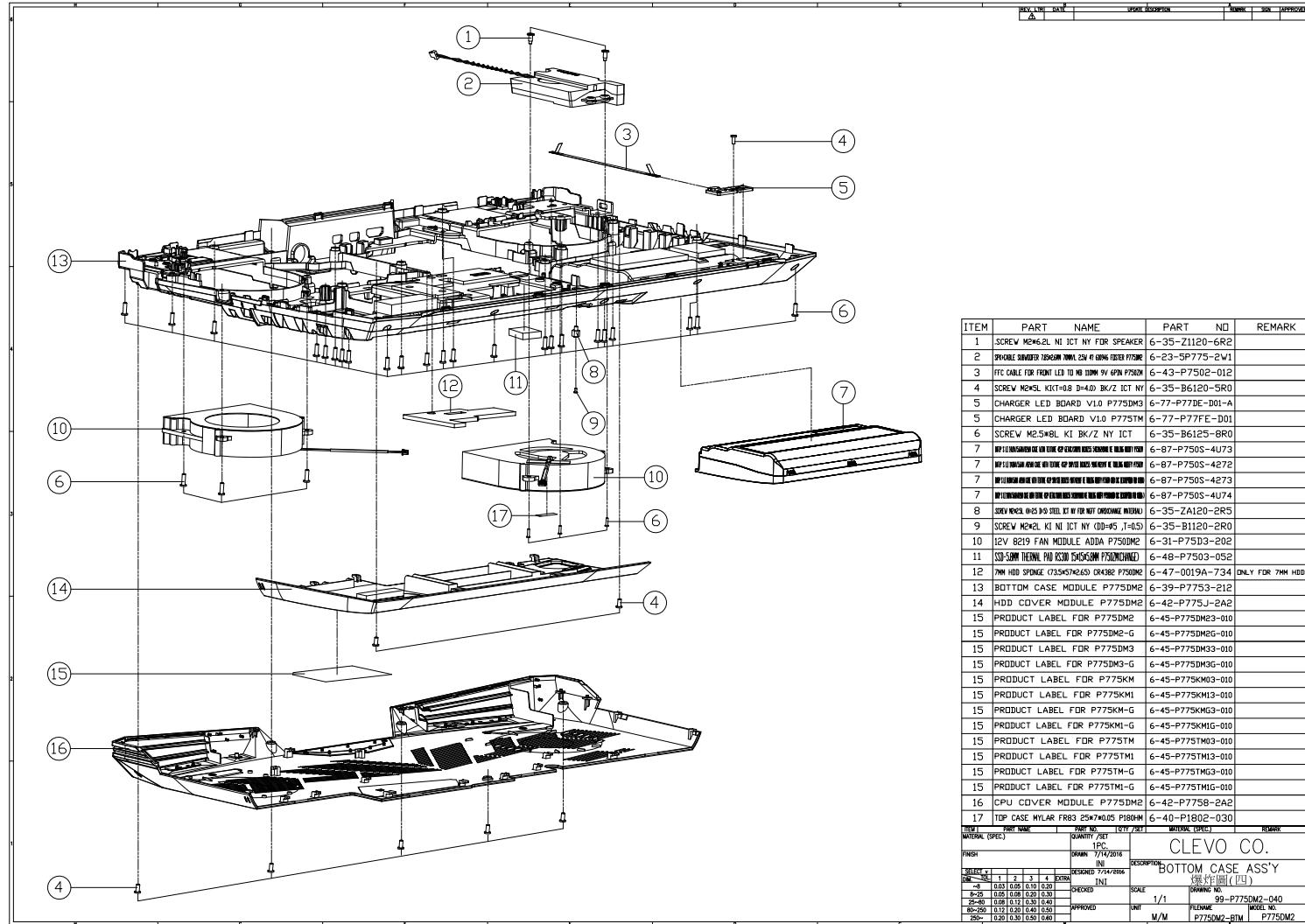
Figure A - 1  
Top

## Part Lists

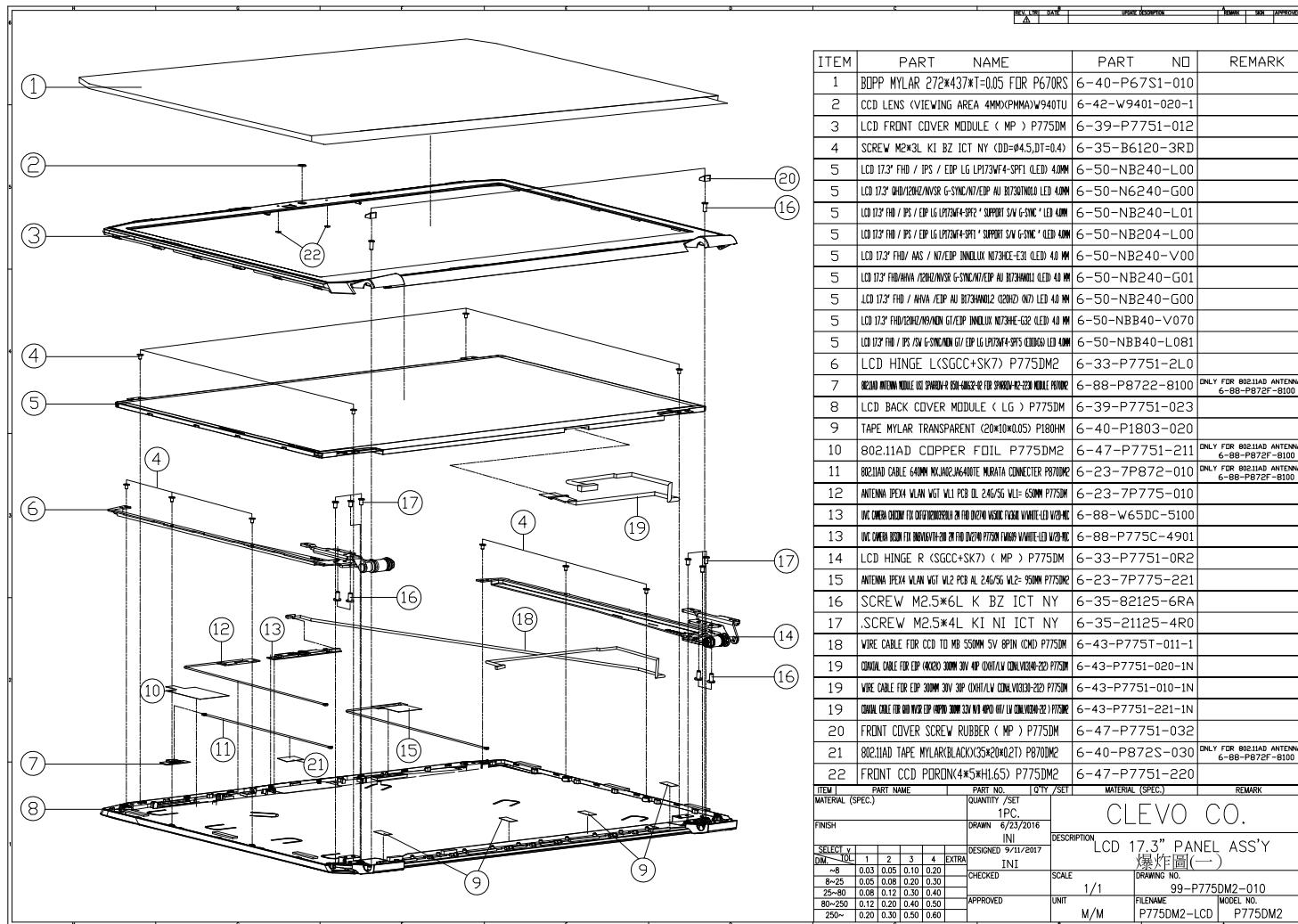
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### Bottom

Figure A - 2  
Bottom



## LCD (LG-AU)



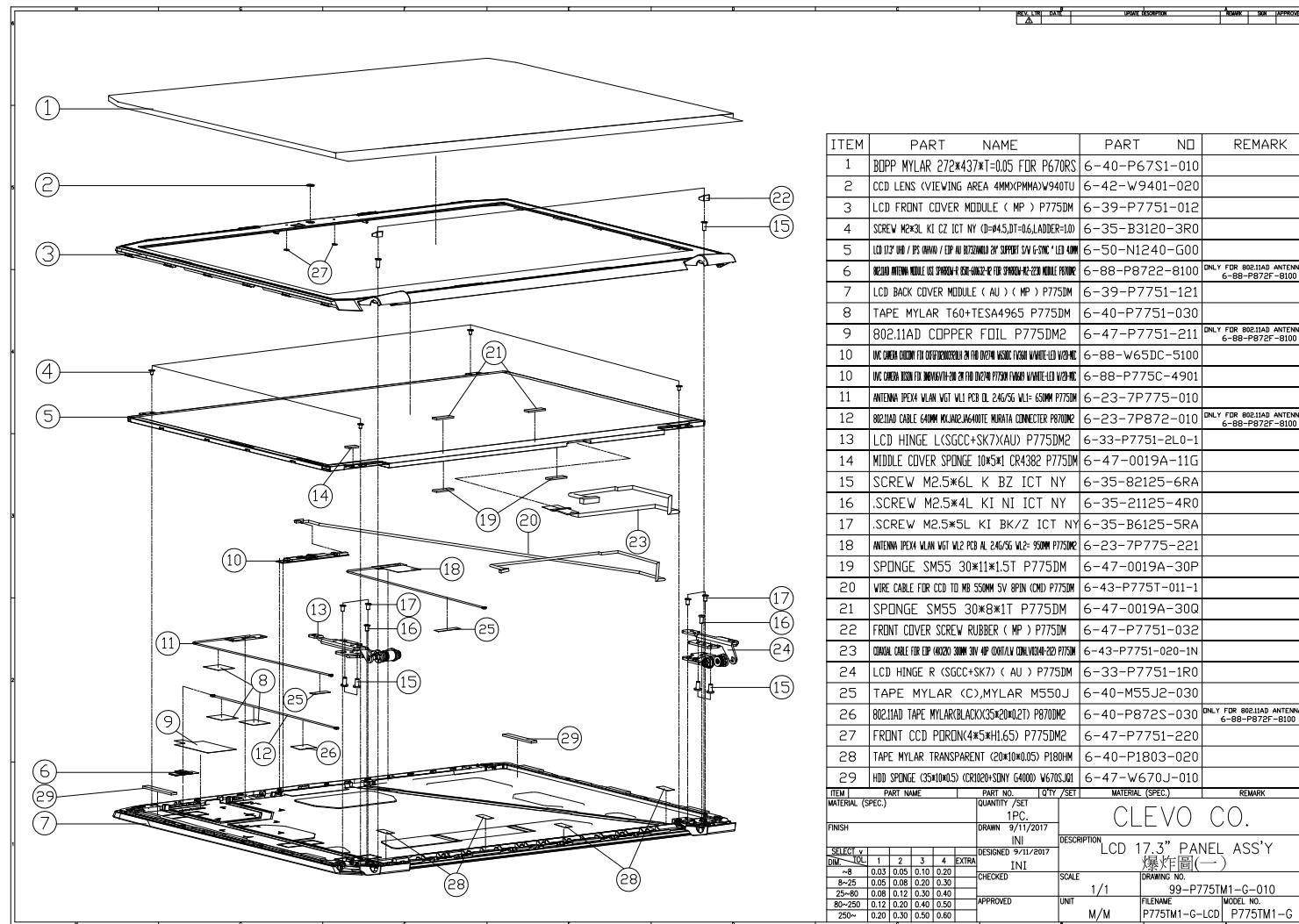
*Figure A - 3*  
**LCD (LG-AU)**

A. Part Lists

## Part Lists

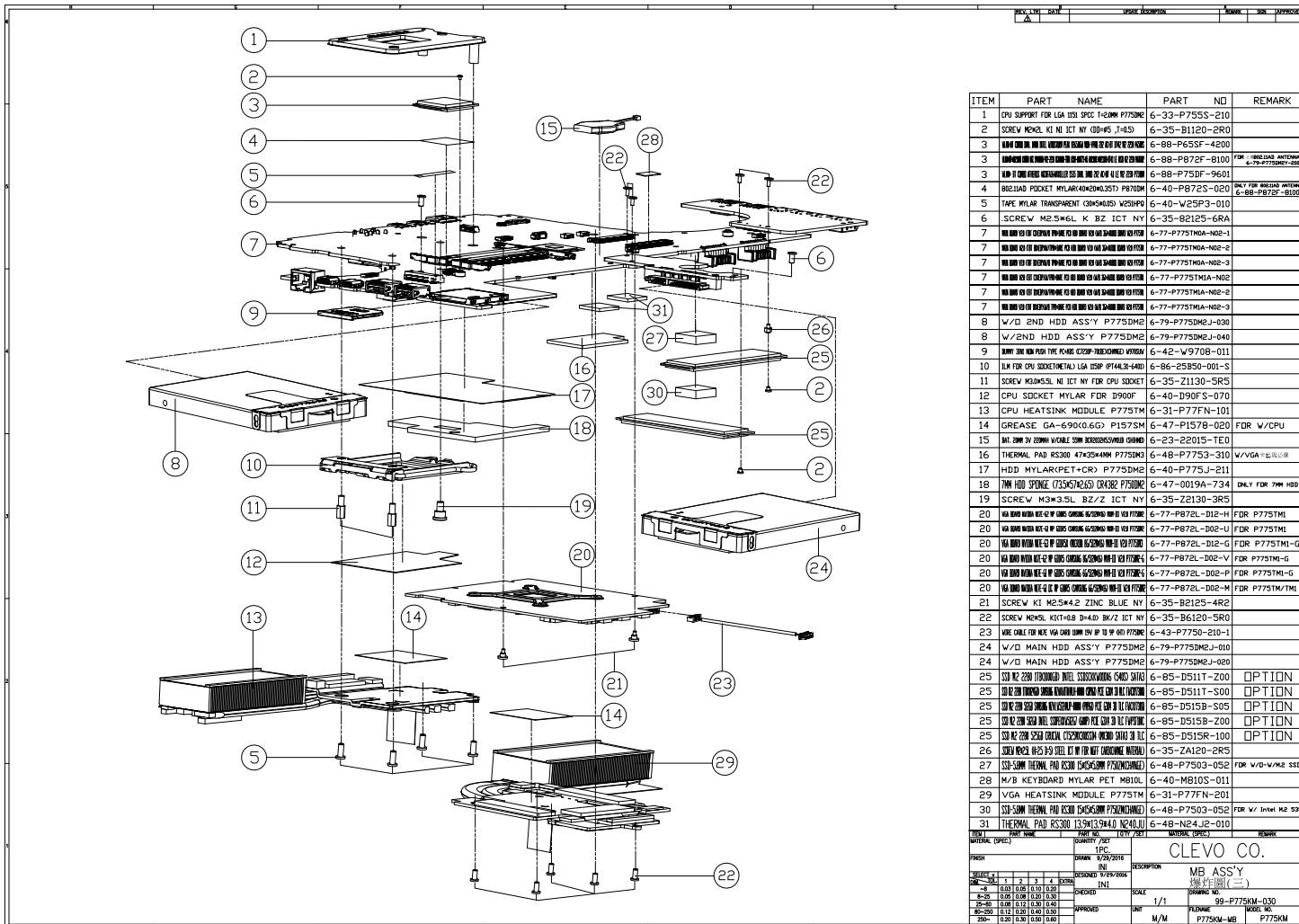
## LCD (AU)

*Figure A - 4*  
**LCD (AU)**



A - 6 LCD (AU)

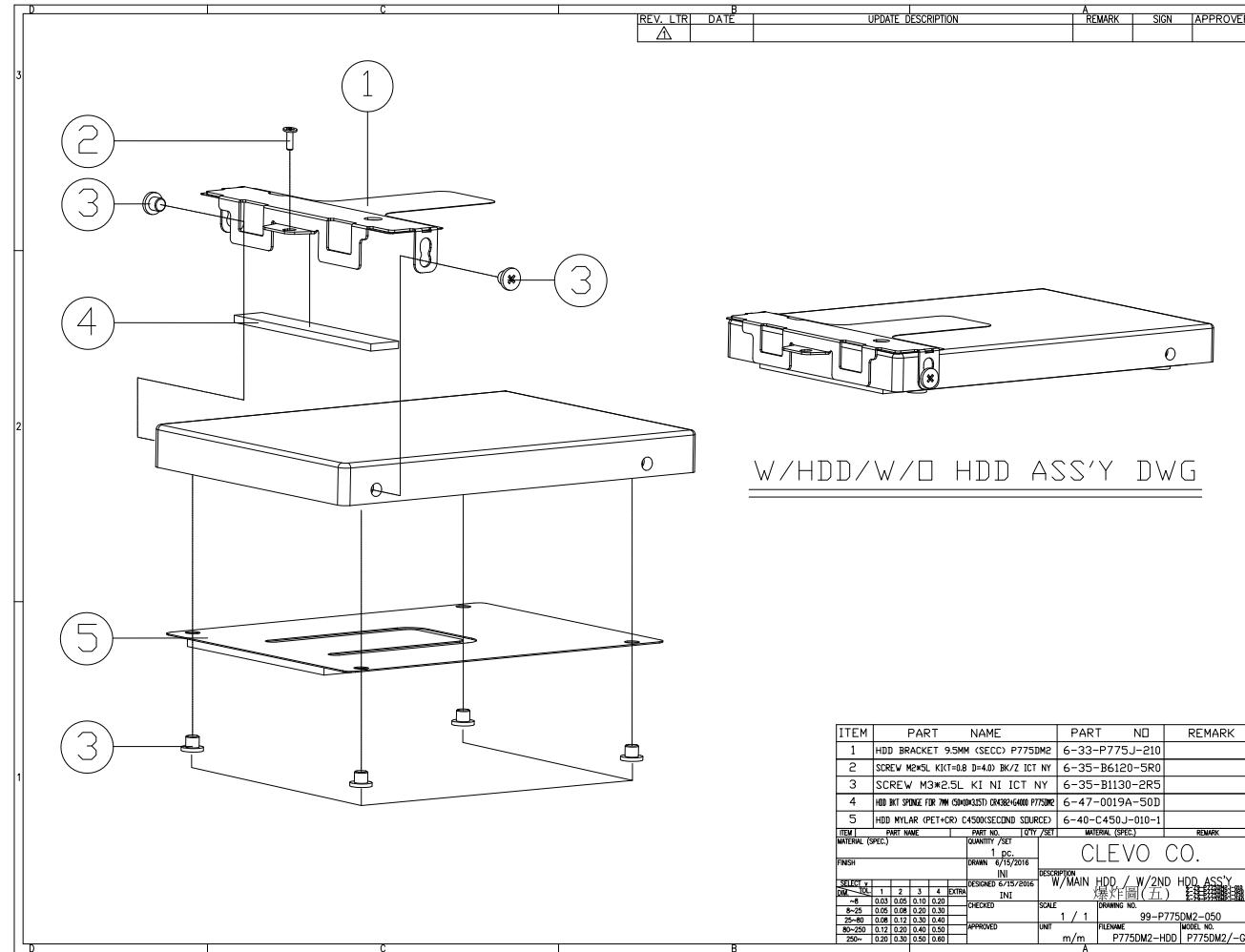
MB



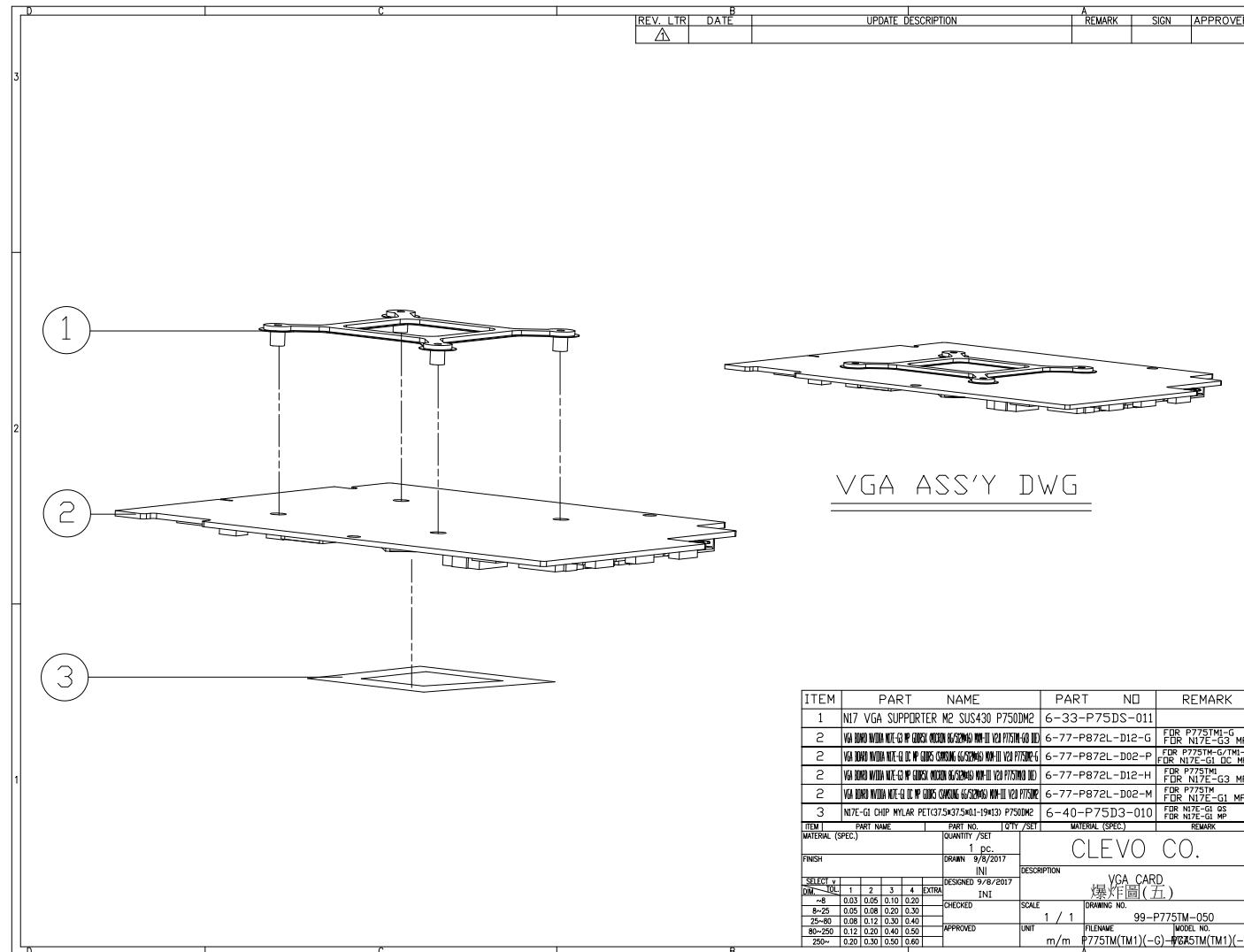
*Figure A - 5*

**Part Lists****HDD**

*Figure A - 6*  
**HDD**

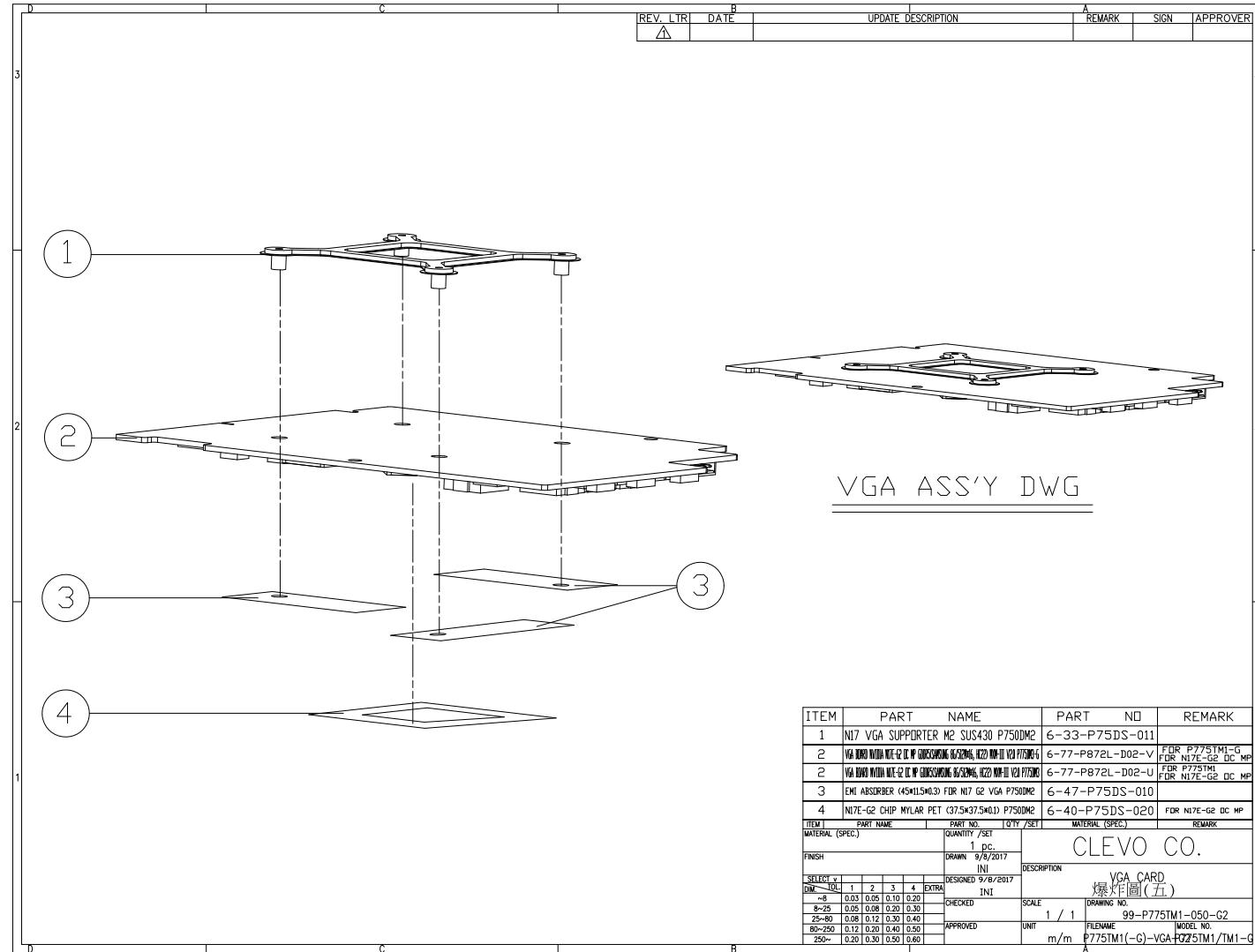


## VGA (G1/G3)

Figure A - 7  
VGA (G1/G3)

**Part Lists****VGA (G2)**

*Figure A - 8  
VGA (G2)*



**A - 10 VGA (G2)**

# Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the **P775TM (-G) / P775TM1 (-G)** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>Block Diagram - Page B - 2</i>	<i>M.2 3G+USB &amp; WLAN+BT - Page B - 26</i>	<i>VCore - Page B - 50</i>
<i>Processor 1/5 - Page B - 3</i>	<i>M.2 PCIE4X SSD1 &amp; SSD2 - Page B - 27</i>	<i>VCore Output Stage - Page B - 51</i>
<i>Processor 2/5 - Page B - 4</i>	<i>Realtek ALC898 - Page B - 28</i>	<i>VCCSA / VCCGT - Page B - 52</i>
<i>Processor 3/5 - Page B - 5</i>	<i>PCM1861 + TAS5766DCA - Page B - 29</i>	<i>Power Charger, DC-In - Page B - 53</i>
<i>Processor 4/5 - Page B - 6</i>	<i>Subwoofer - Page B - 30</i>	<i>P750DM HDD Board - Page B - 54</i>
<i>Processor 5/5 - Page B - 7</i>	<i>EC IT8587 - Page B - 31</i>	<i>P750DM Power LED Board - Page B - 55</i>
<i>DDR4 CHA SO-DIMM_0 - Page B - 8</i>	<i>Second EC IT8587 - Page B - 32</i>	<i>P750DM Click Board - Page B - 56</i>
<i>DDR4 CHA SO-DIMM_1 - Page B - 9</i>	<i>Backlight Keyboard - Page B - 33</i>	<i>P750DM Audio Board - Page B - 57</i>
<i>DDR4 CHB SO-DIMM_0 - Page B - 10</i>	<i>LID SW, Fan, LED Conn - Page B - 34</i>	<i>P750DM Audio ESS DAC - Page B - 58</i>
<i>DDR4 CHB SO-DIMM_1 - Page B - 11</i>	<i>Fan, TP, FP, Multi-Con - Page B - 35</i>	<i>P750DM Audio HP AMP - Page B - 59</i>
<i>Panel, Inverter, CRT - Page B - 12</i>	<i>LAN E2500 - Page B - 36</i>	<i>P750DM Audio Board - Page B - 60</i>
<i>Display Port A - Page B - 13</i>	<i>PS8338B + PS8330B - Page B - 37</i>	<i>P775DM Audio Board - Page B - 61</i>
<i>Display Port B - Page B - 14</i>	<i>TBT - Page B - 38</i>	<i>P775DM Audio ESS DAC - Page B - 62</i>
<i>HDMI - Page B - 15</i>	<i>Power - Page B - 39</i>	<i>P775DM Audio HP AMP - Page B - 63</i>
<i>MXM PCI-E - Page B - 16</i>	<i>TPS65982 - Page B - 40</i>	<i>P775DM Audio Board - Page B - 64</i>
<i>Lynix Point 1/7 - Page B - 17</i>	<i>TPS65982 - Page B - 41</i>	<i>P750DM BOT LED Board - Page B - 65</i>
<i>Lynix Point 2/7 - Page B - 18</i>	<i>Cardreader RTS5250 - Page B - 42</i>	<i>P750DM LID Switch Board - Page B - 66</i>
<i>Lynix Point 3/7 - Page B - 19</i>	<i>TPM SLB9655TT &amp; NPCT420 - Page B - 43</i>	<i>P750DM Charge LED Board - Page B - 67</i>
<i>Lynix Point 4/7 - Page B - 20</i>	<i>VCCIO / IP0A - Page B - 44</i>	<i>P775DM Charge LED Board - Page B - 68</i>
<i>Lynix Point 5/7 - Page B - 21</i>	<i>DDR 1.2V/0.6VS/VCCPLL_OC - Page B - 45</i>	<i>P775DM Power LED Board - Page B - 69</i>
<i>Lynix Point 6/7 - Page B - 22</i>	<i>VDD3, VDD5 - Page B - 46</i>	<i>Power On Sequence - Page B - 70</i>
<i>Lynix Point 7/7 - Page B - 23</i>	<i>5V/5VS, 3V/3.3VS, 3.3VA - Page B - 47</i>	
<i>USB Charging - Page B - 24</i>	<i>5VS_2/2.5V/NV3V3/3.3V_ON/5V_RUN - Page B - 48</i>	
<i>CCD, USB Port3 - Page B - 25</i>	<i>Fan CPU, VGA Power - Page B - 49</i>	

**Table B - 1**  
**Schematic**  
**Diagrams**

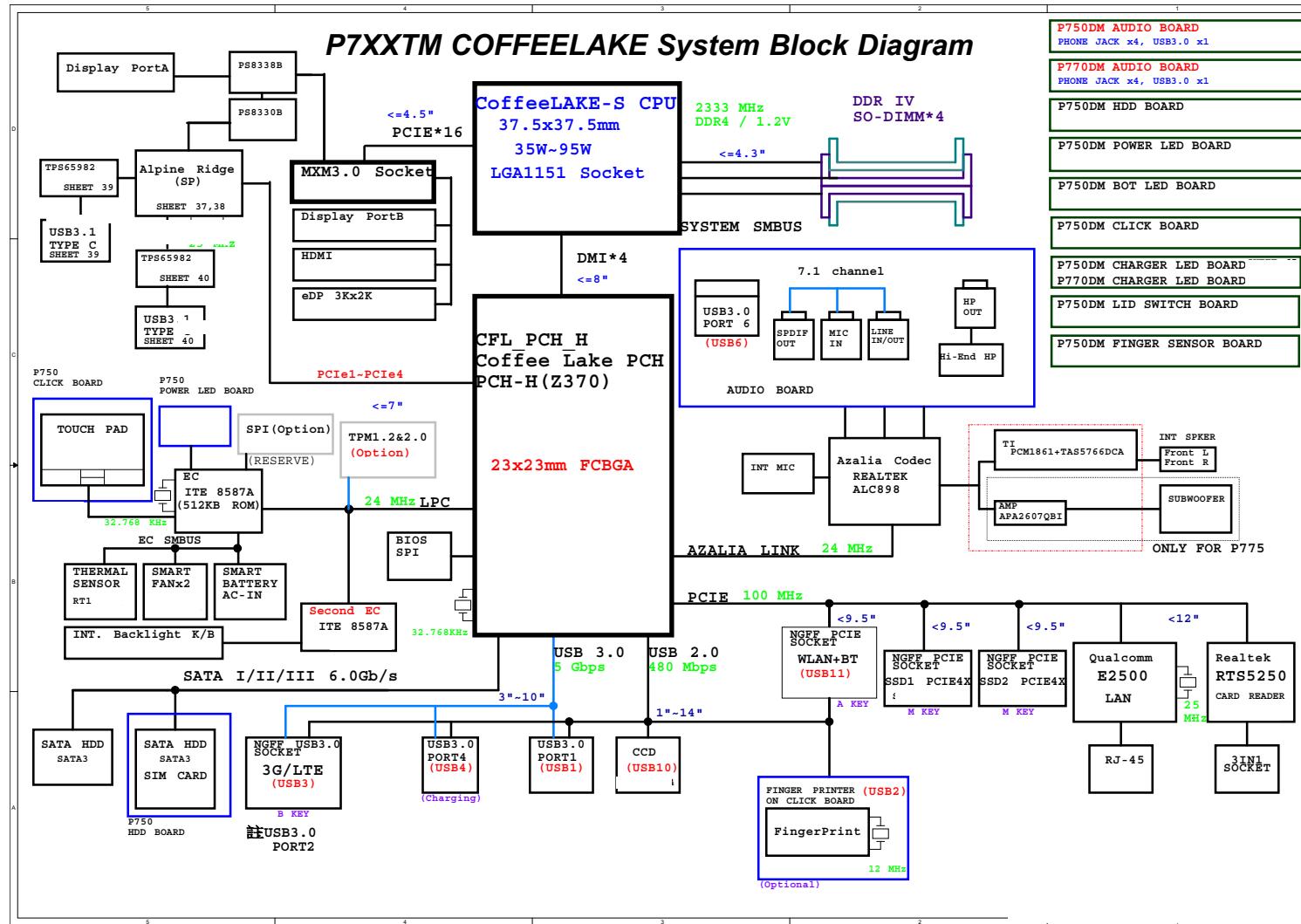


#### Version Note

The schematic diagrams in this chapter are based upon version 6-7P-P77FB-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

**Schematic Diagrams****Block Diagram**

**Sheet 1 of 69**  
**Block Diagram**

**B - 2 Block Diagram**

## Schematic Diagrams

## Processor 1/5



## B.Schematic Diagrams

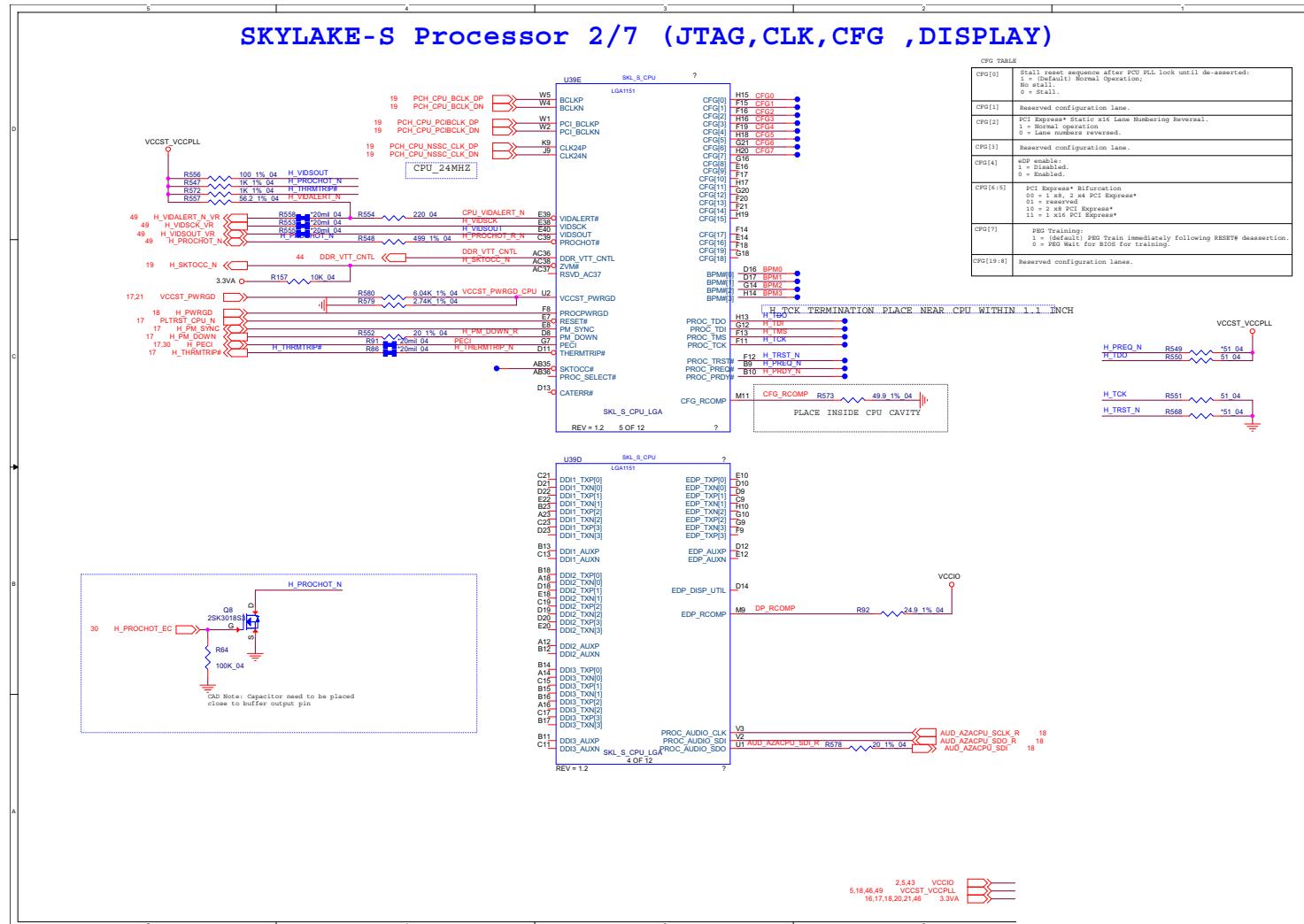
Sheet 2 of 69  
Processor 1/5

Processor 1/5 B - 3

## **Schematic Diagrams**

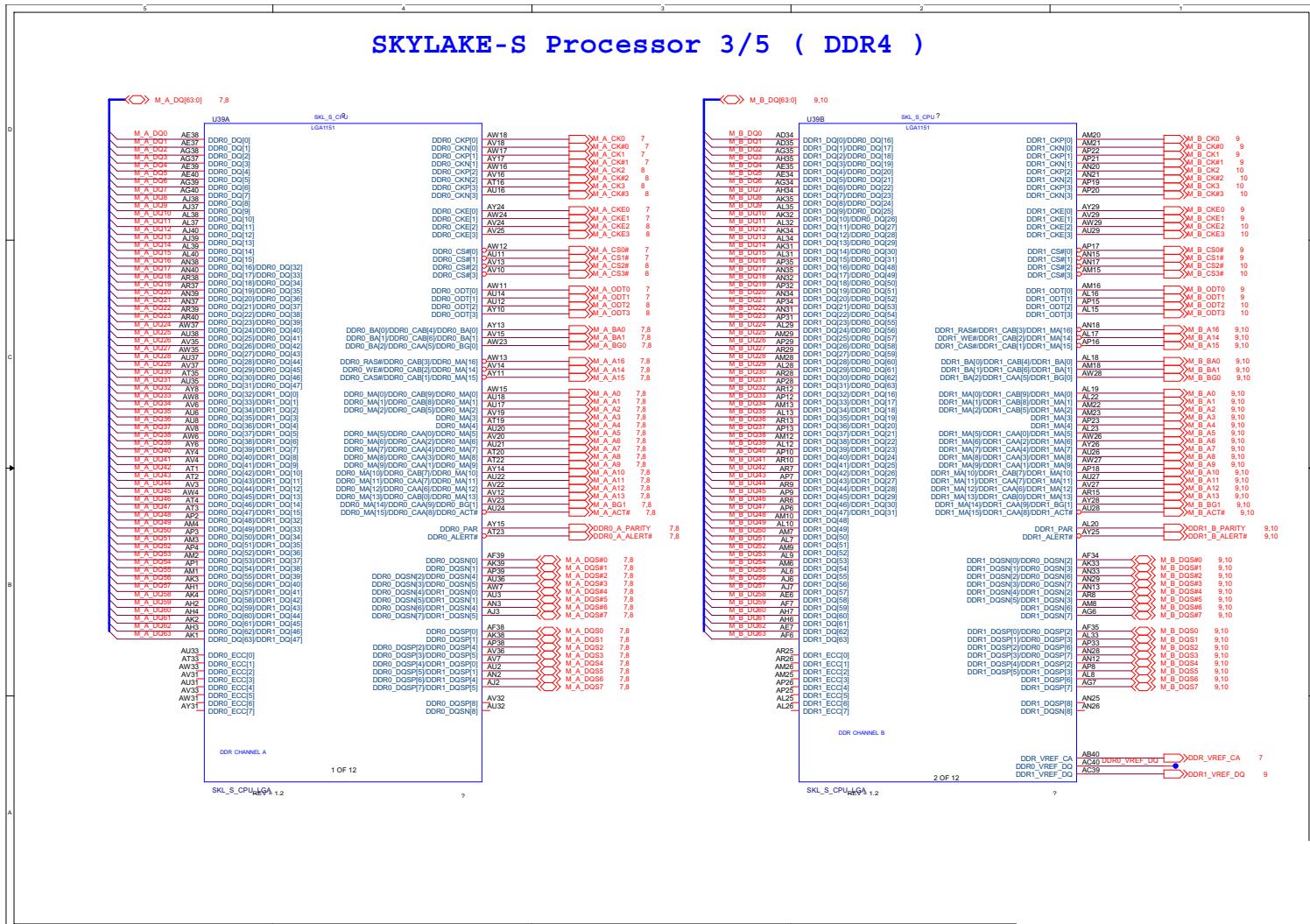
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# Processor 2/5



## Schematic Diagrams

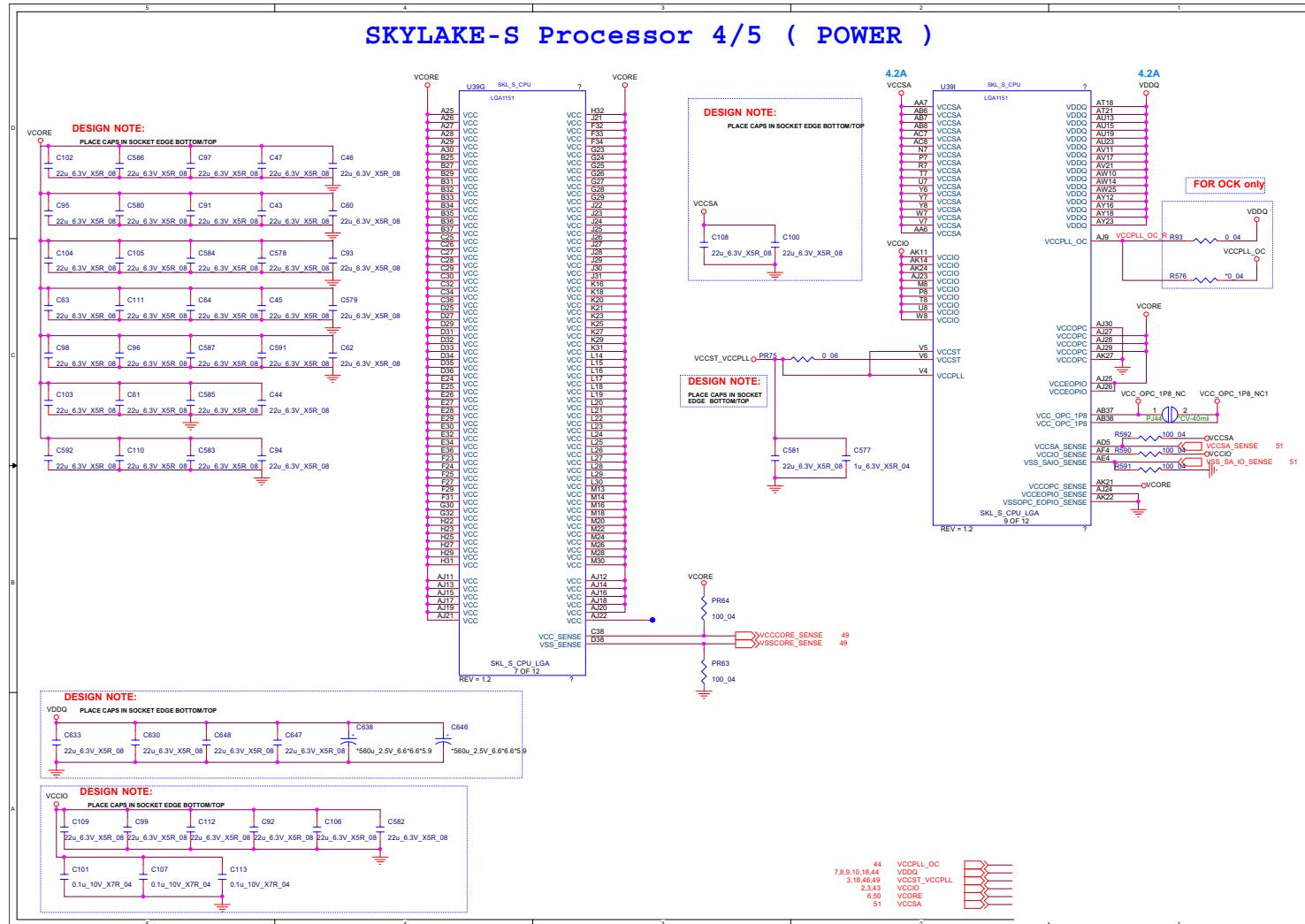
### Processor 3/5



## Schematic Diagrams

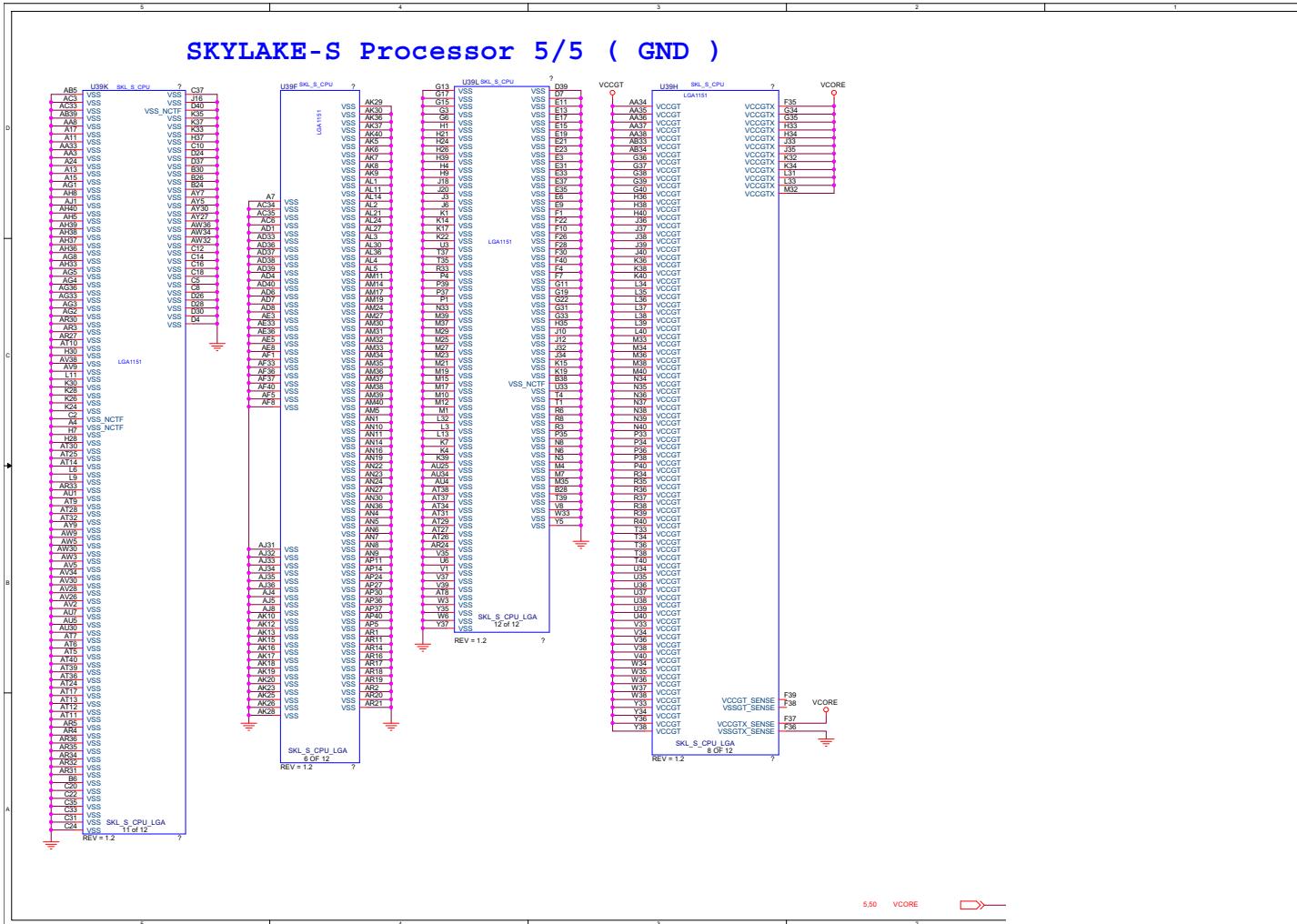
### Processor 4/5

Sheet 5 of 69  
Processor 4/5



B - 6 Processor 4/5

## Processor 5/5



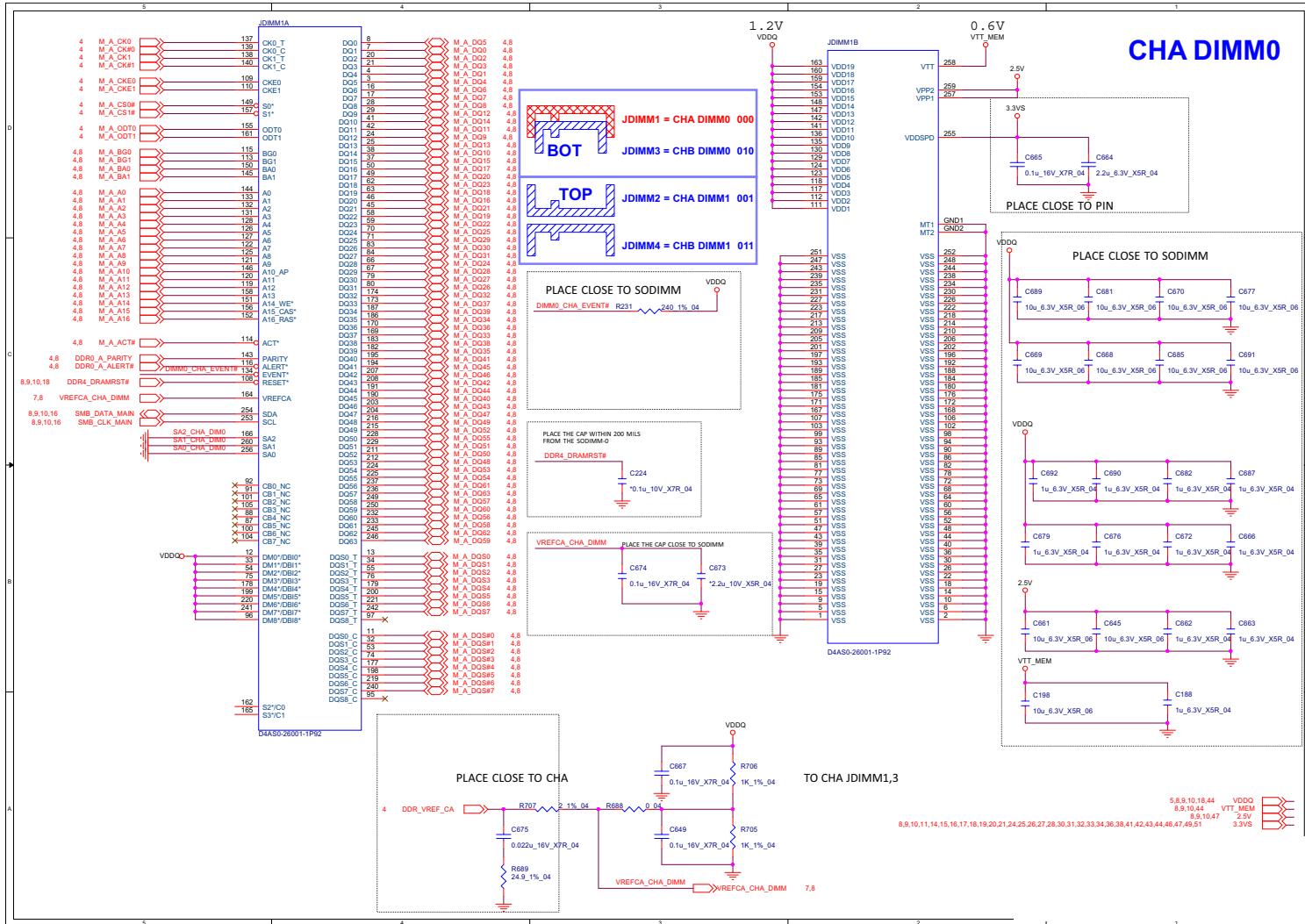
Sheet 6 of 69  
Processor 5/5

## B.Schematic Diagrams

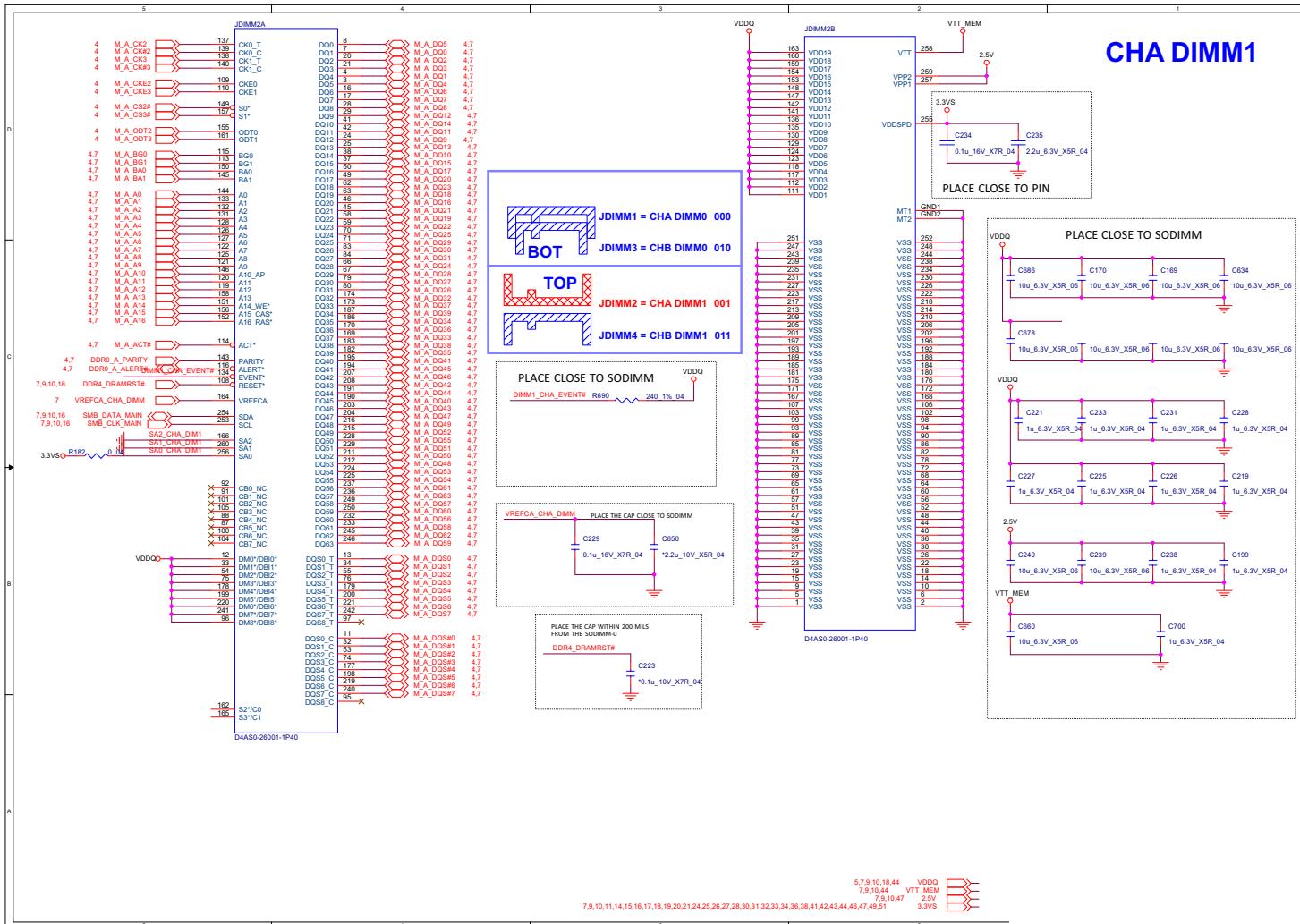
# Schematic Diagrams

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## **DDR4 CHA SO-DIMM\_0**



### DDR4 CHA SO-DIMM\_1



Sheet 8 of 69  
DDR4 CHA SO-  
DIMM\_1

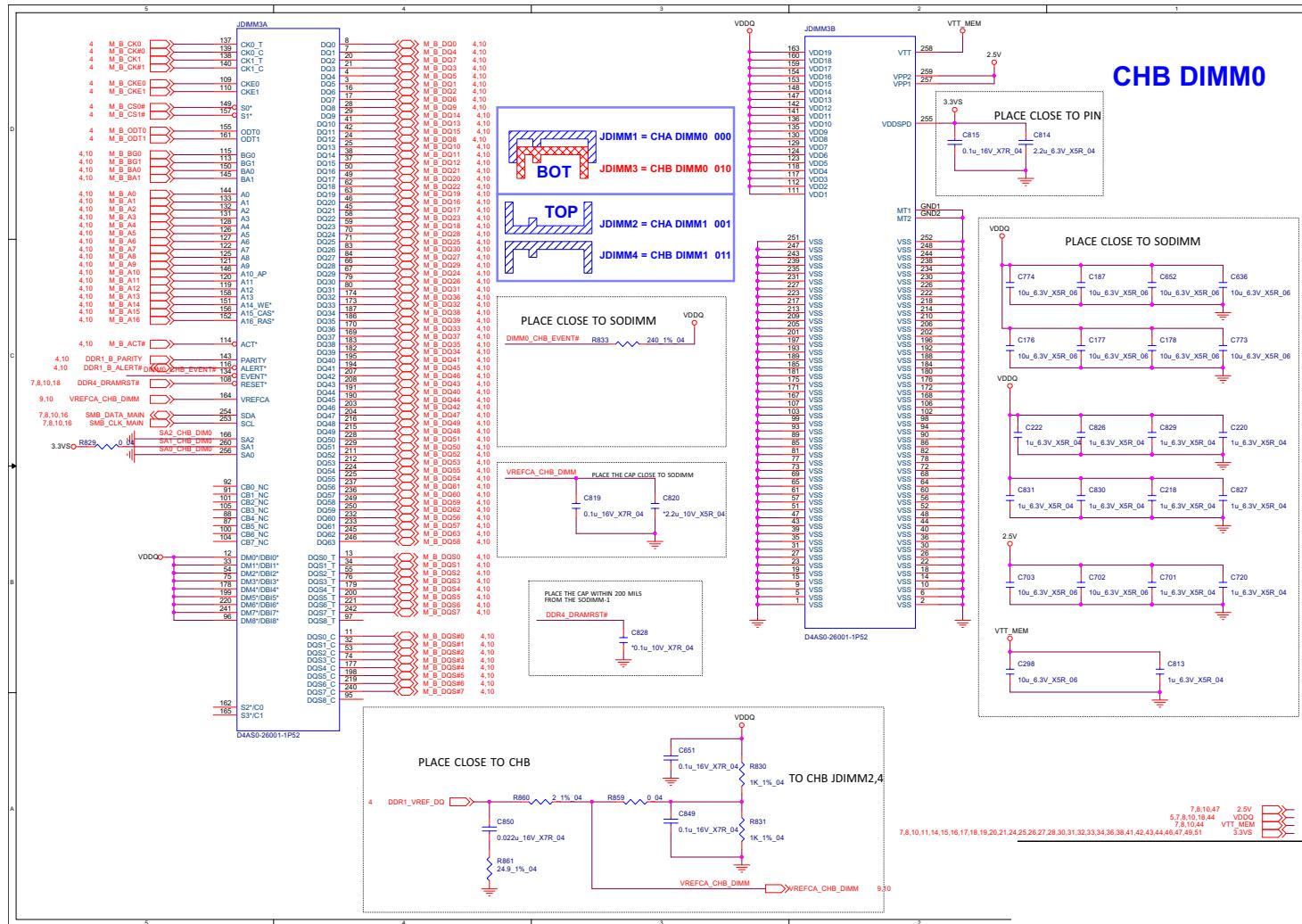
## B.Schematic Diagrams

## **Schematic Diagrams**

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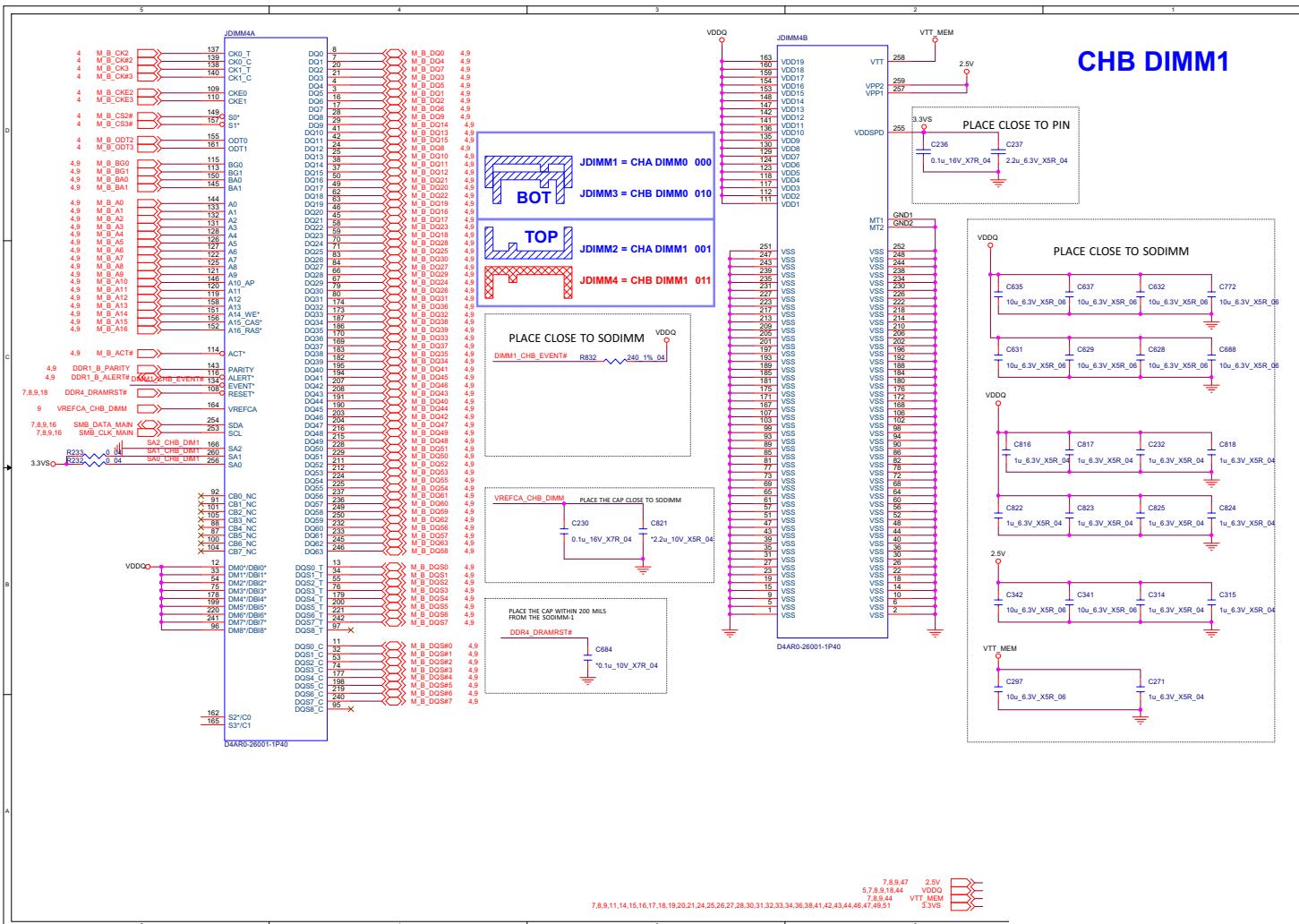
# **DDR4 CHB SO-DIMM\_0**

Sheet 9 of 69  
DDR4 CHB SO-  
DIMM \_0



## B.Schematic Diagrams

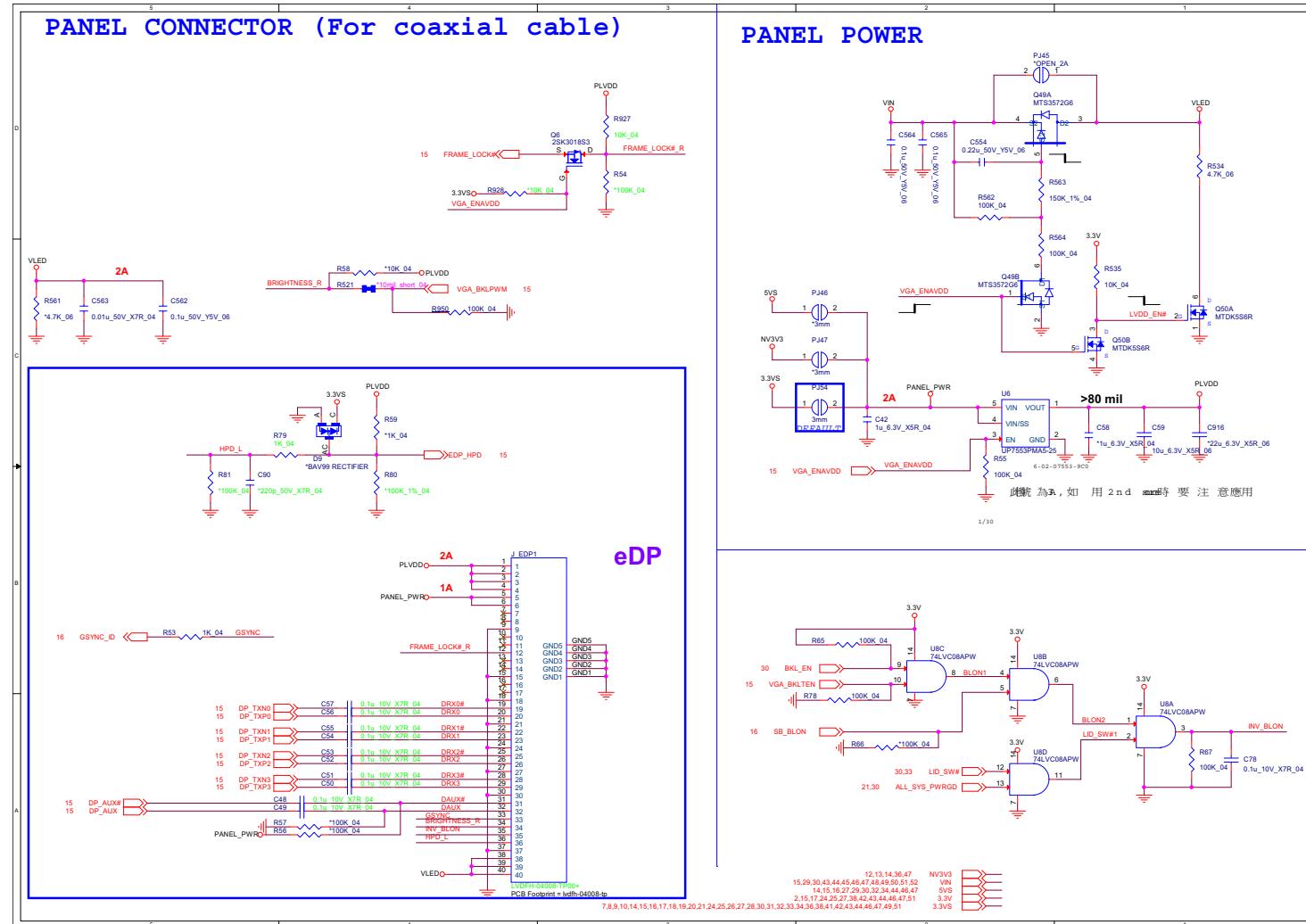
Sheet 10 of 69  
DDR4 CHB SO-  
DIMM \_1



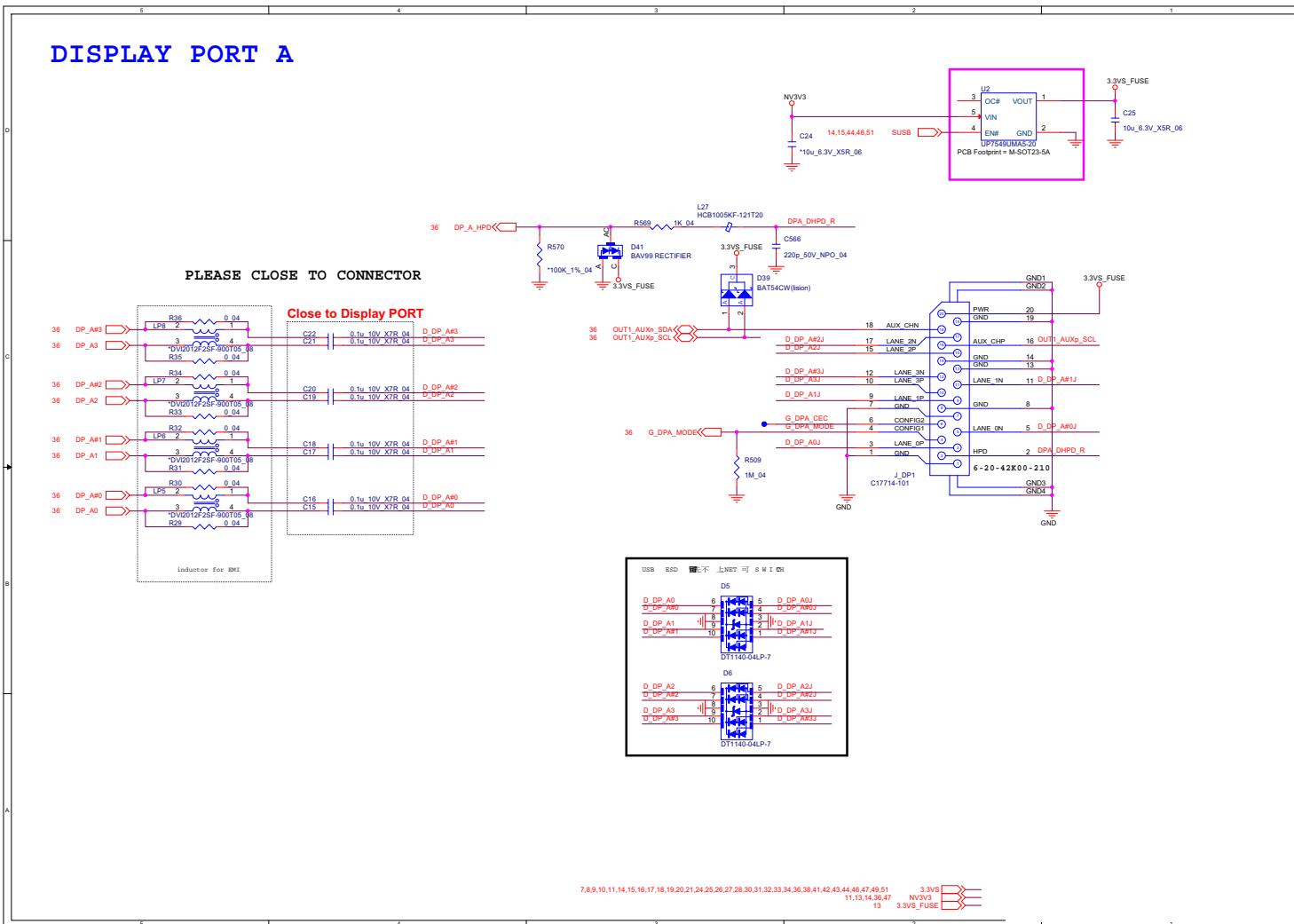
## Schematic Diagrams

### Panel, Inverter, CRT

Sheet 11 of 69  
Panel, Inverter,  
CRT



## Display Port A



Sheet 12 of 69  
Display Port A

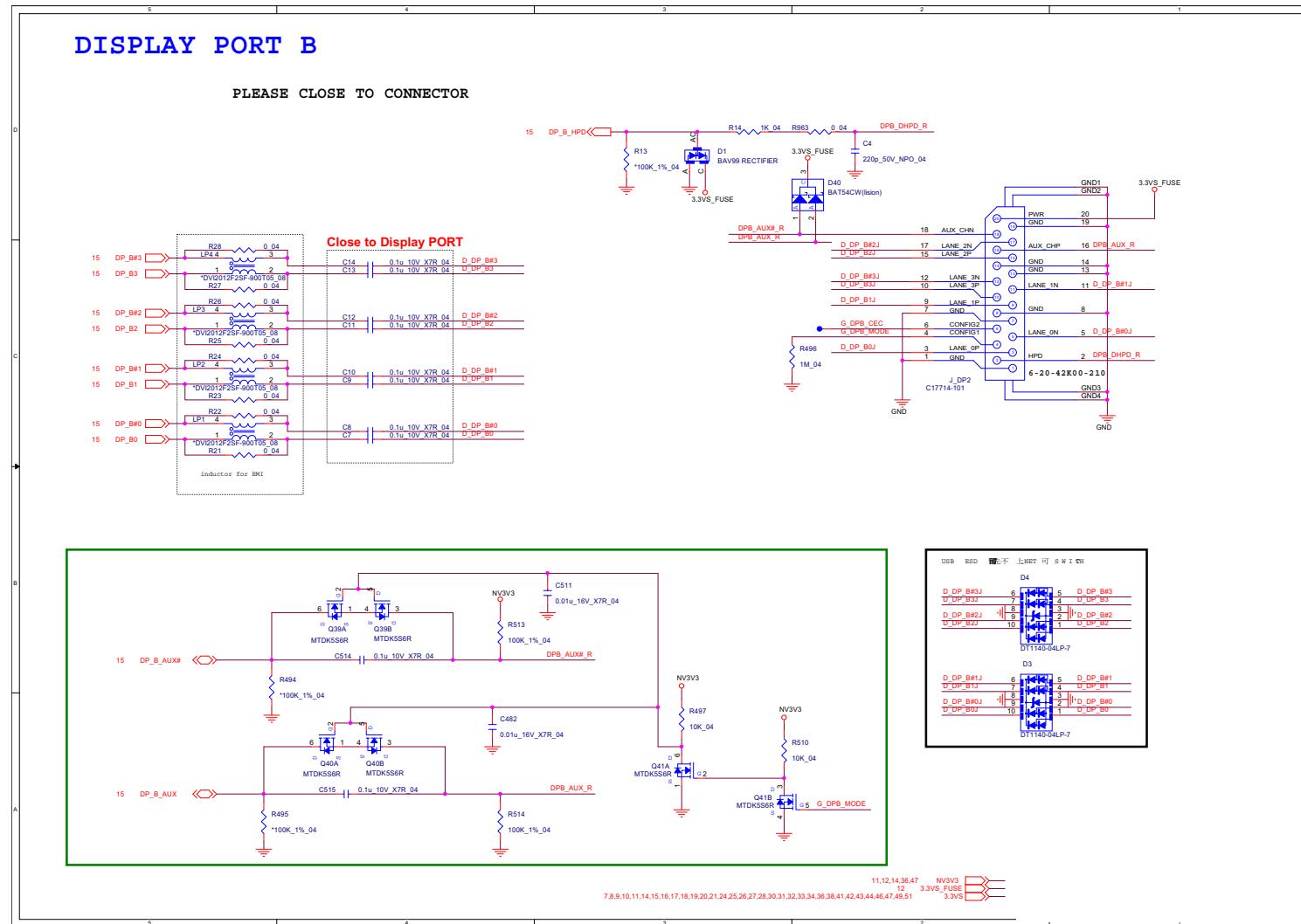
## **Schematic Diagrams**

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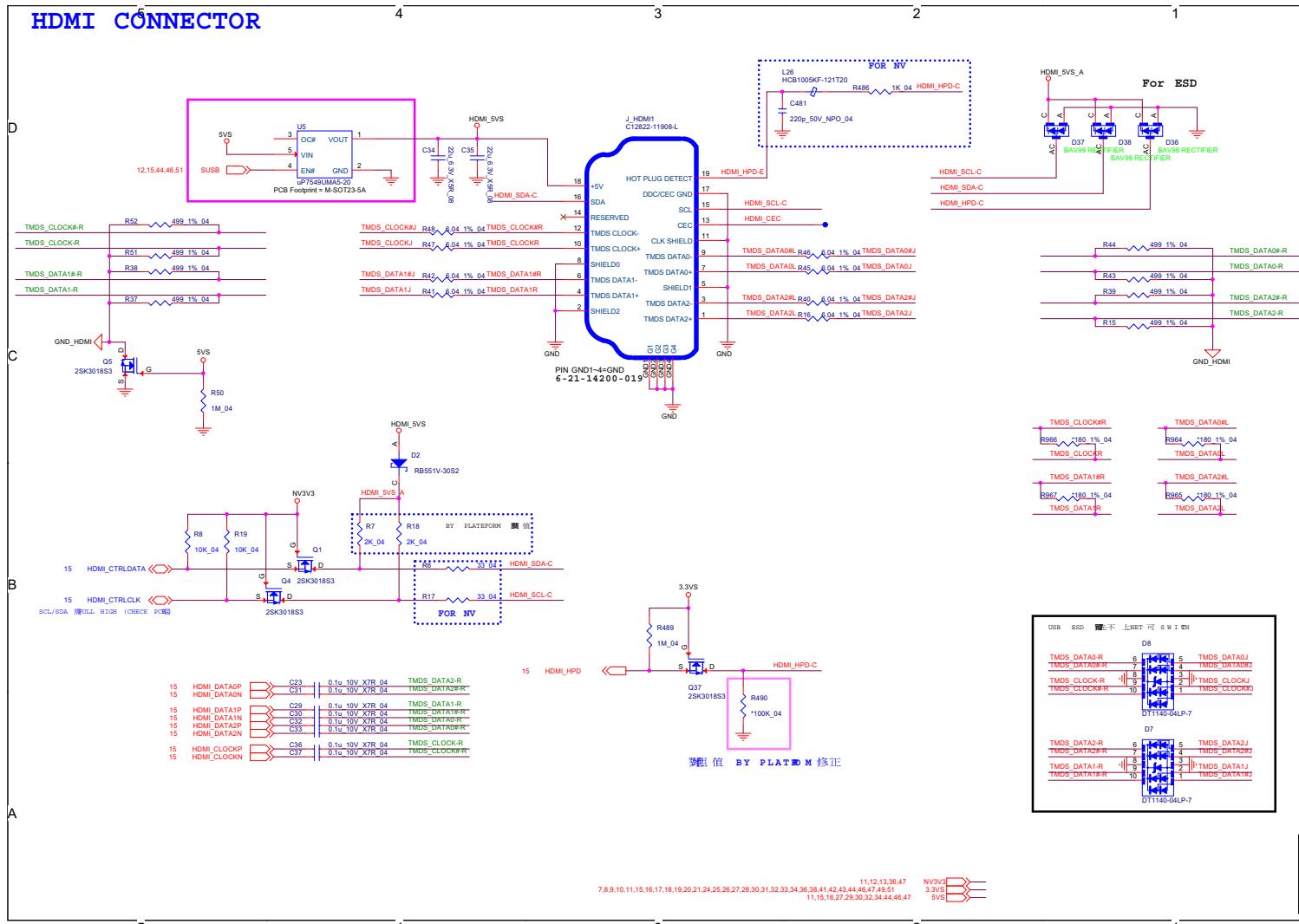
# Display Port B

# Sheet 13 of 69

## Display Port B



### HDMI



HDMI B - 15

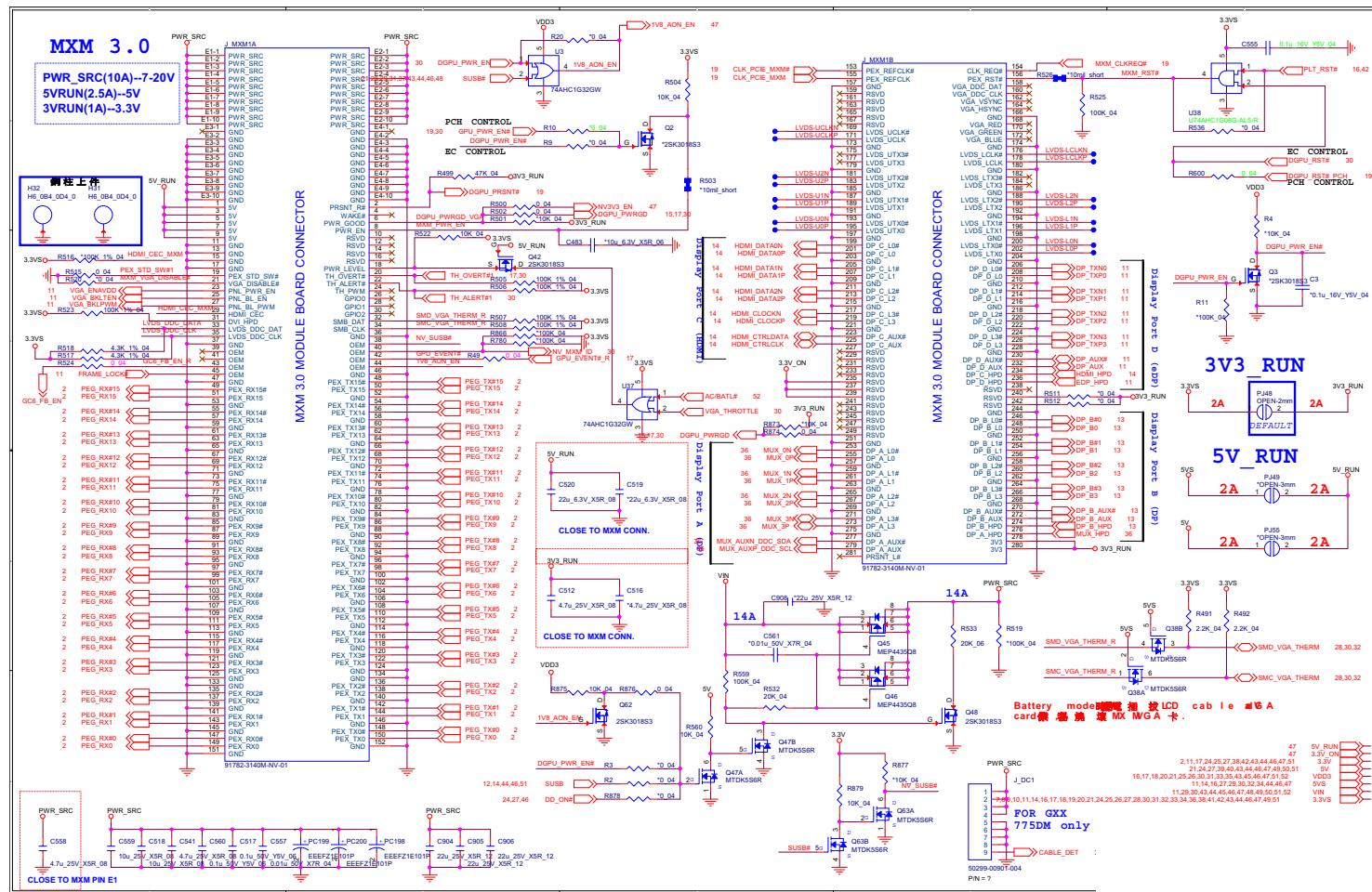
Sheet 14 of 69  
HDMI

## B.Schematic Diagrams

## Schematic Diagrams

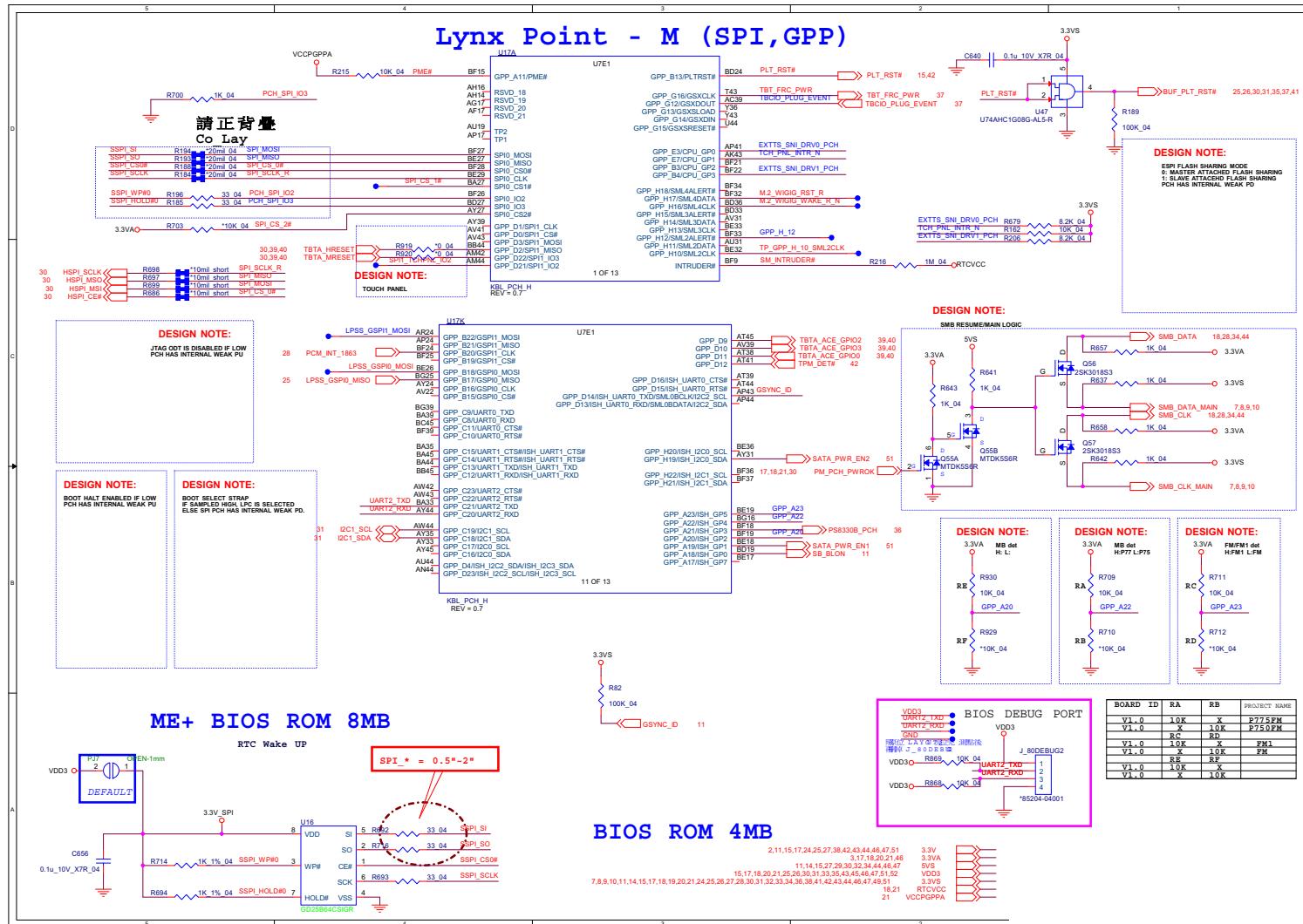
MXM PCI-E

Sheet 15 of 69  
MXM PCI-e



# Schematic Diagrams

# Lynix Point 1/7



Sheet 16 of 69  
Lynix Point 1/7

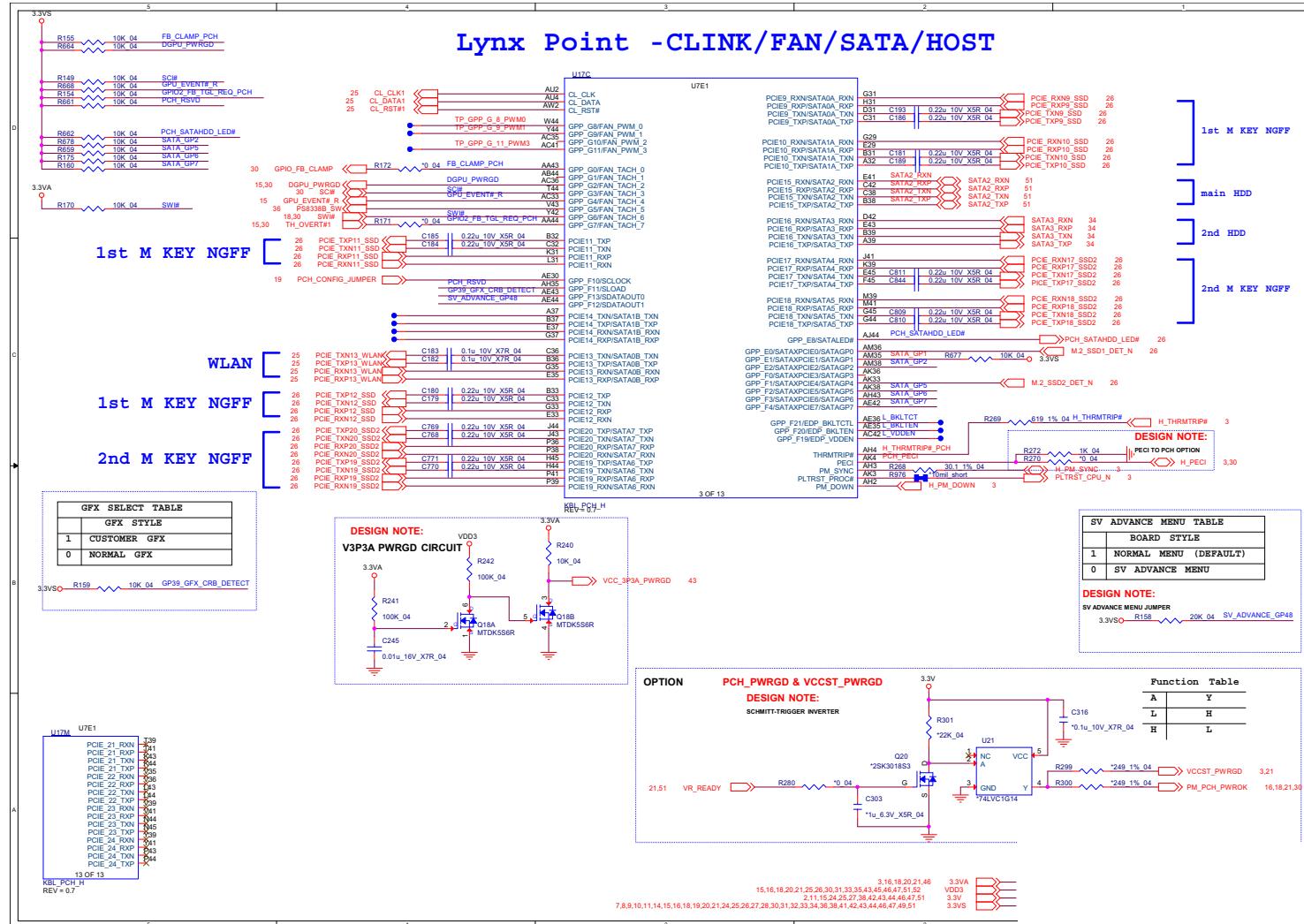
## B.Schematic Diagrams

## B.Schematic Diagrams

## Schematic Diagrams

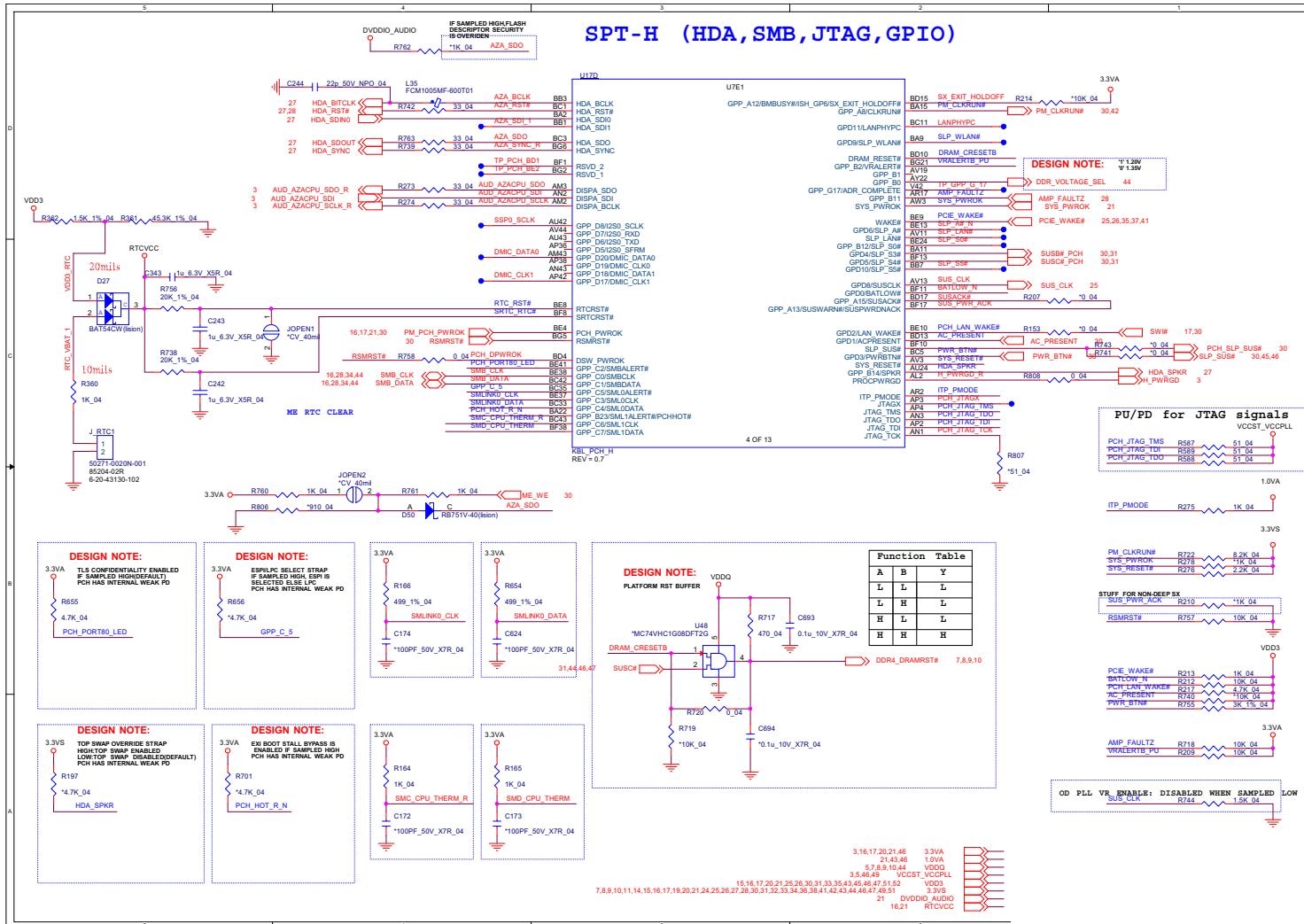
### Lynx Point 2/7

Sheet 17 of 69  
Lynx Point 2/7



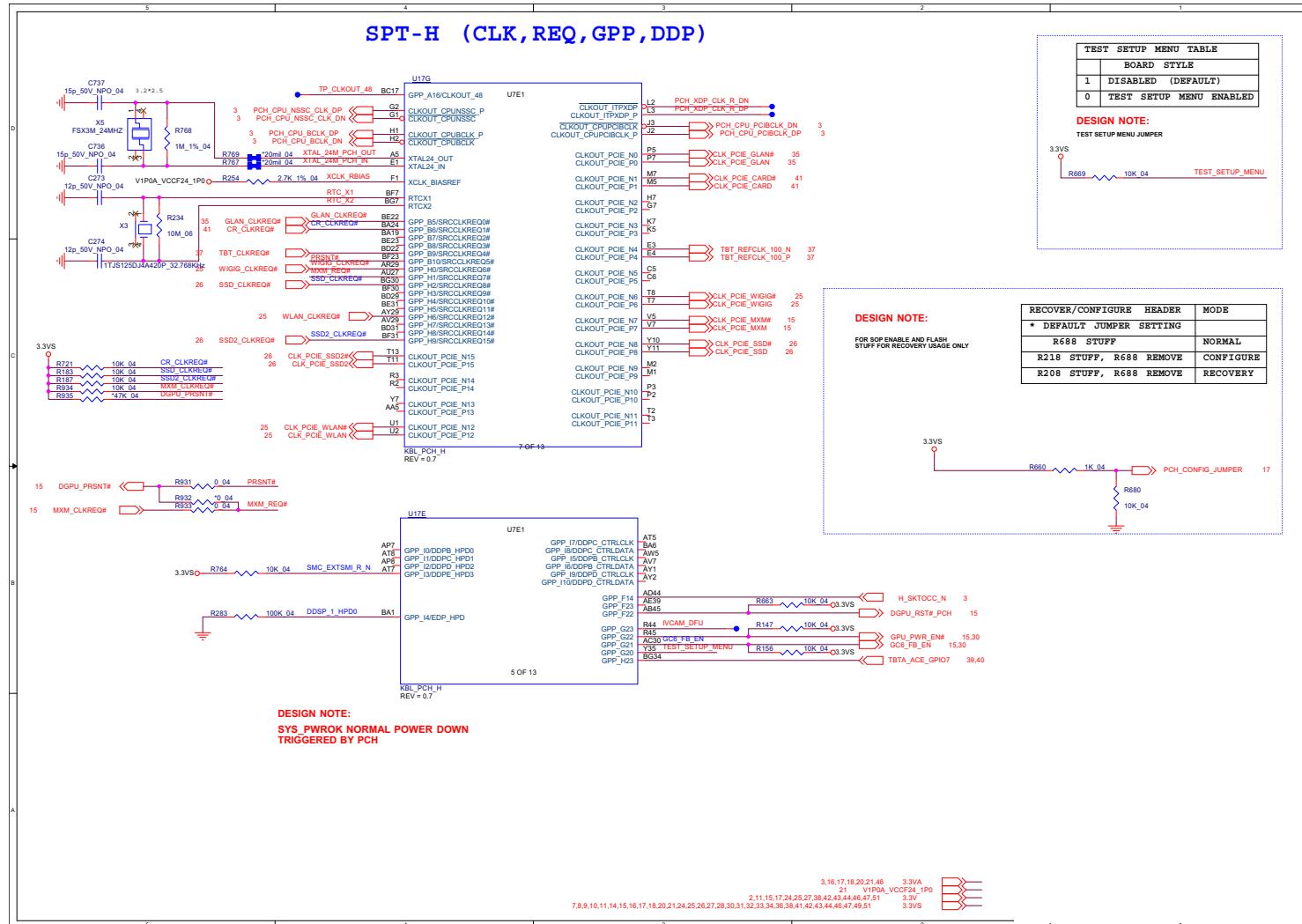
## B.Schematic Diagrams

Sheet 18 of 69  
Lynix Point 3/7

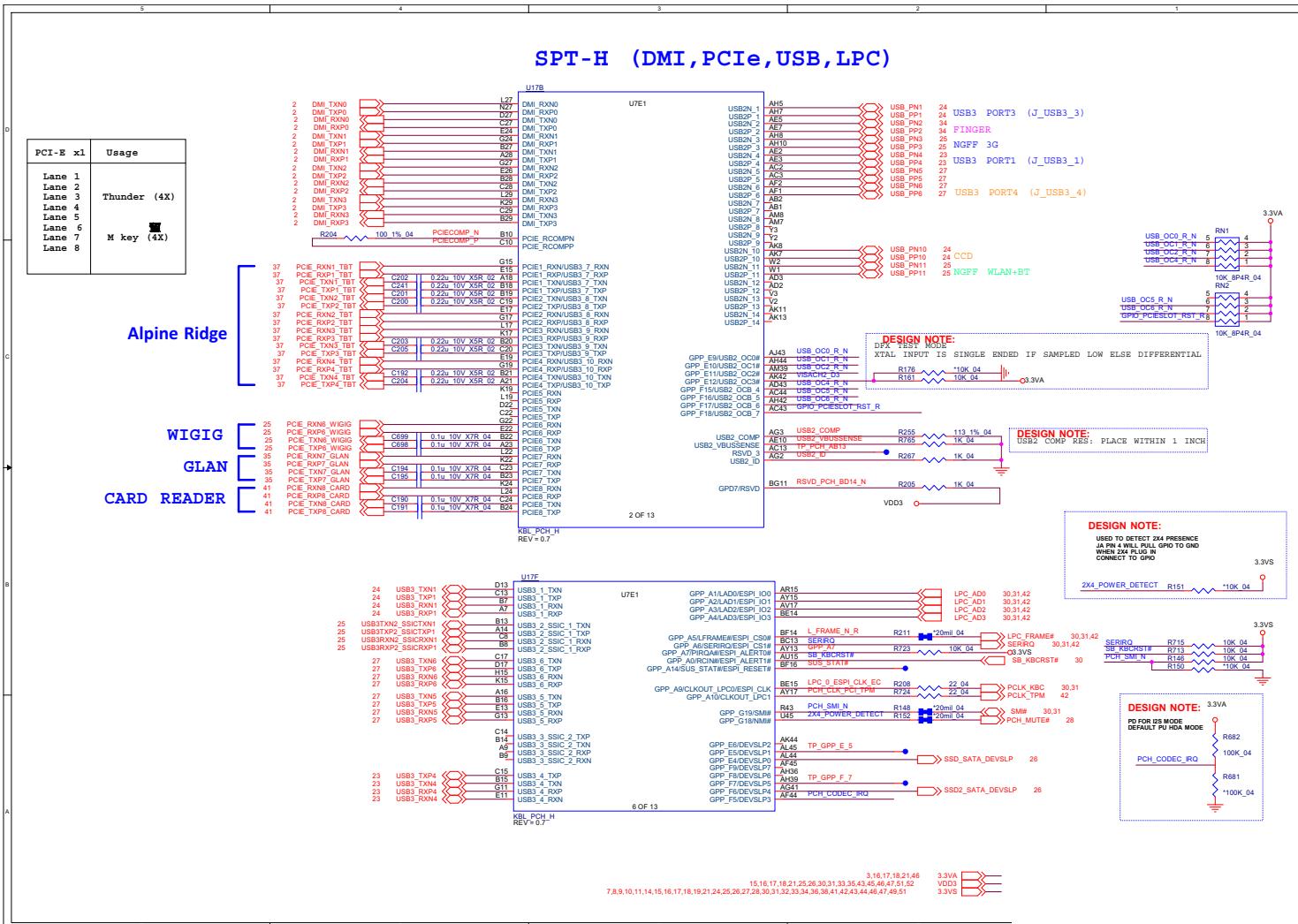


## Schematic Diagrams

# Lynix Point 4/7



# Lynix Point 5/7



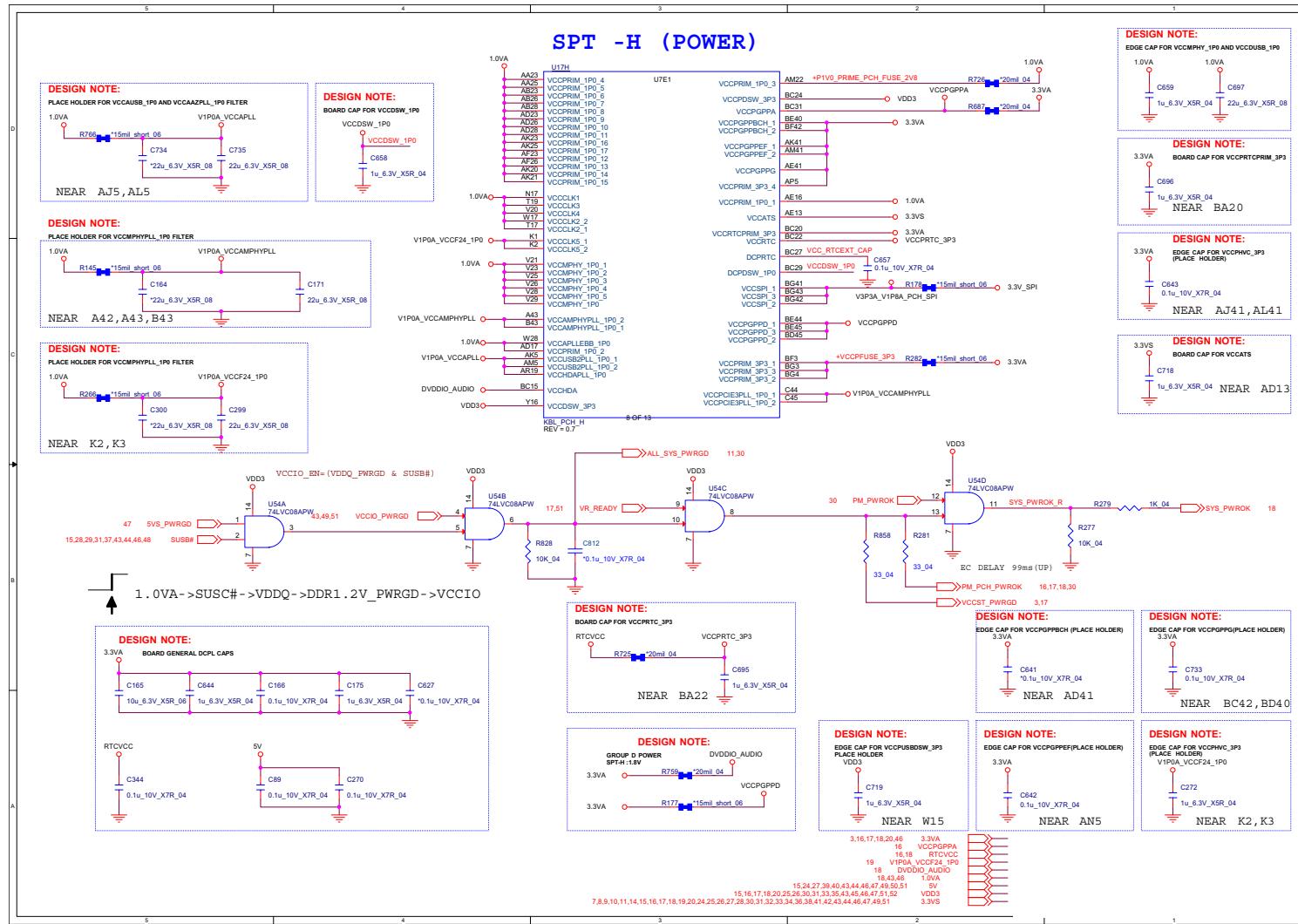
Sheet 20 of 69  
Lynix Point 5/7

## **Schematic Diagrams**

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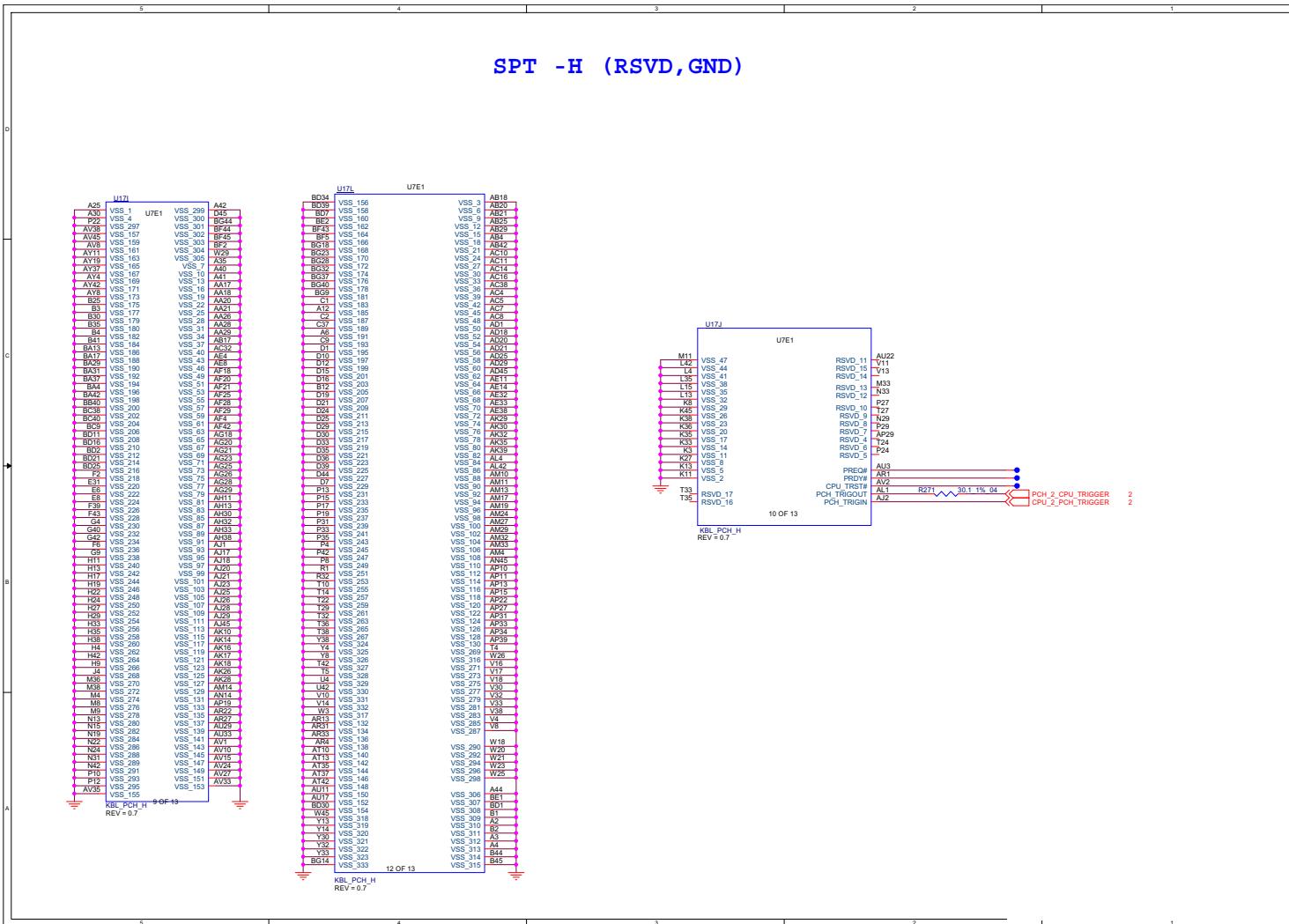
# Lynix Point 6/7

Sheet 21 of 69  
Lynix Point 6/7



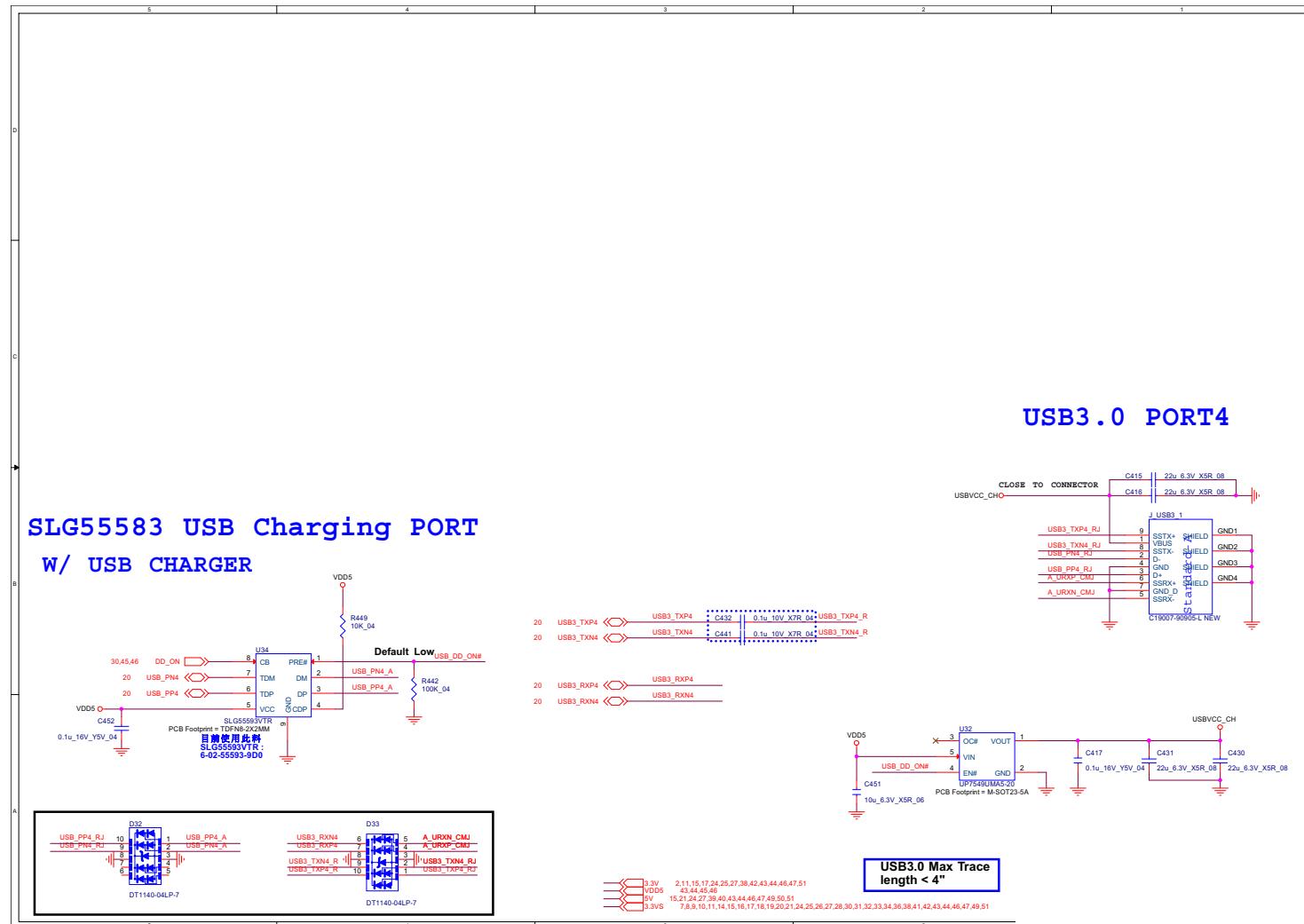
## B.Schematic Diagrams

Sheet 22 of 69  
Lynix Point 7/7

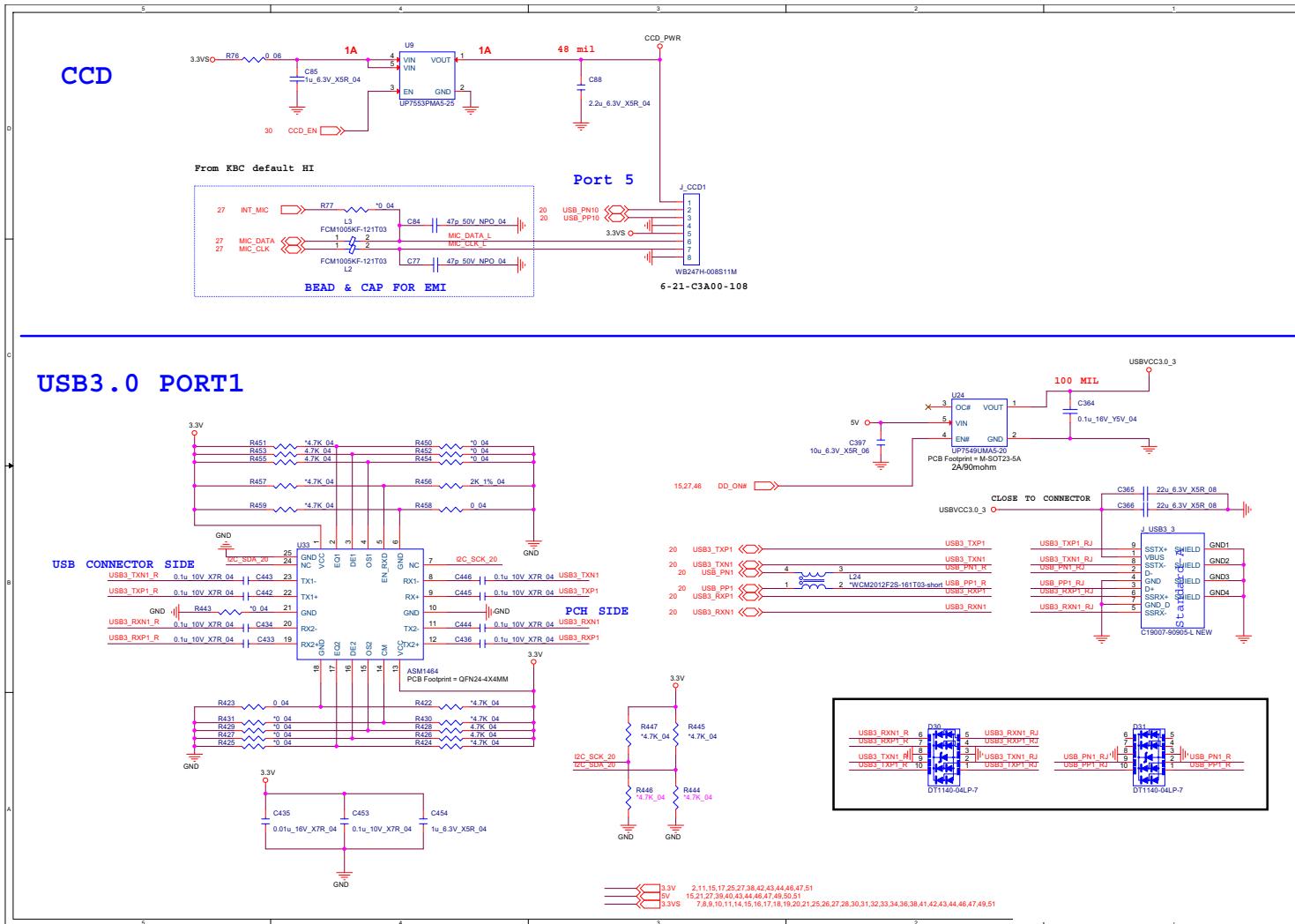


**Schematic Diagrams****USB Charging**

**Sheet 23 of 69**  
**USB Charging**



### CCD, USB Port3



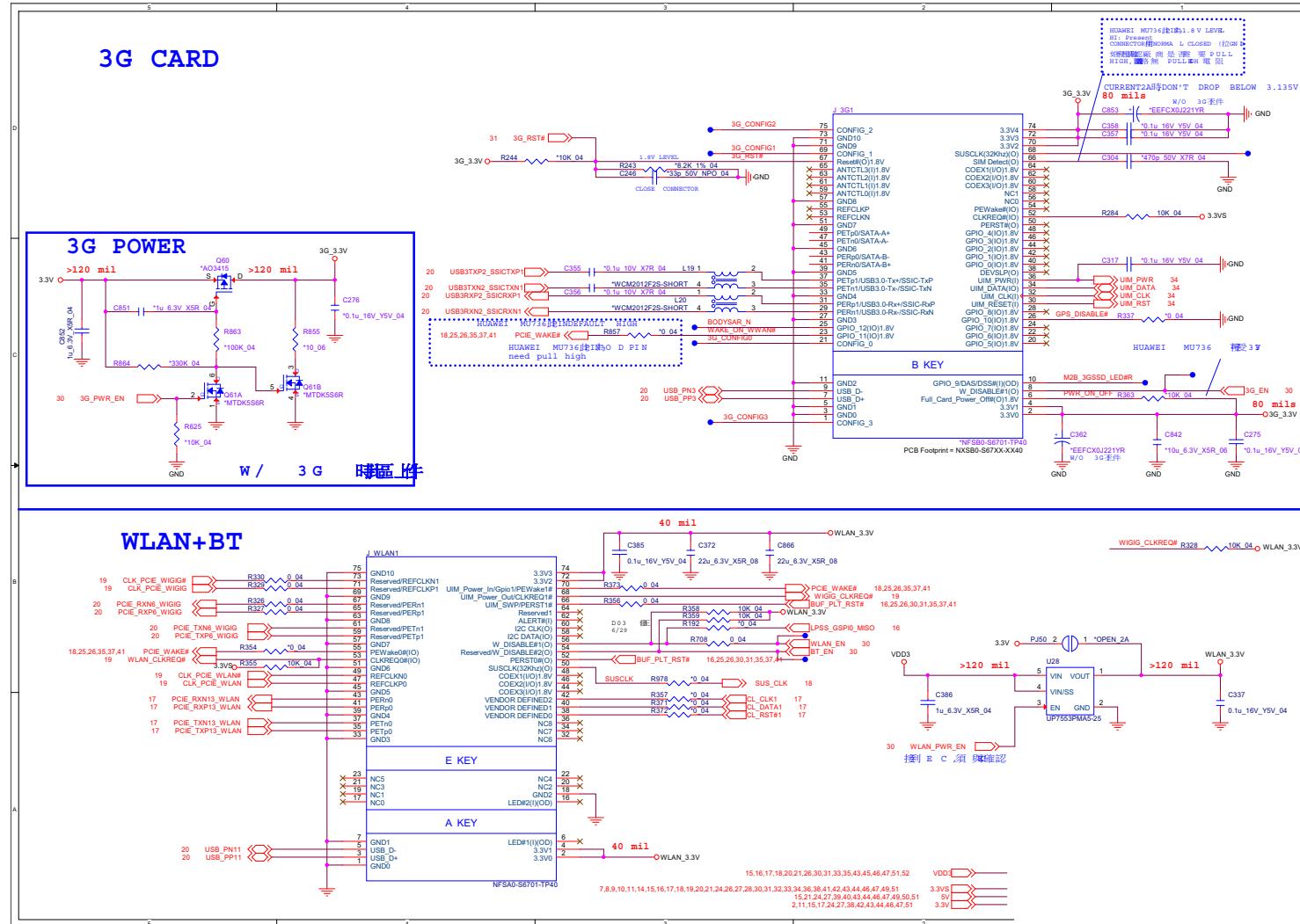
Sheet 24 of 69  
CCD, USB Port3

## B.Schematic Diagrams

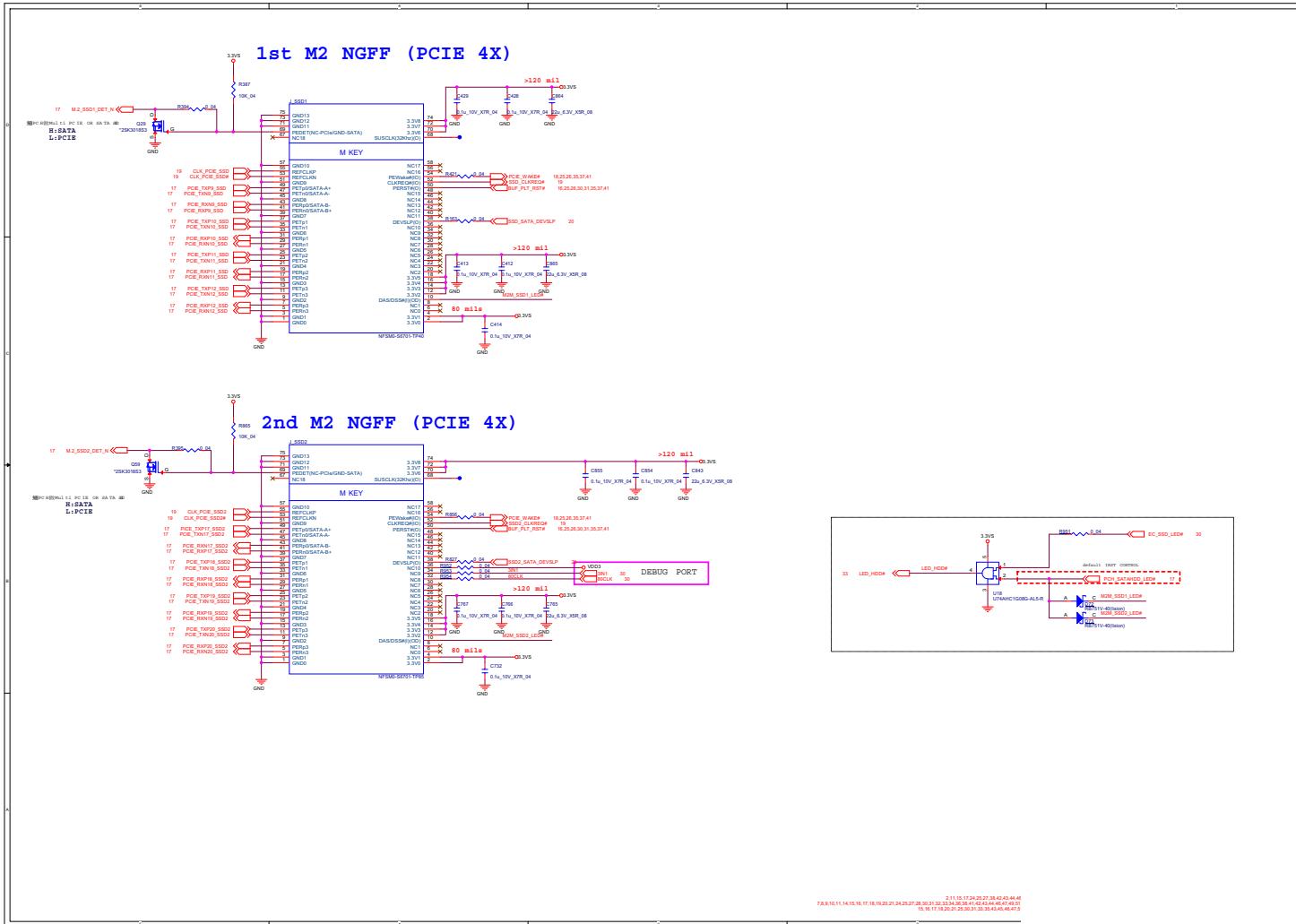
## Schematic Diagrams

## M.2 3G+USB & WLAN+BT

Sheet 25 of 69  
M.2 3G+USB &  
WLAN+BT



## M.2 PCIE4X SSD1 & SSD2

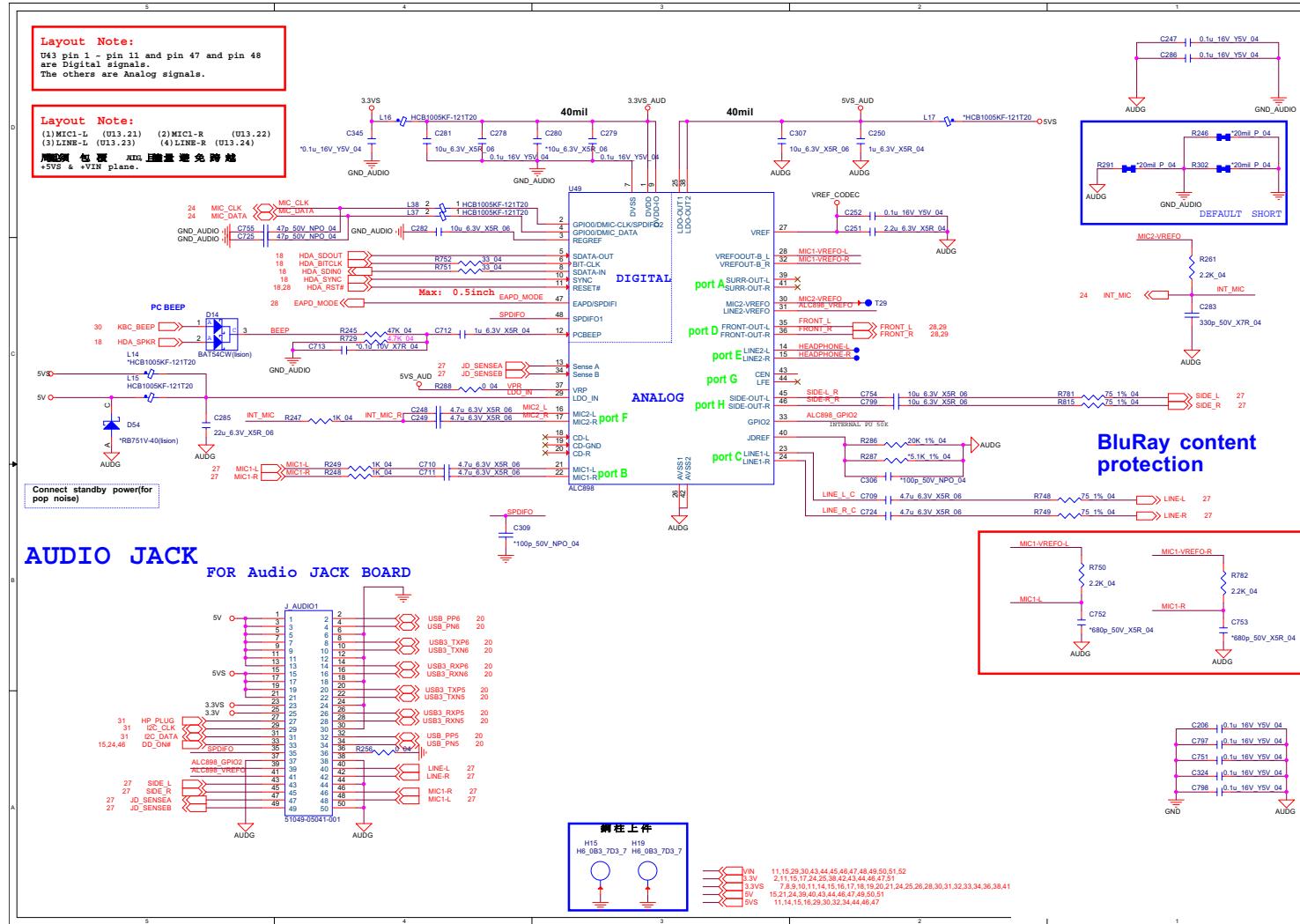


**Sheet 26 of 69**

## Schematic Diagrams

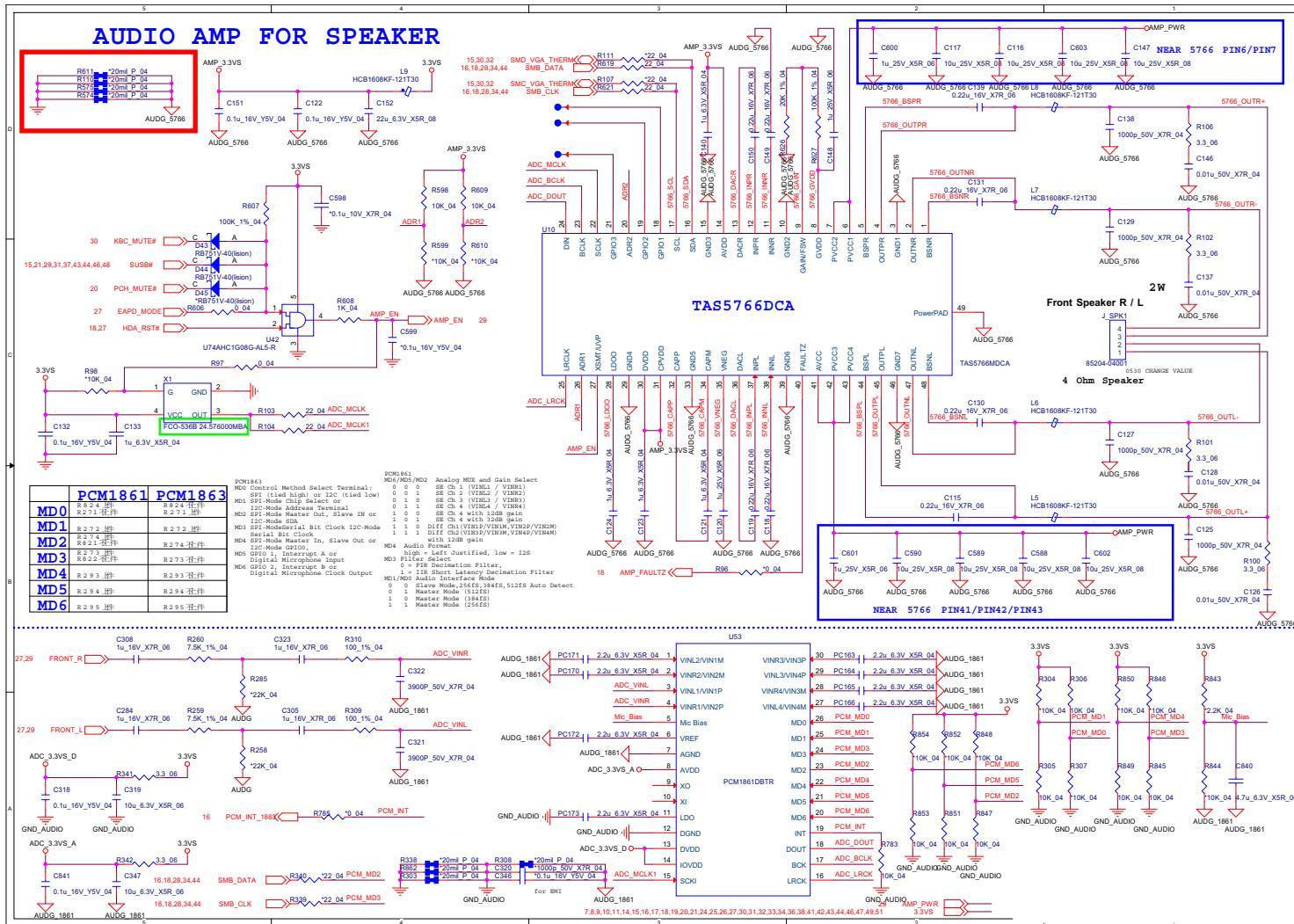
# Realtek ALC898

Sheet 27 of 69  
Realtek ALC898



## B.Schematic Diagrams

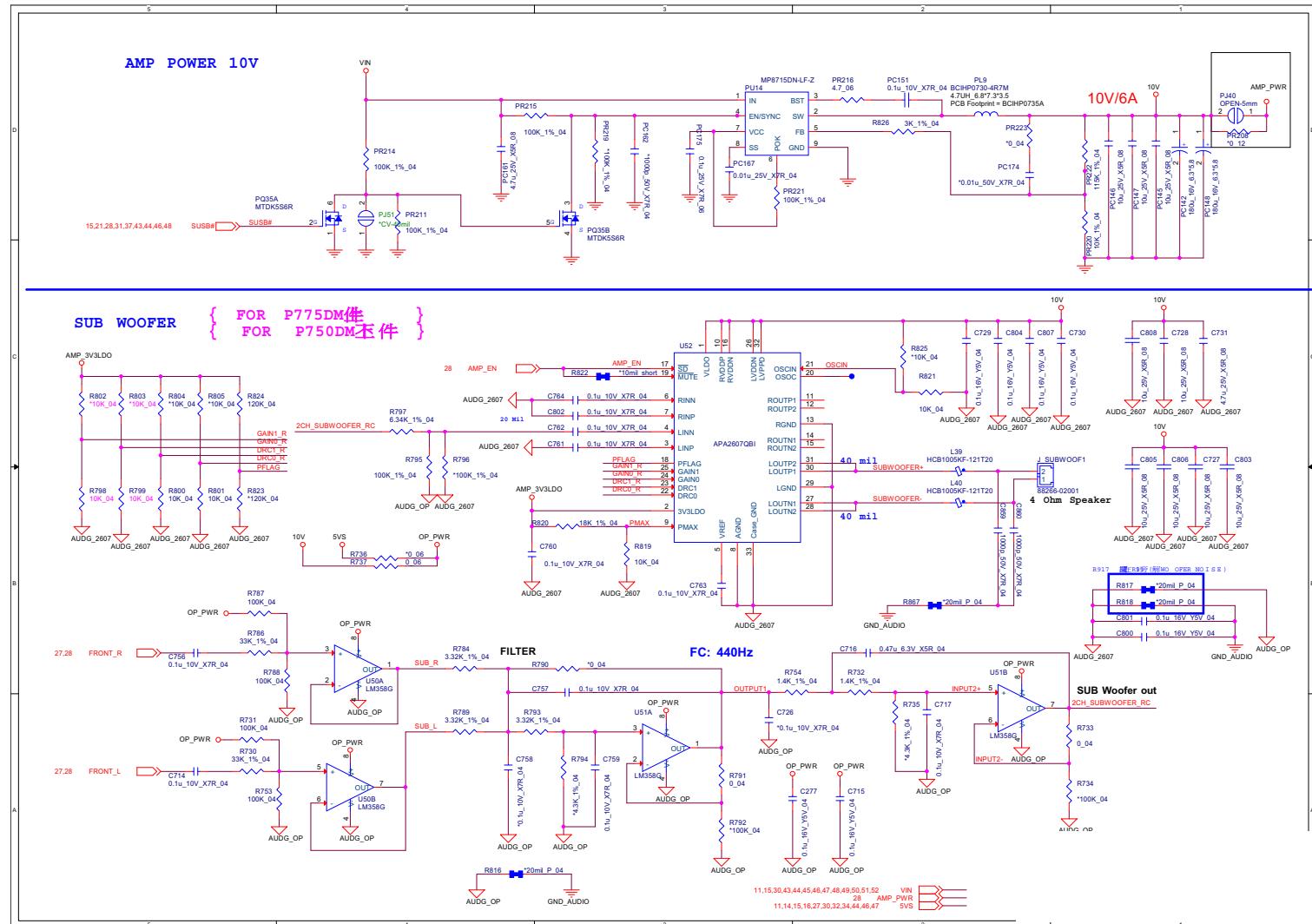
**Sheet 28 of 69**  
**PCM1861 +**  
**TAS5766DCA**



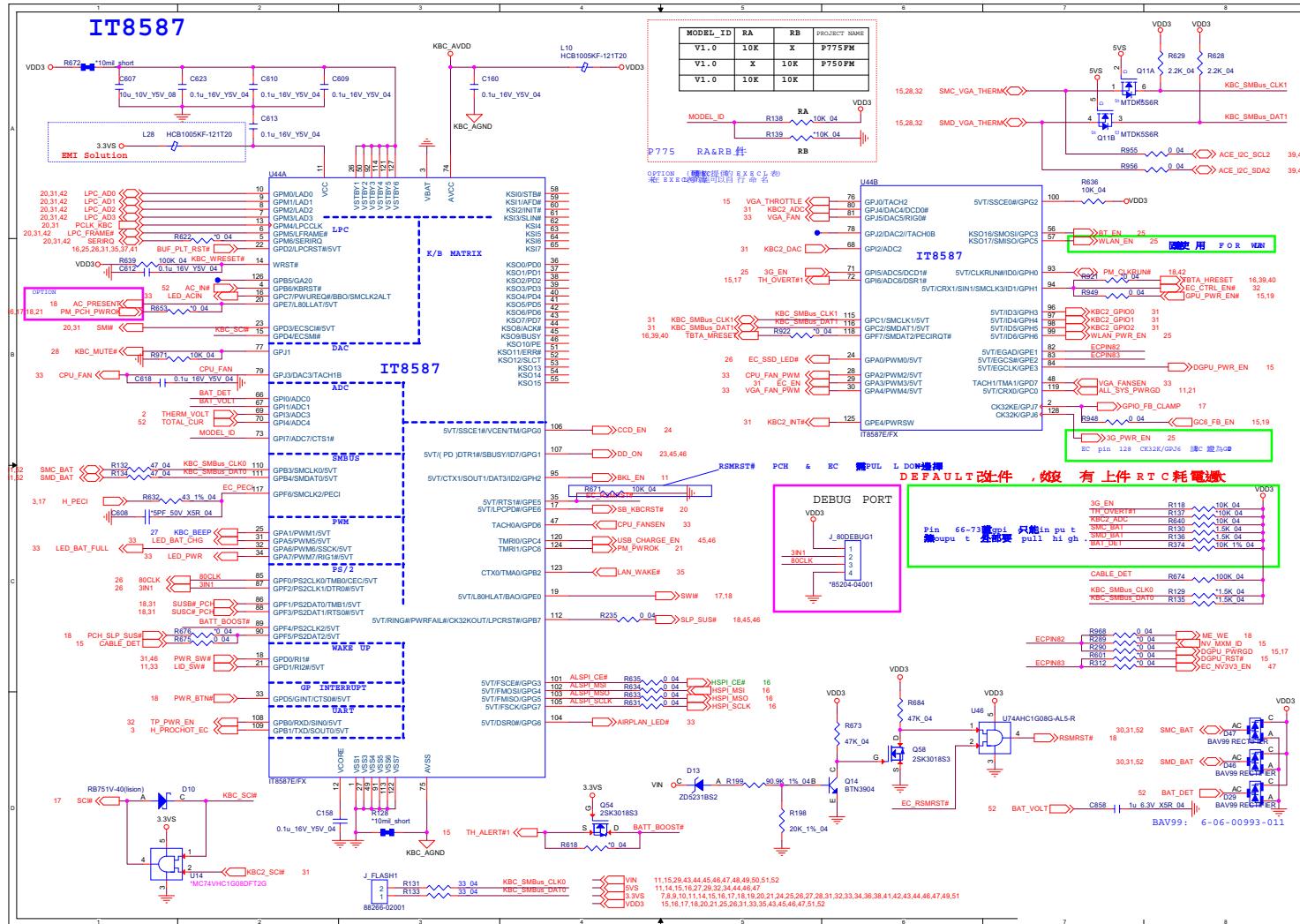
## **Schematic Diagrams**

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# **Subwoofer**



## EC IT8587



## B.Schematic Diagrams

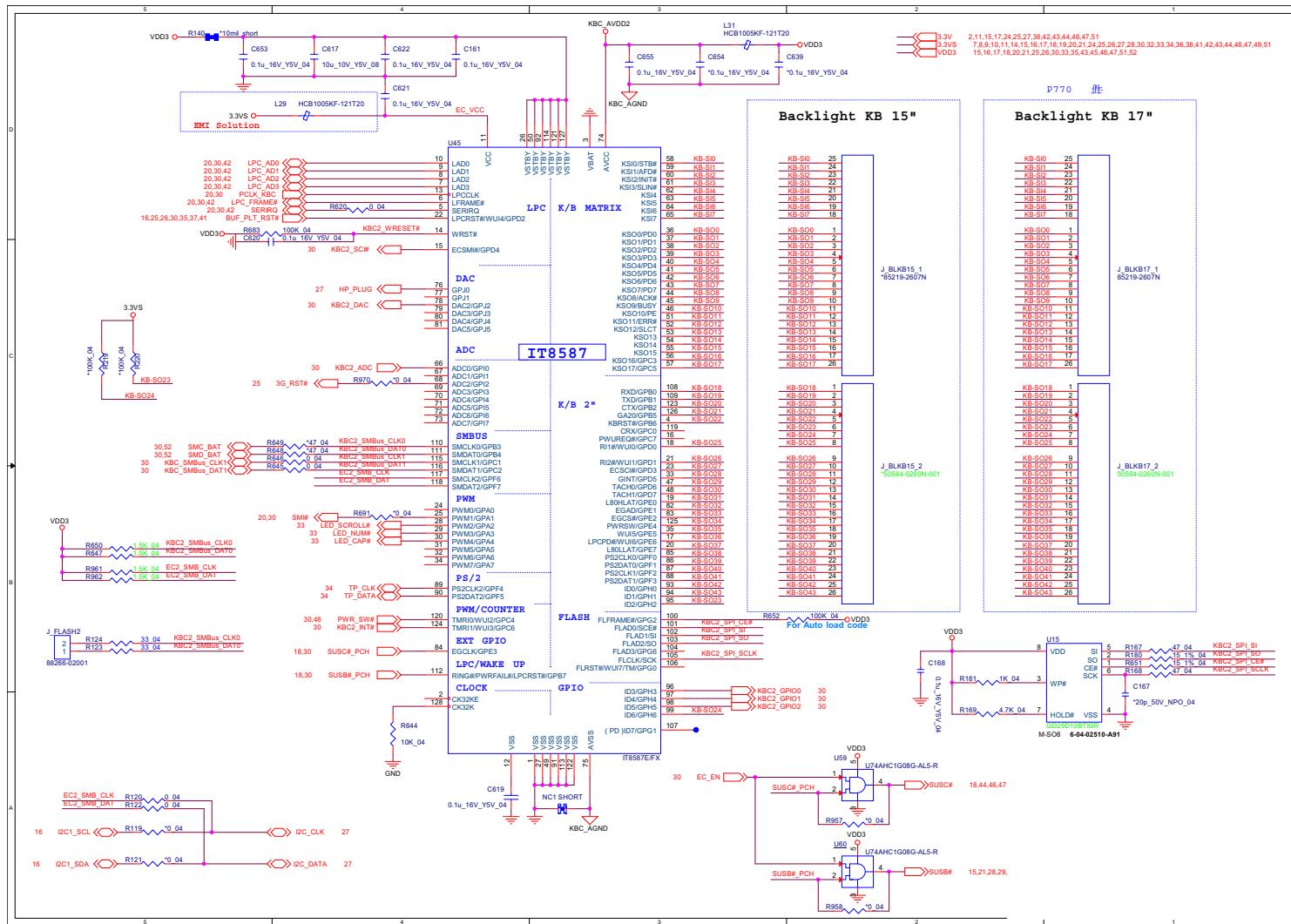
Sheet 30 of 69  
EC IT8587

## B.Schematic Diagrams

## Schematic Diagrams

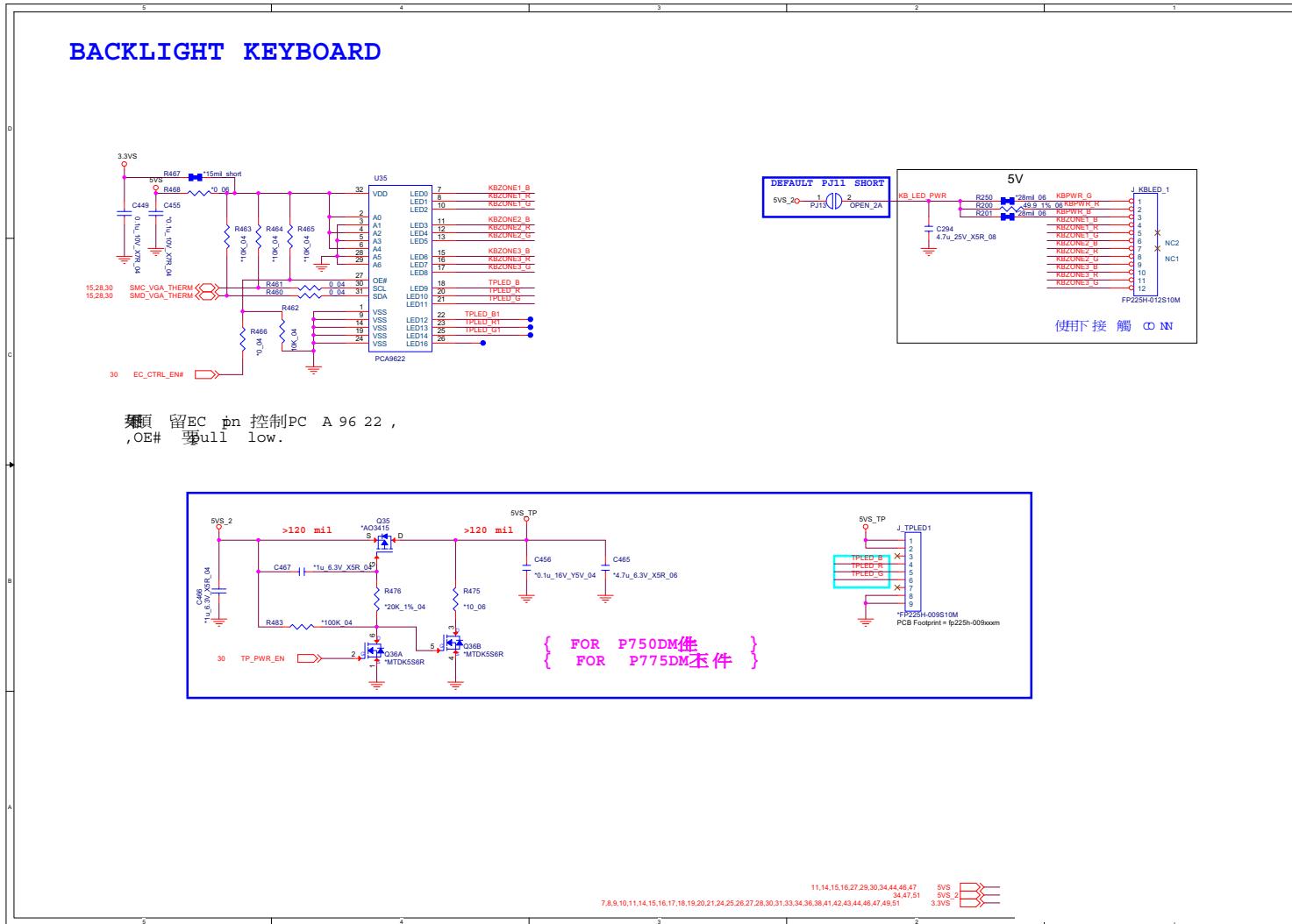
### Second EC IT8587

Sheet 31 of 69  
Second EC IT8587



B - 32 Second EC IT8587

# Backlight Keyboard



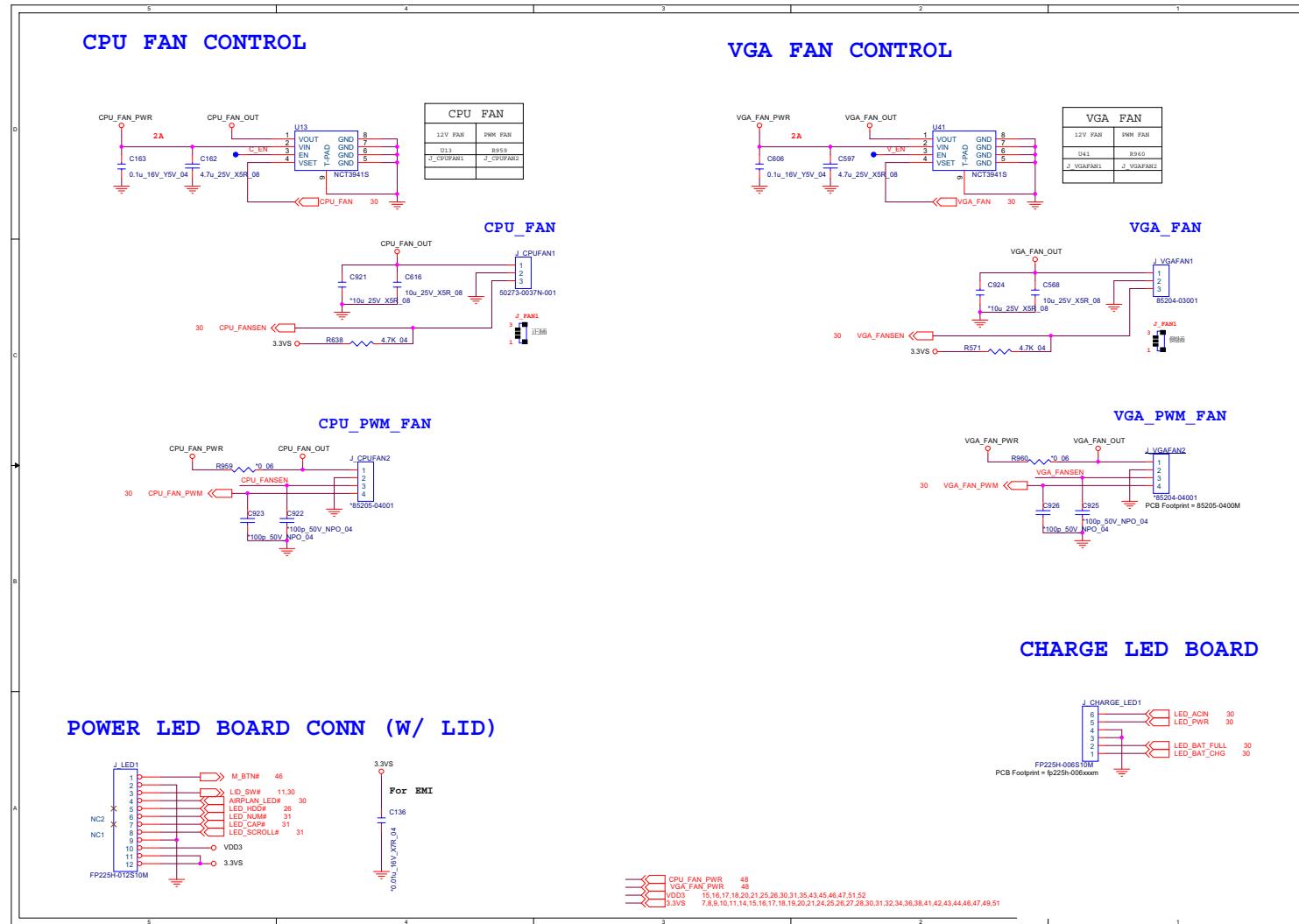
# Sheet 32 of 69

## Backlight Keyboard

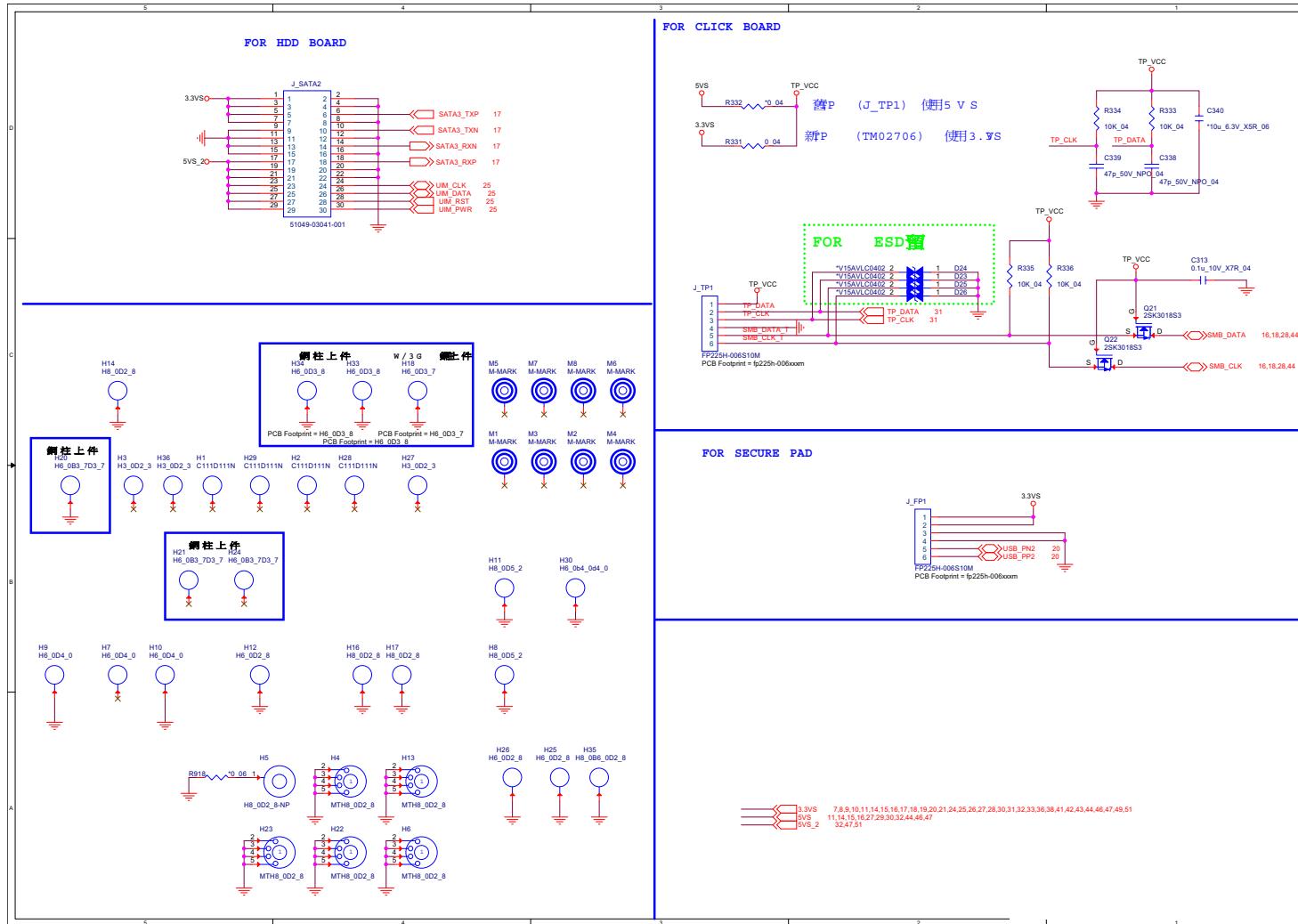
## Schematic Diagrams

### LID SW, Fan, LED Conn

Sheet 33 of 69  
LID SW, Fan,  
LED Conn



# Fan, TP, FP, Multi-Con



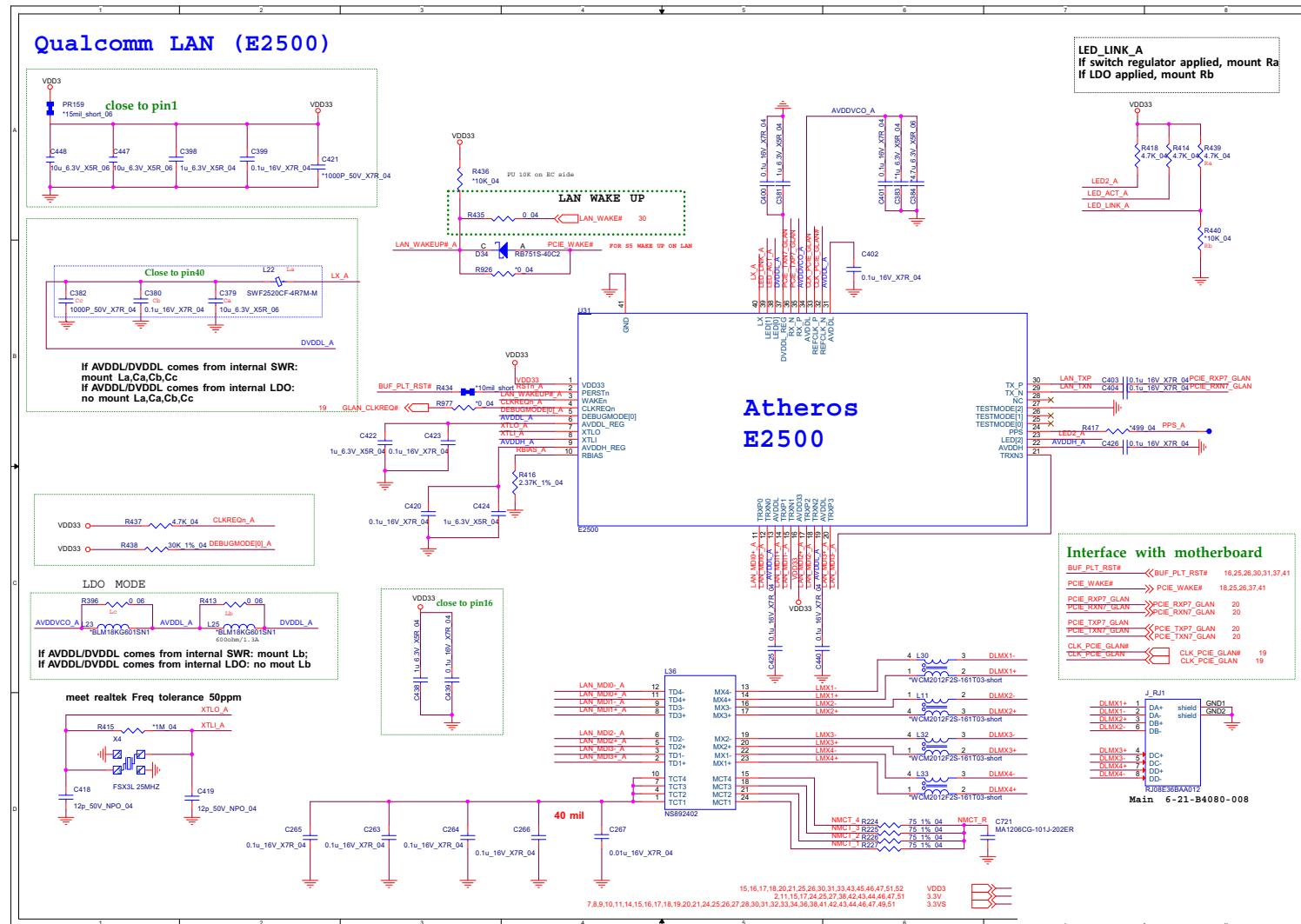
## B. Schematic Diagrams

## **Schematic Diagrams**

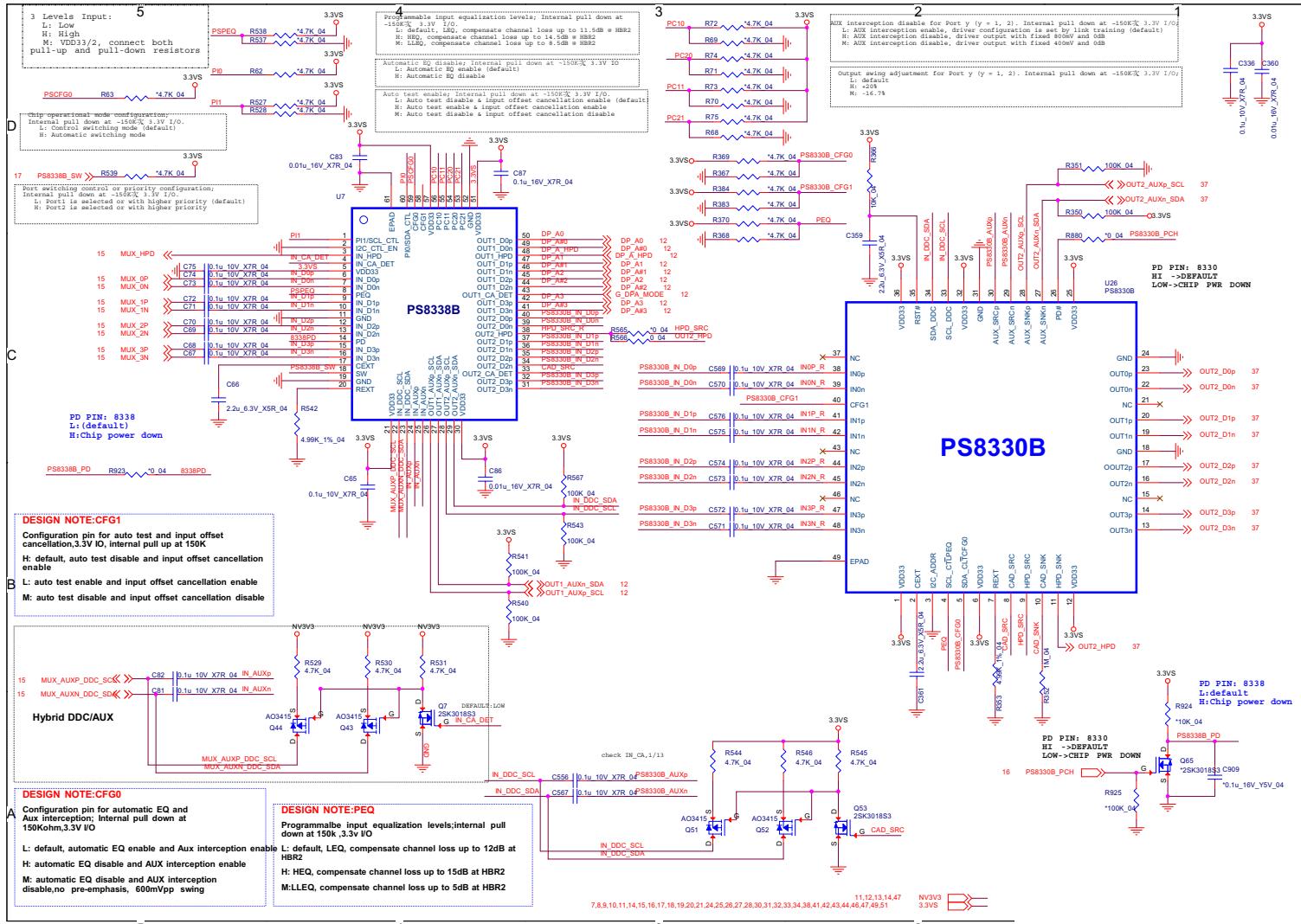
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LAN E2500

Sheet 35 of 69  
LAN E2500



## PS8338B + PS8330B



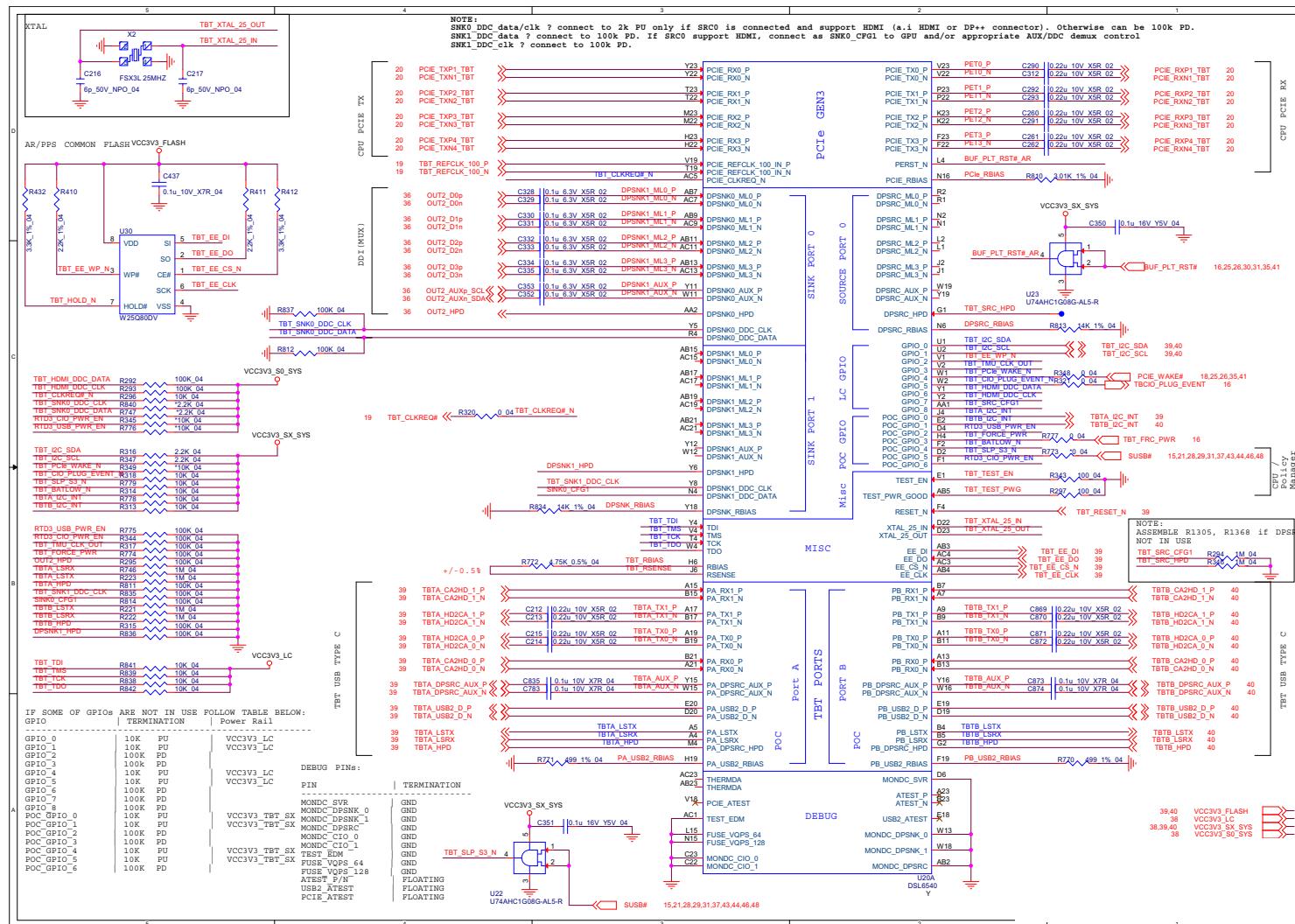
Sheet 36 of 69

## B.Schematic Diagrams

## Schematic Diagrams

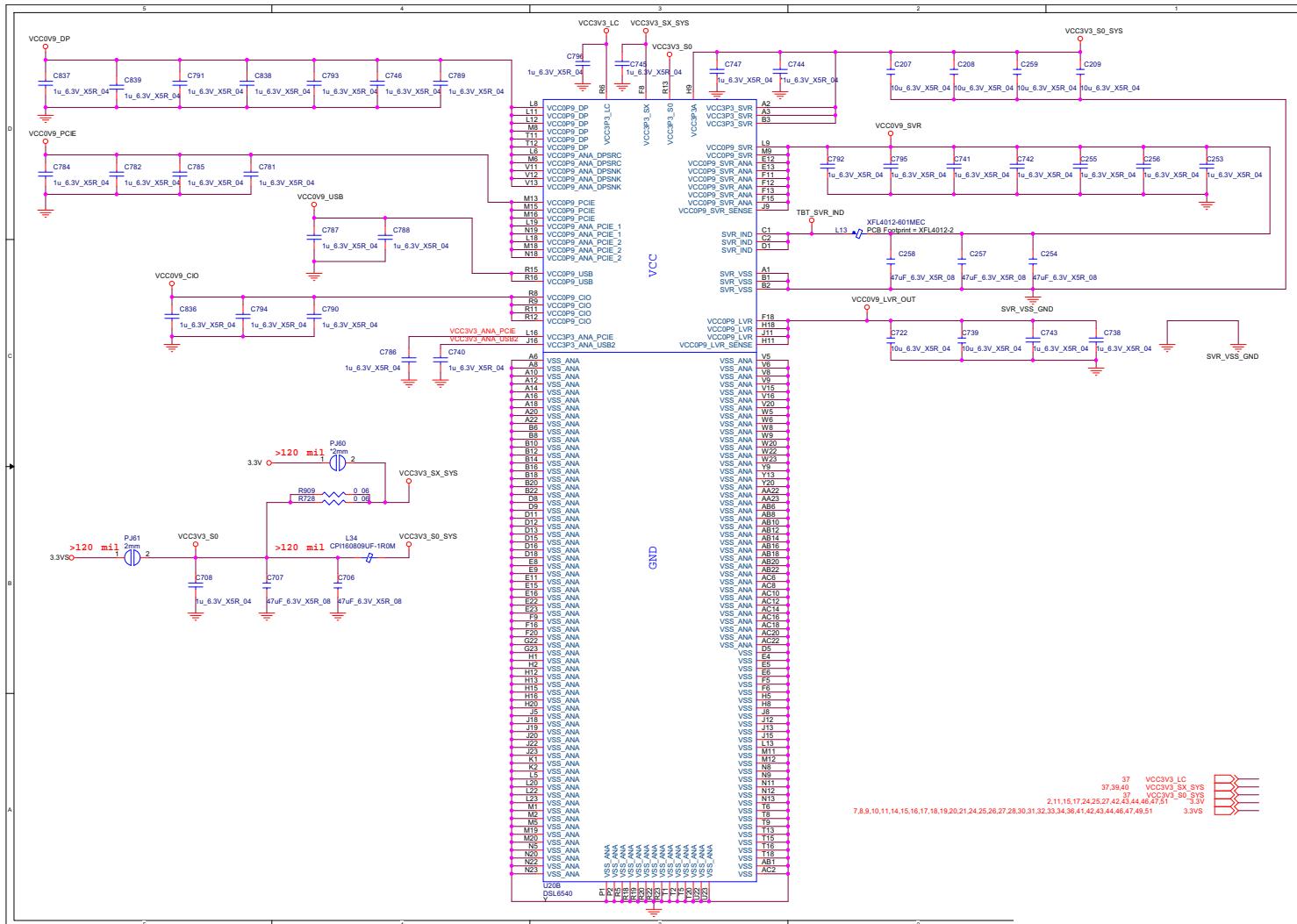
TBT

Sheet 37 of 69  
TBT



## Schematic Diagrams

# Power

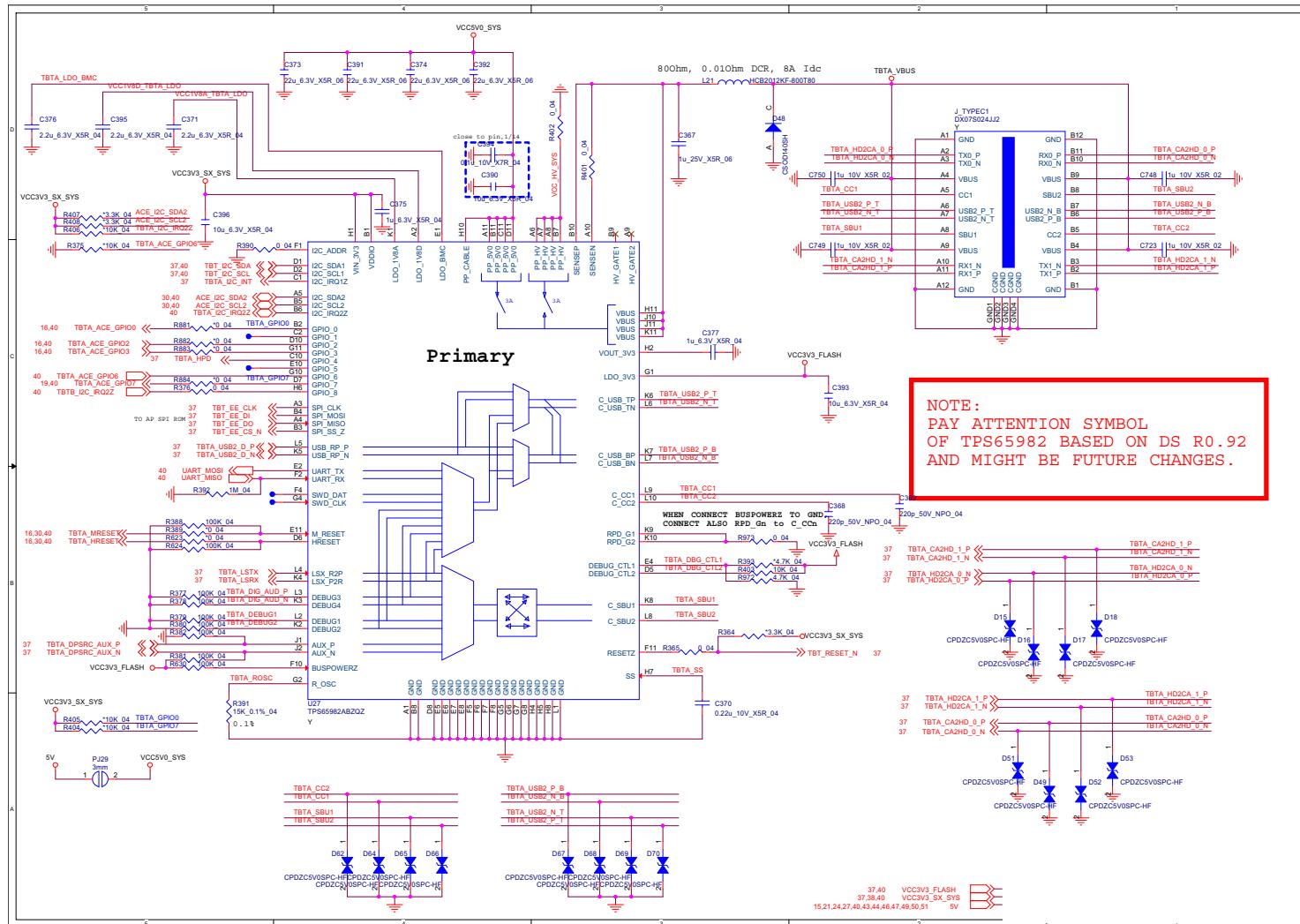


## B.Schematic Diagrams

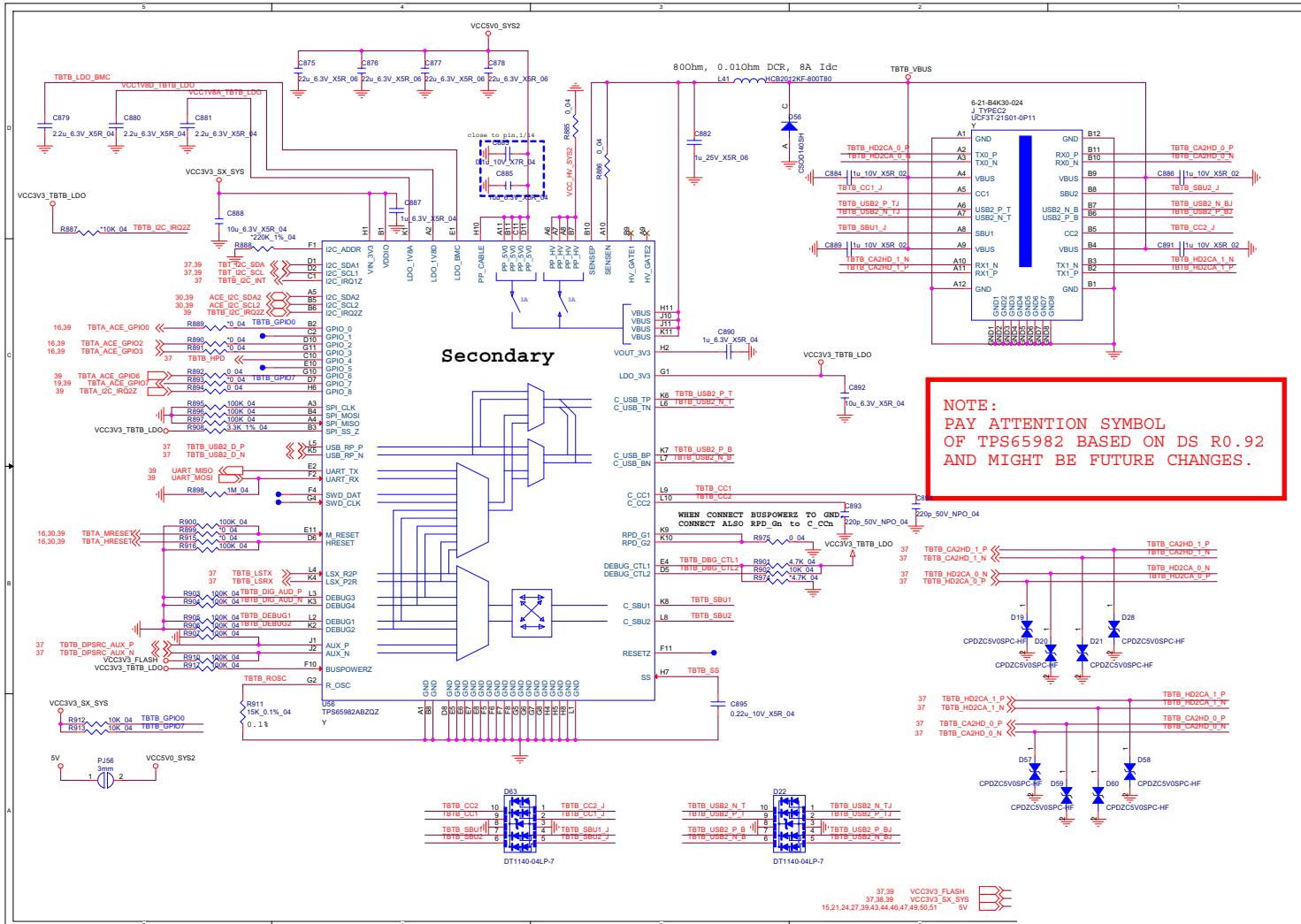
Sheet 38 of 69  
Power

**Schematic Diagrams****TPS65982**

**Sheet 39 of 69  
TPS65982**



## TPS65982



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TPS65982

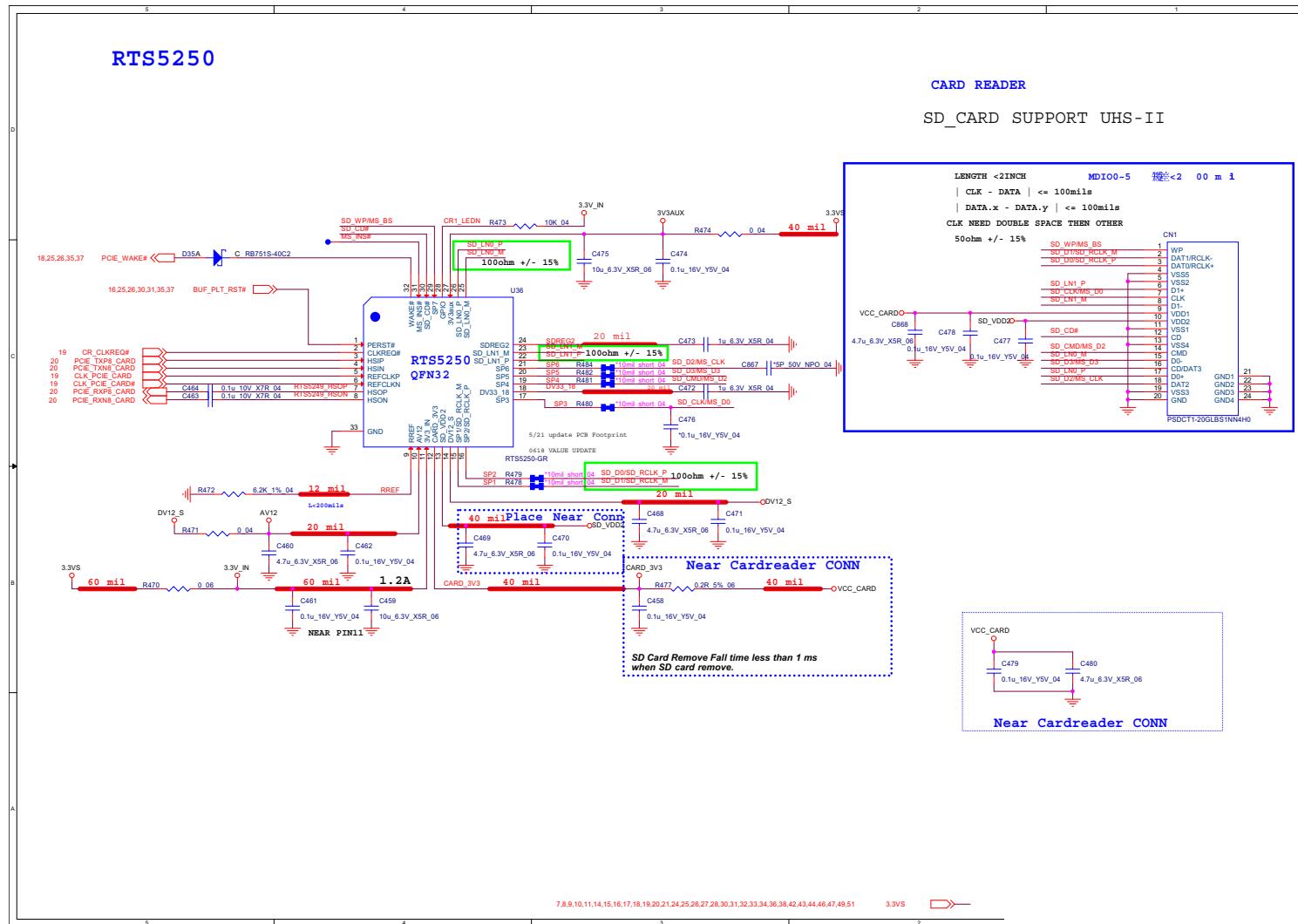
## B.Schematic Diagrams

NOTE:  
PAY ATTENTION SYMBOL  
OF TPS65982 BASED ON DS R0.92  
AND MIGHT BE FUTURE CHANGES.

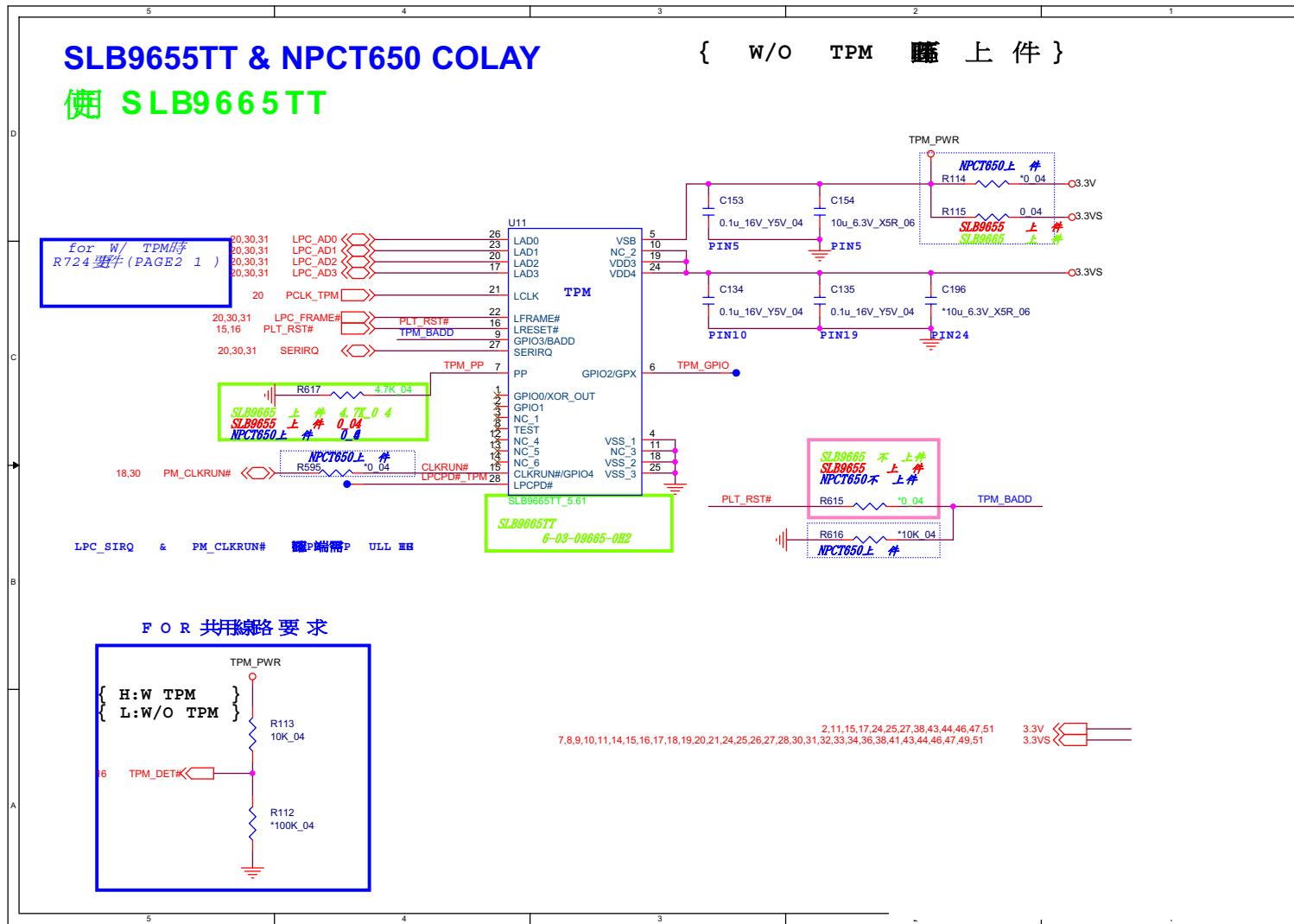
## Schematic Diagrams

# Cardreader RTS5250

**Sheet 41 of 69**  
**Cardreader**  
**RTS5250**



# TPM SLB9655TT & NPCT420



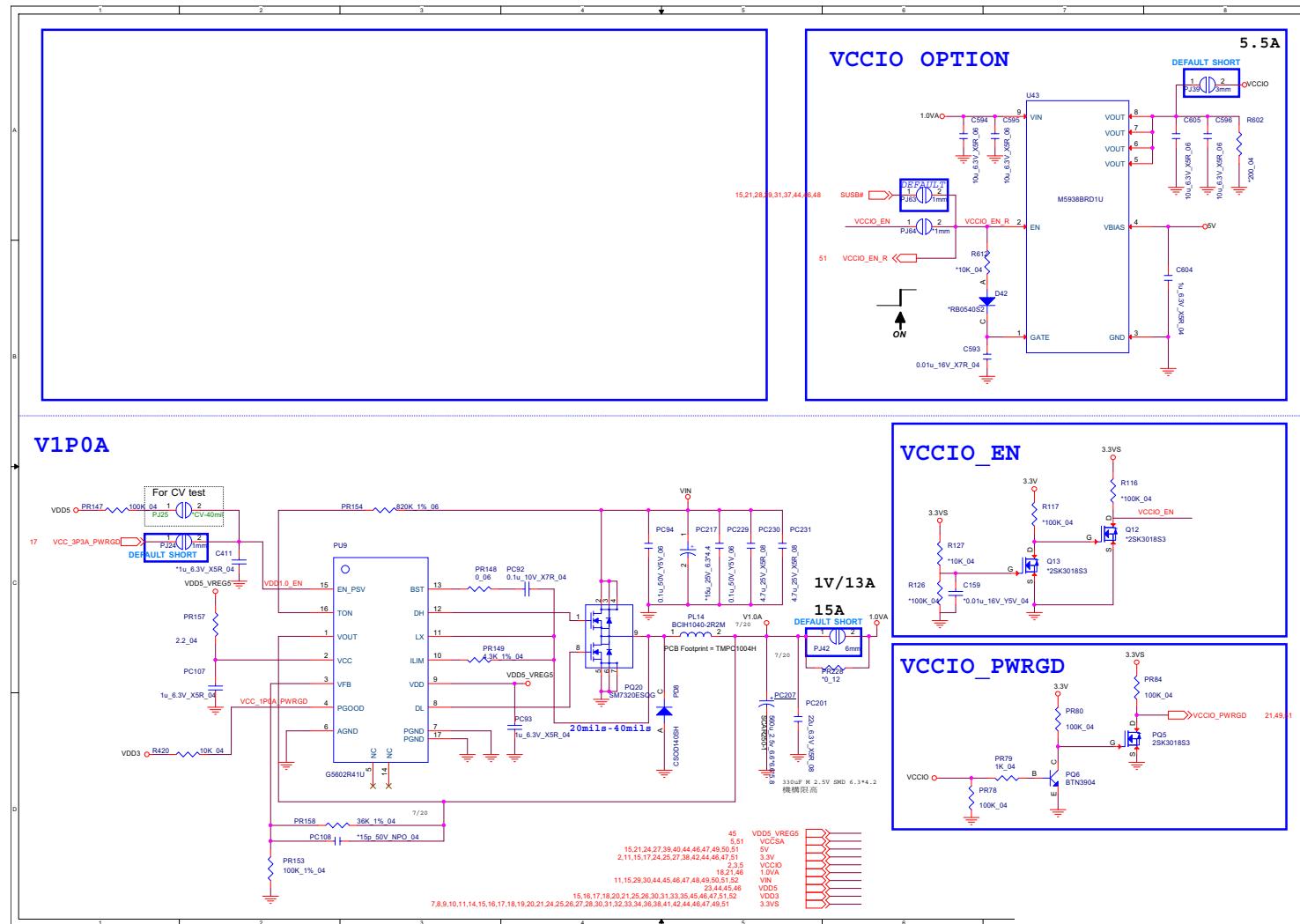
Sheet 42 of 69  
TPM SLB9655TT &  
NPCT420

## B.Schematic Diagrams

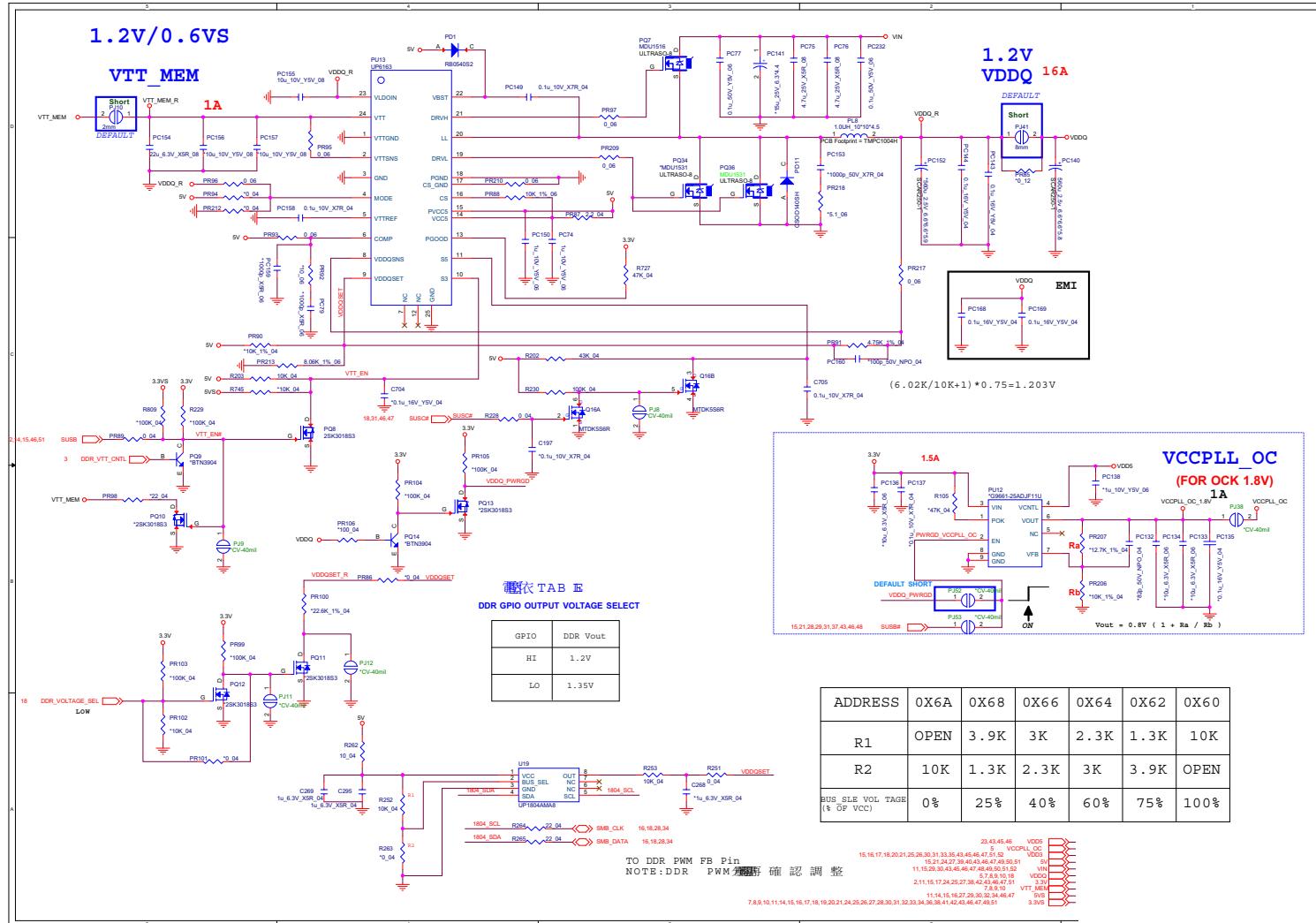
## Schematic Diagrams

### VCCIO / 1P0A

Sheet 43 of 69  
VCCIO / 1P0A



## **DDR 1.2V/0.6VS/VCCPLL\_OC**



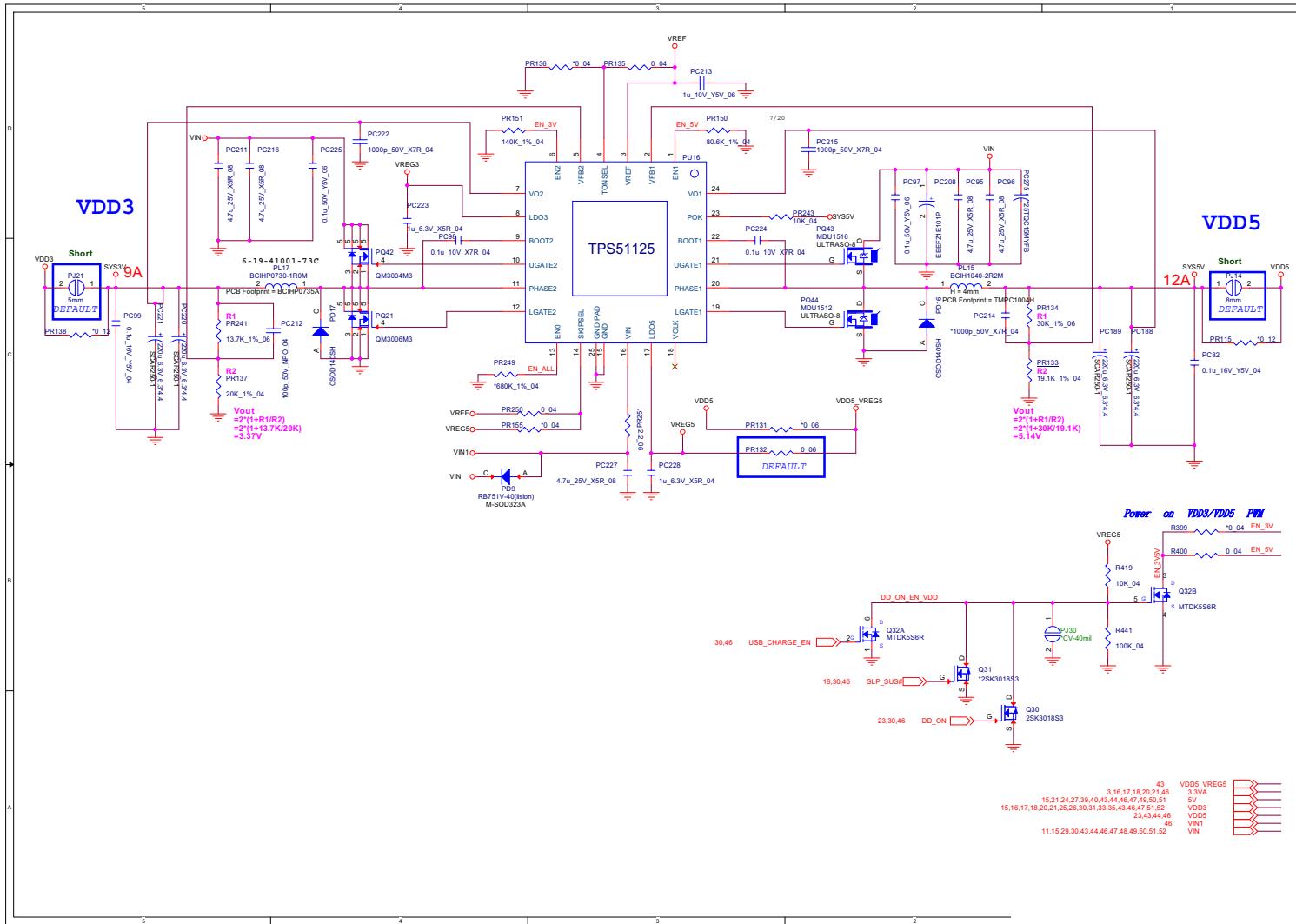
Sheet 44 of 69  
DDR 1.2V/0.6VS/  
VCCPLL OC

## B.Schematic Diagrams

### Schematic Diagrams

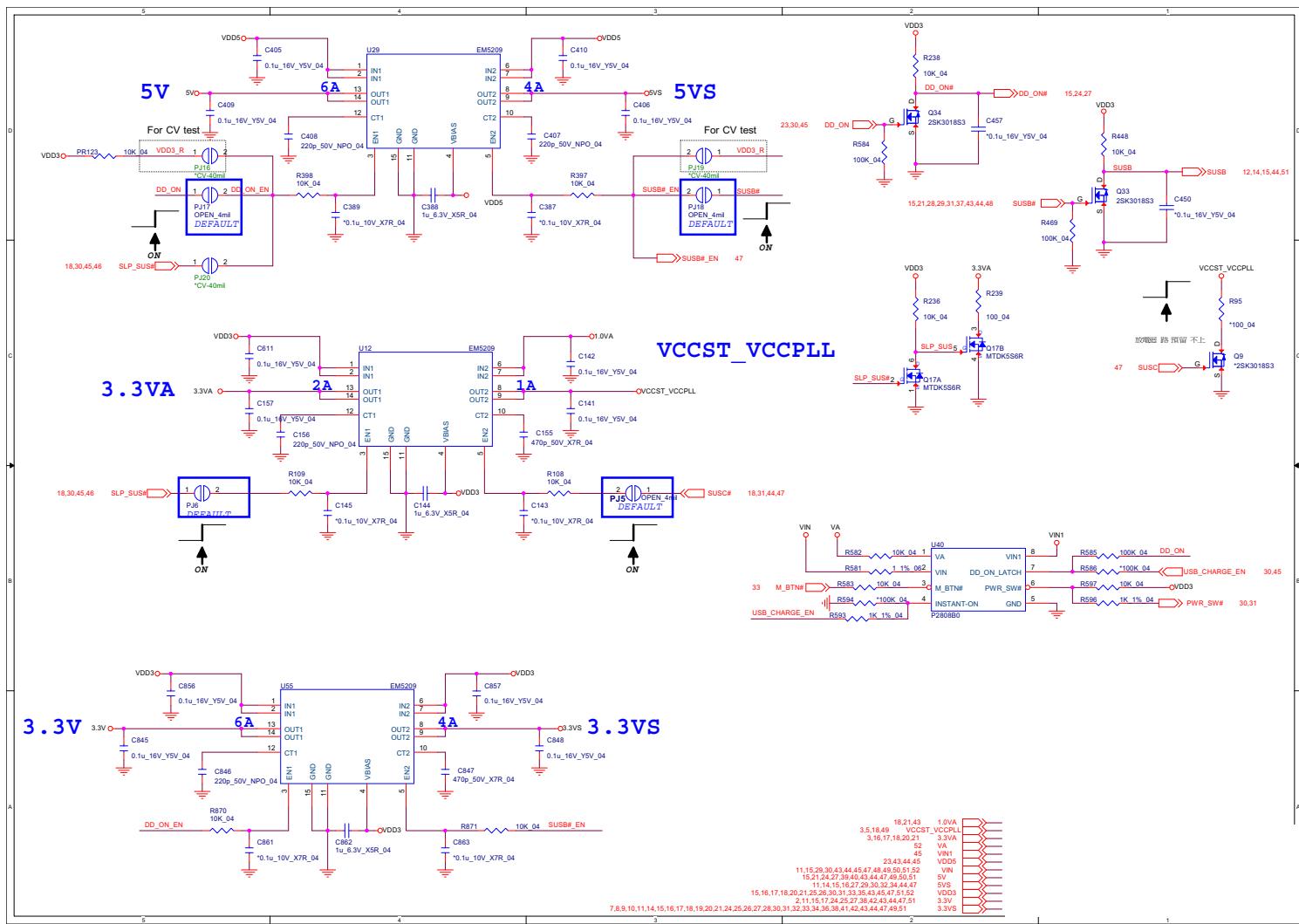
#### VDD3, VDD5

Sheet 45 of 69  
VDD3, VDD5



## B.Schematic Diagrams

Sheet 46 of 69  
5V/5VS, 3V/3.3VS,  
3.3VA

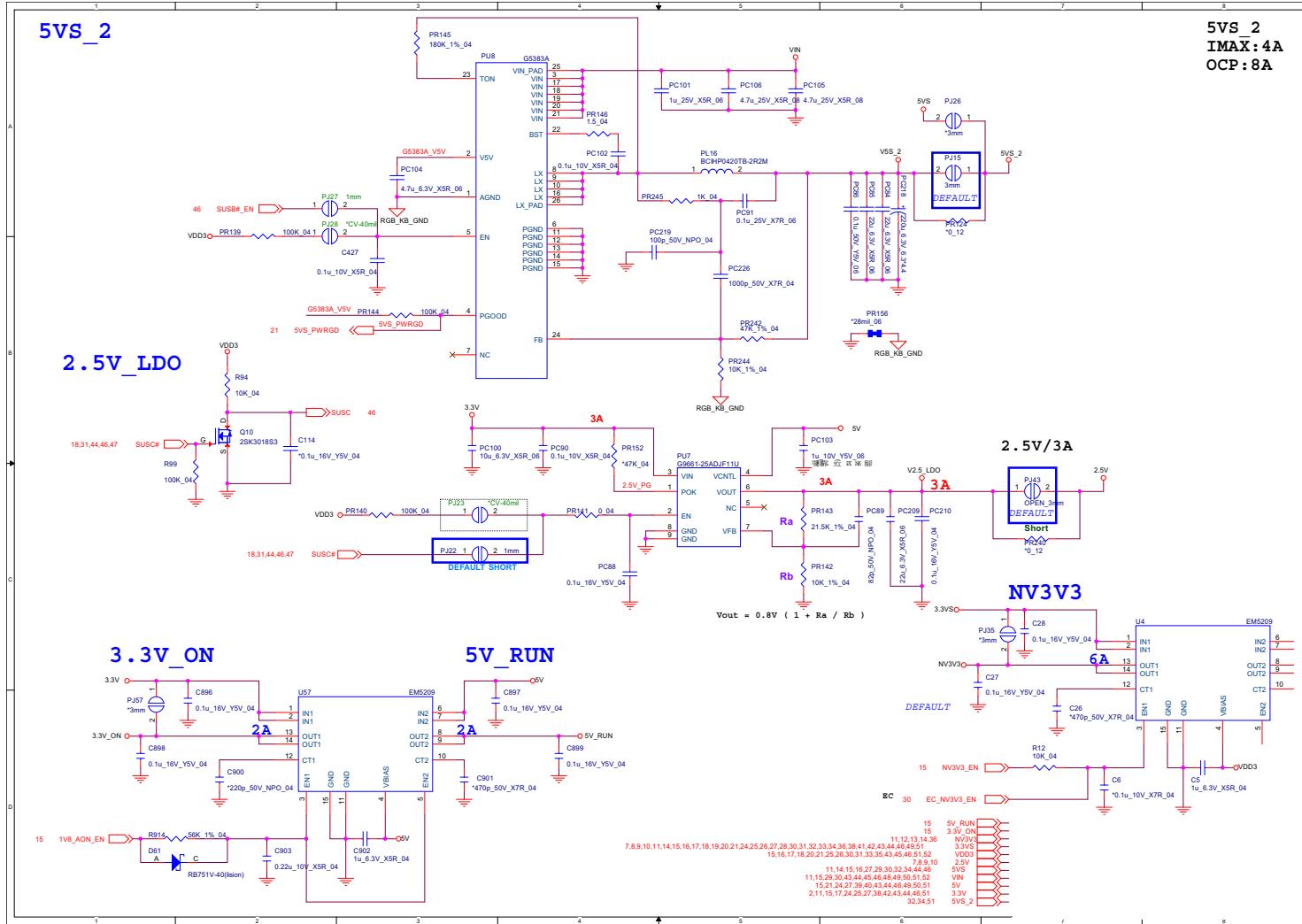


## B.Schematic Diagrams

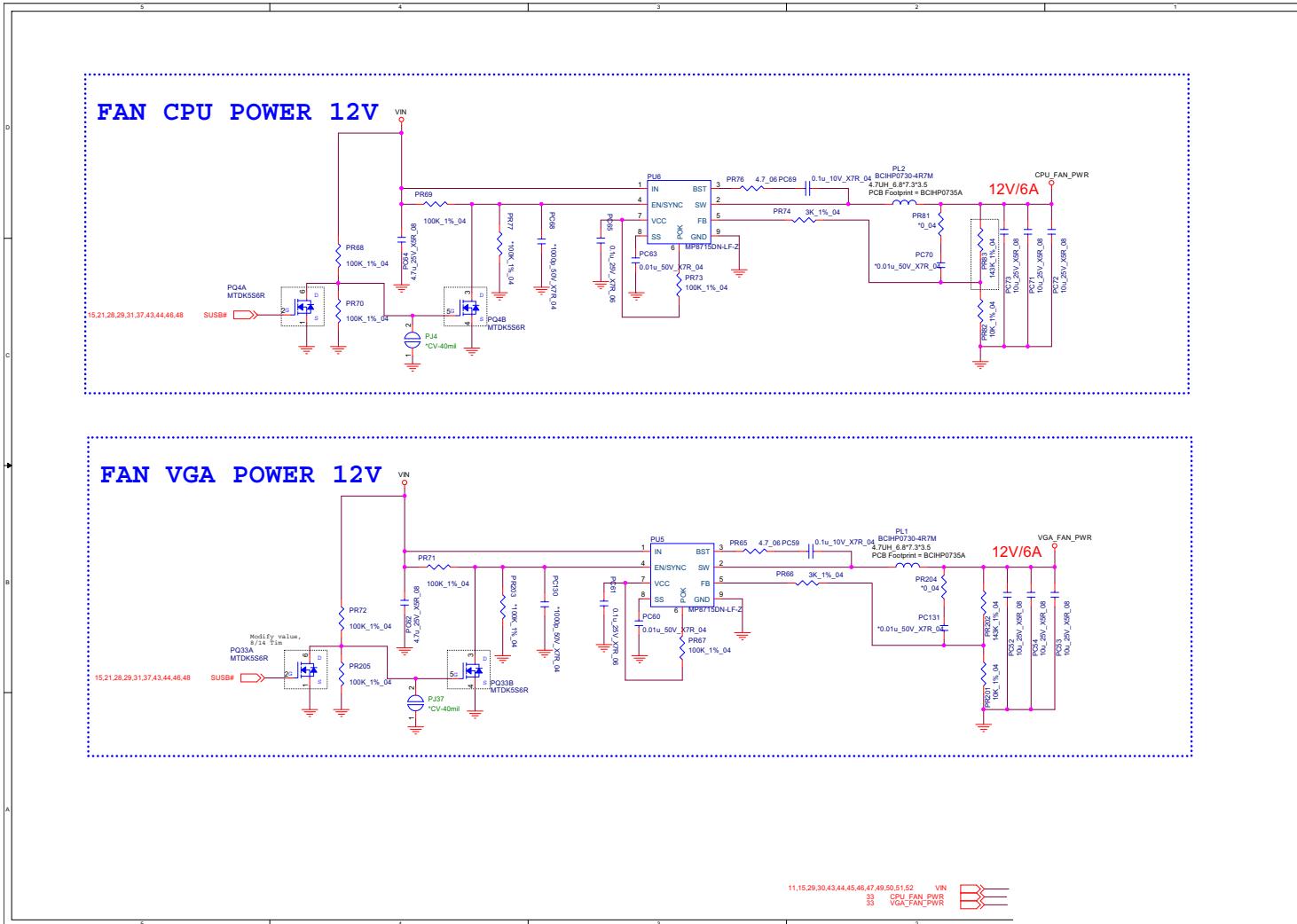
### Schematic Diagrams

#### 5VS\_2/2.5V/NV3V3/3.3V\_ON/5V\_RUN

Sheet 47 of 69  
5VS\_2/2.5V/NV3V3/  
3.3V\_ON/5V\_RUN



# Fan CPU, VGA Power

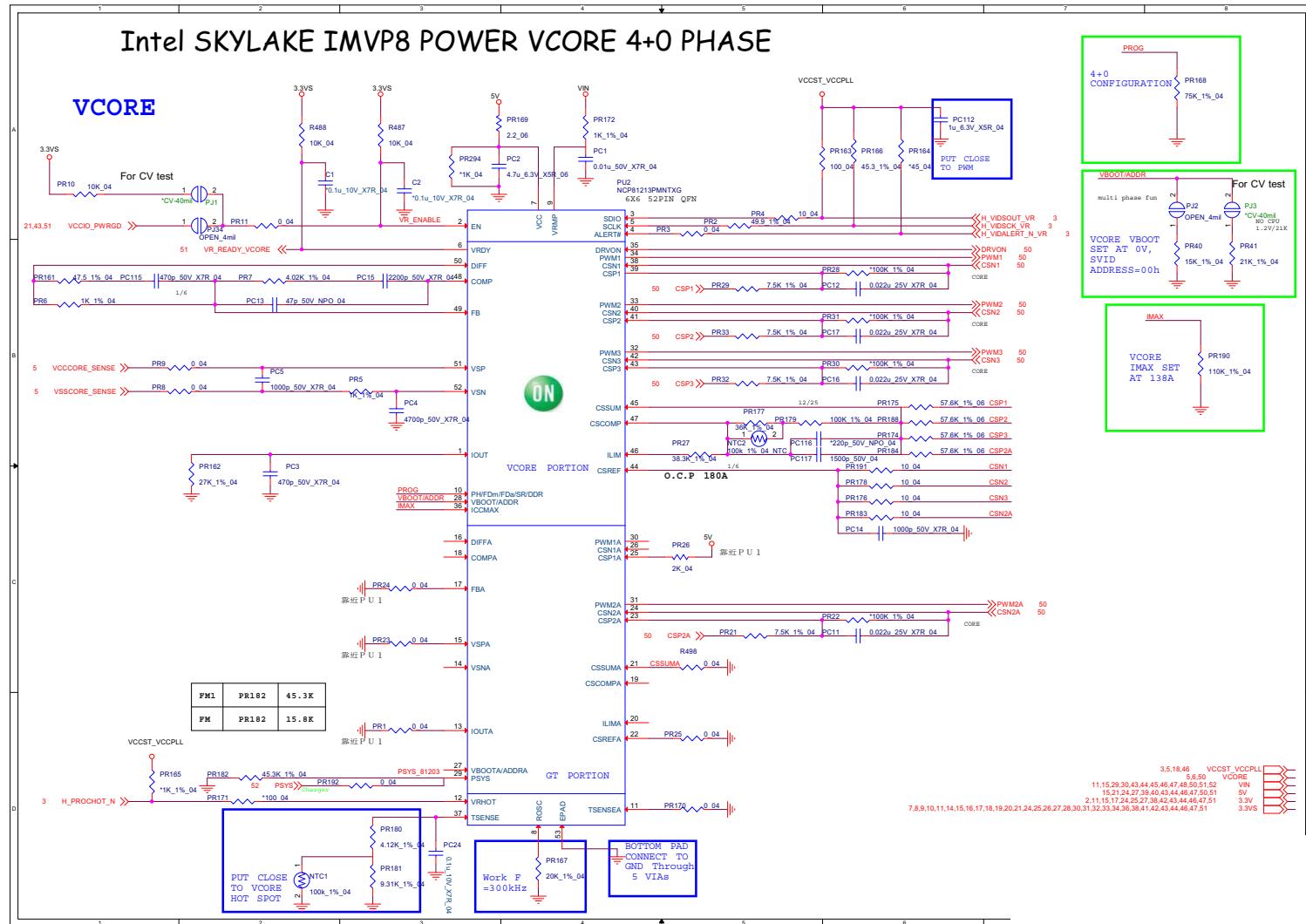


Sheet 48 of 69  
Fan CPU, VGA  
Power

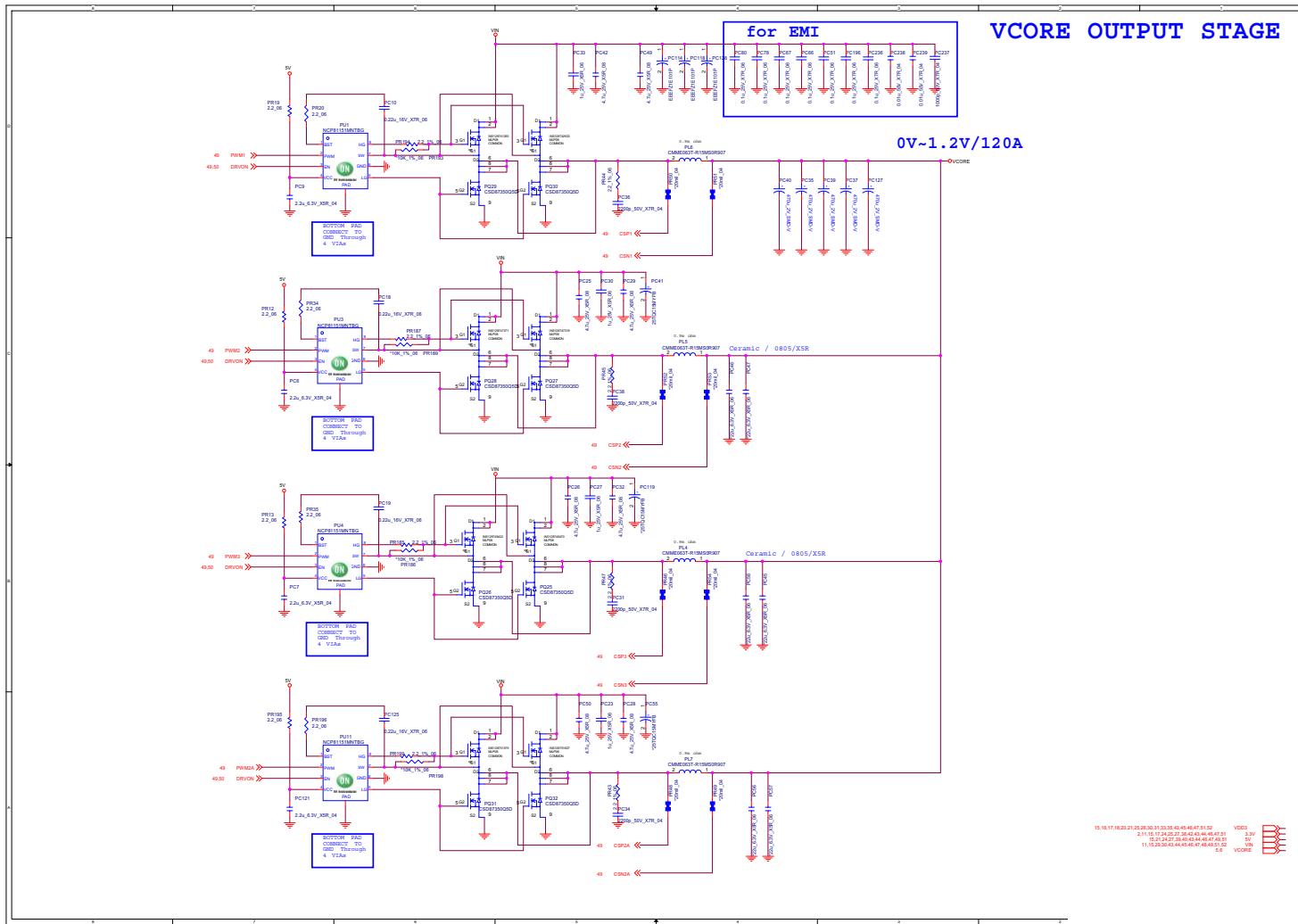
## Schematic Diagrams

### VCore

Sheet 49 of 69  
VCore



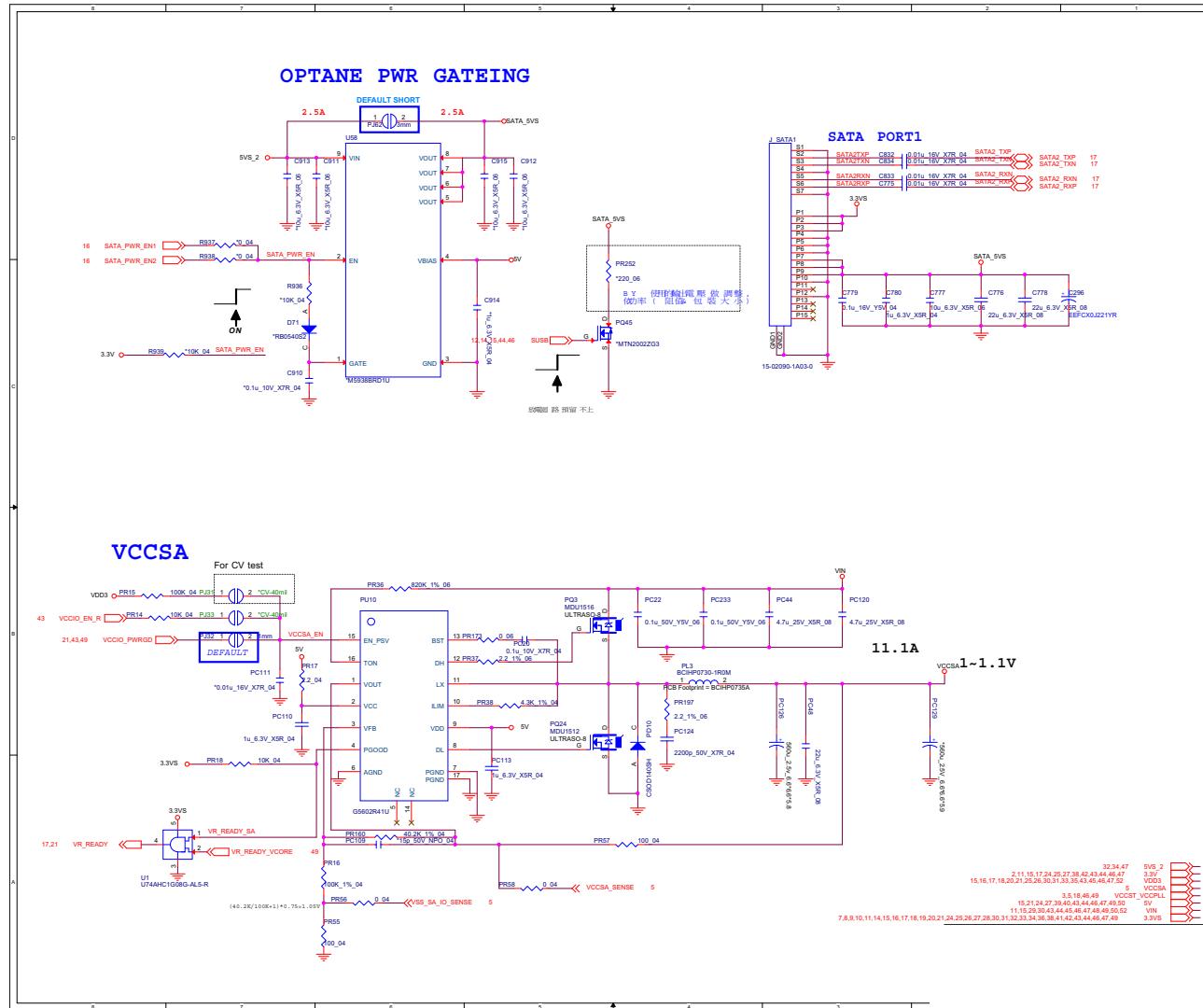
# VCore Output Stage



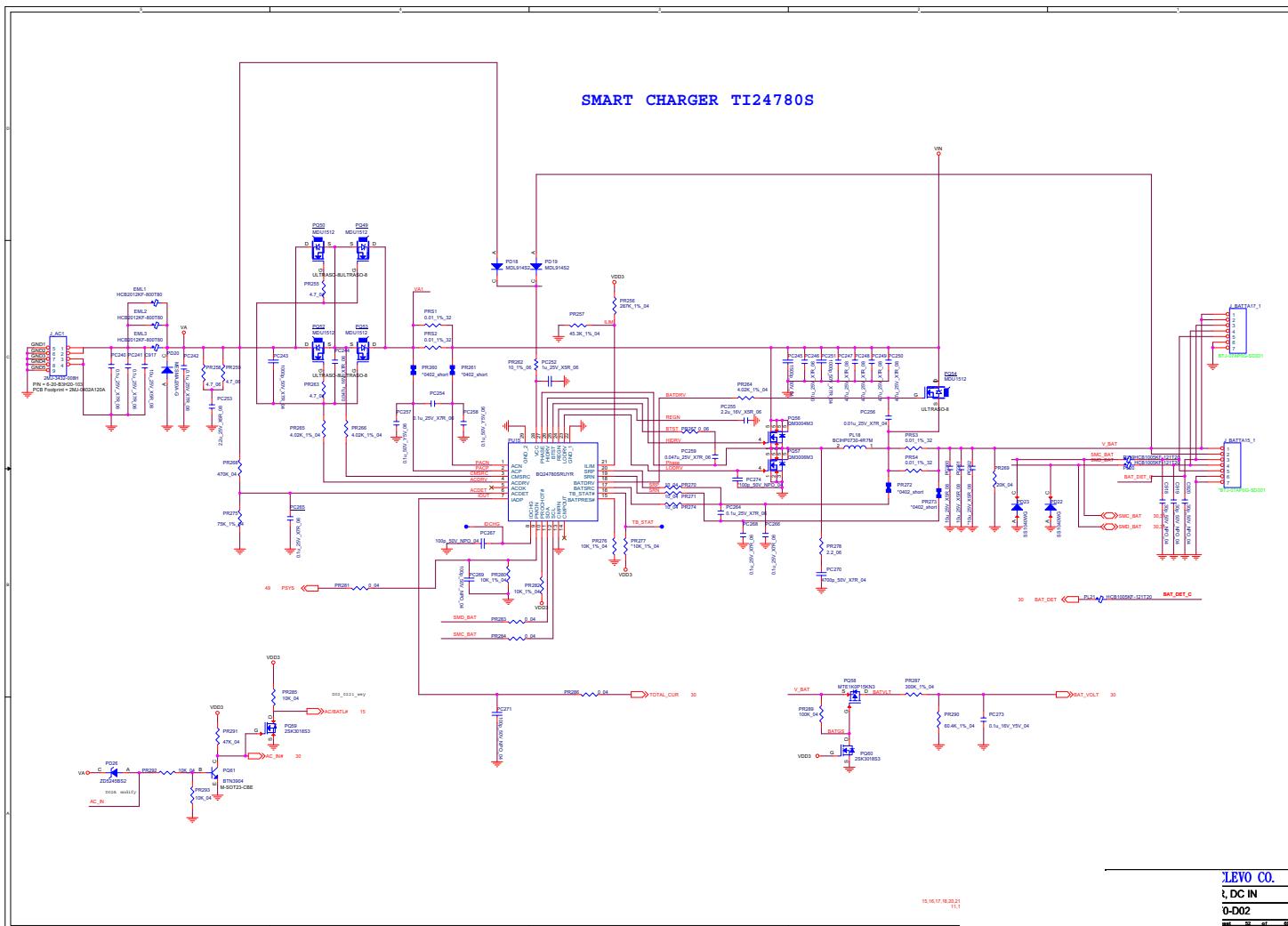
## Schematic Diagrams

### VCCSA / VCCGT

Sheet 51 of 69  
VCCSA / VCCGT



## **Power Charger, DC-In**

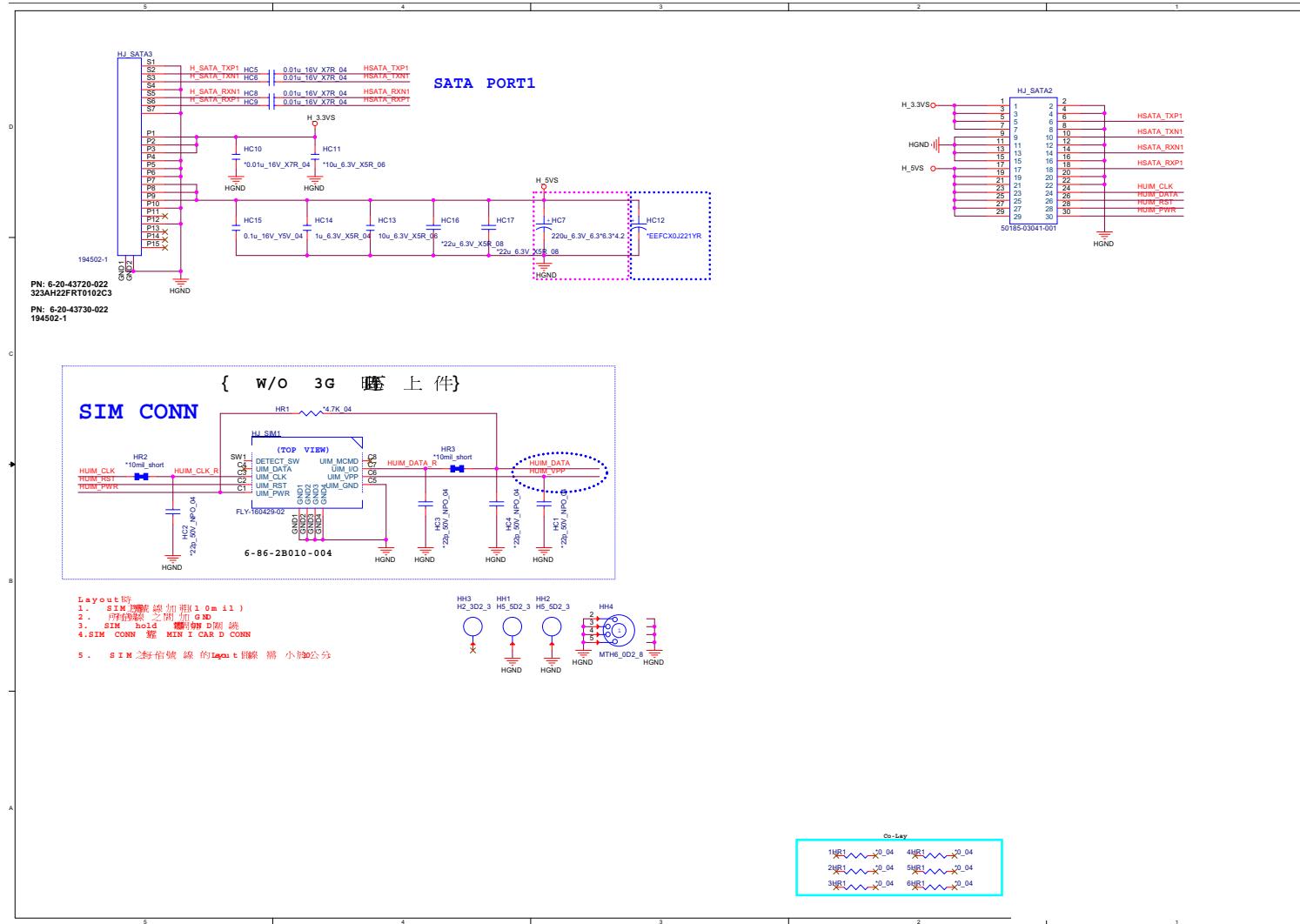


Sheet 52 of 69  
Power Charger,  
DC-In

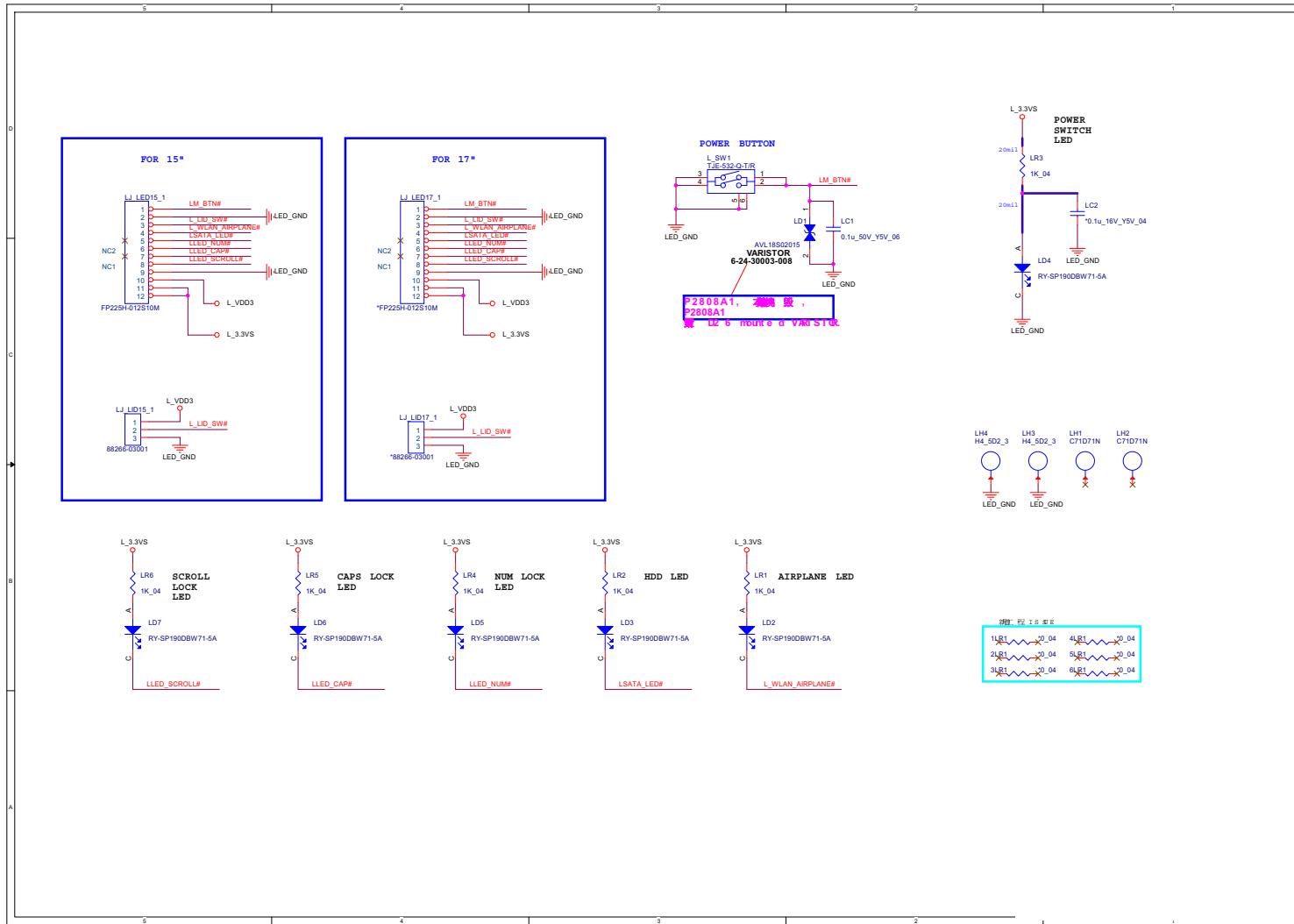
## Schematic Diagrams

### P750DM HDD Board

Sheet 53 of 69  
P750DM HDD  
Board



# P750DM Power LED Board

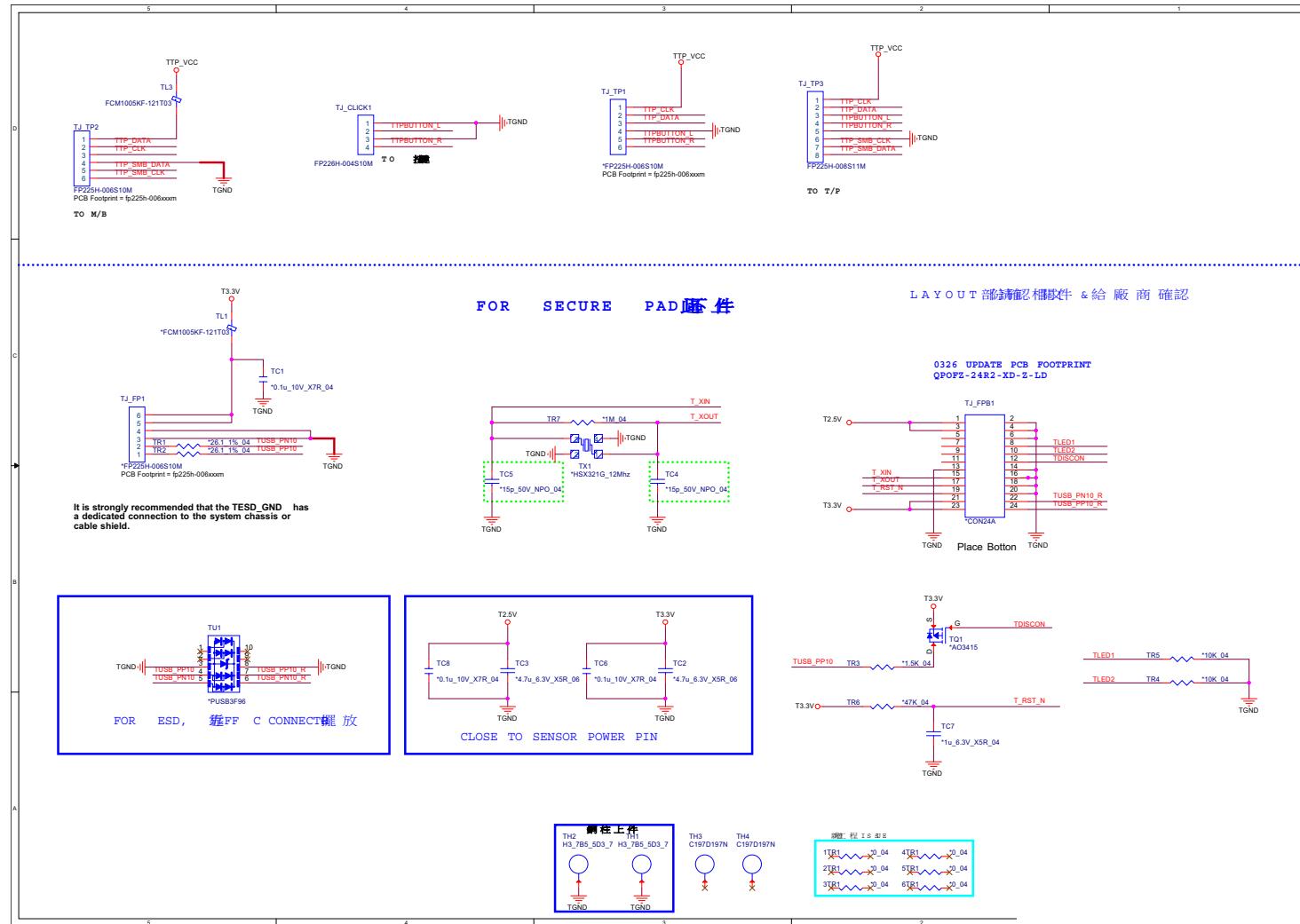


Sheet 54 of 69  
P750DM Power  
LED Board

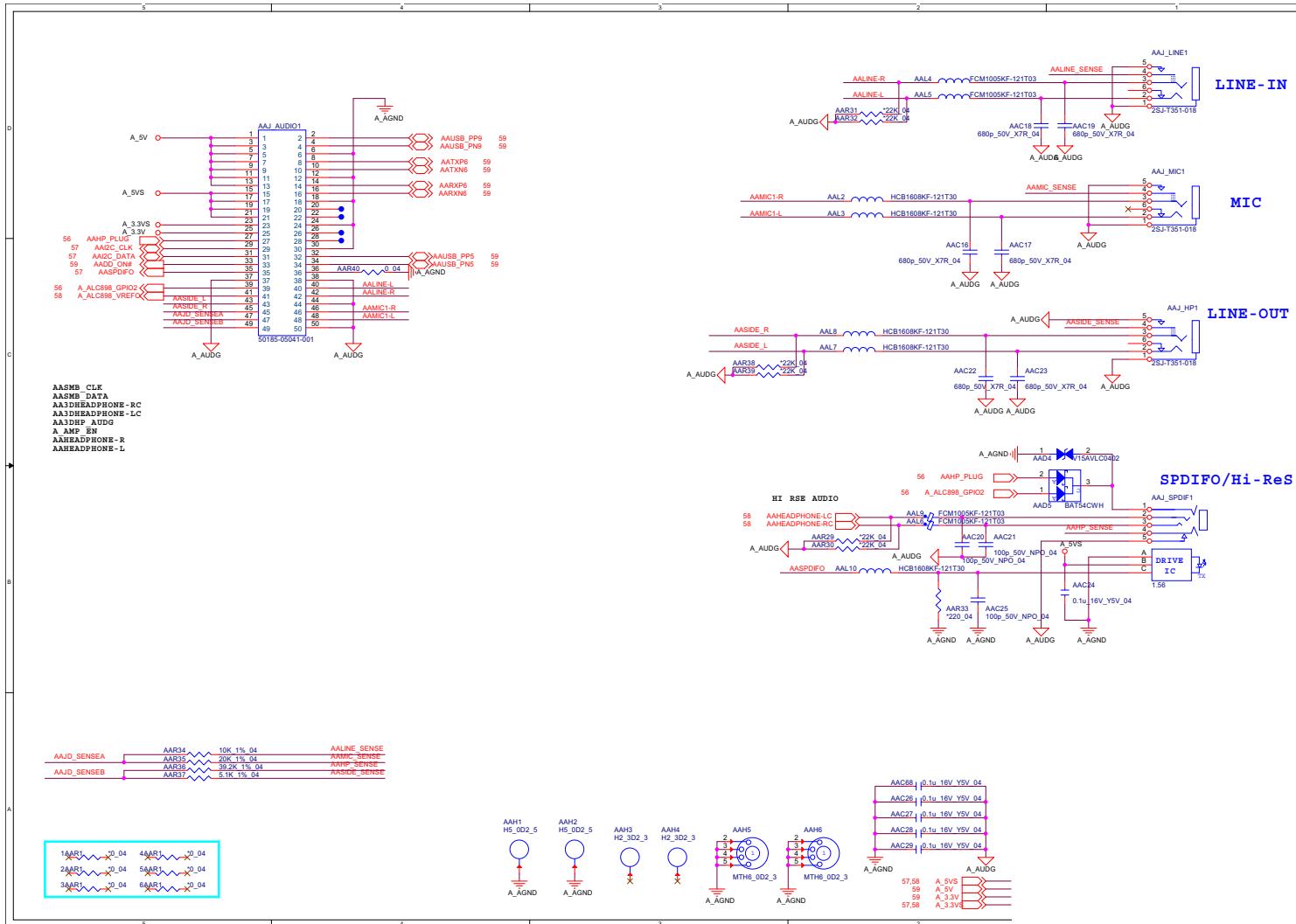
## Schematic Diagrams

### P750DM Click Board

**Sheet 55 of 69**  
**P750DM Click**  
**Board**



# P750DM Audio Board

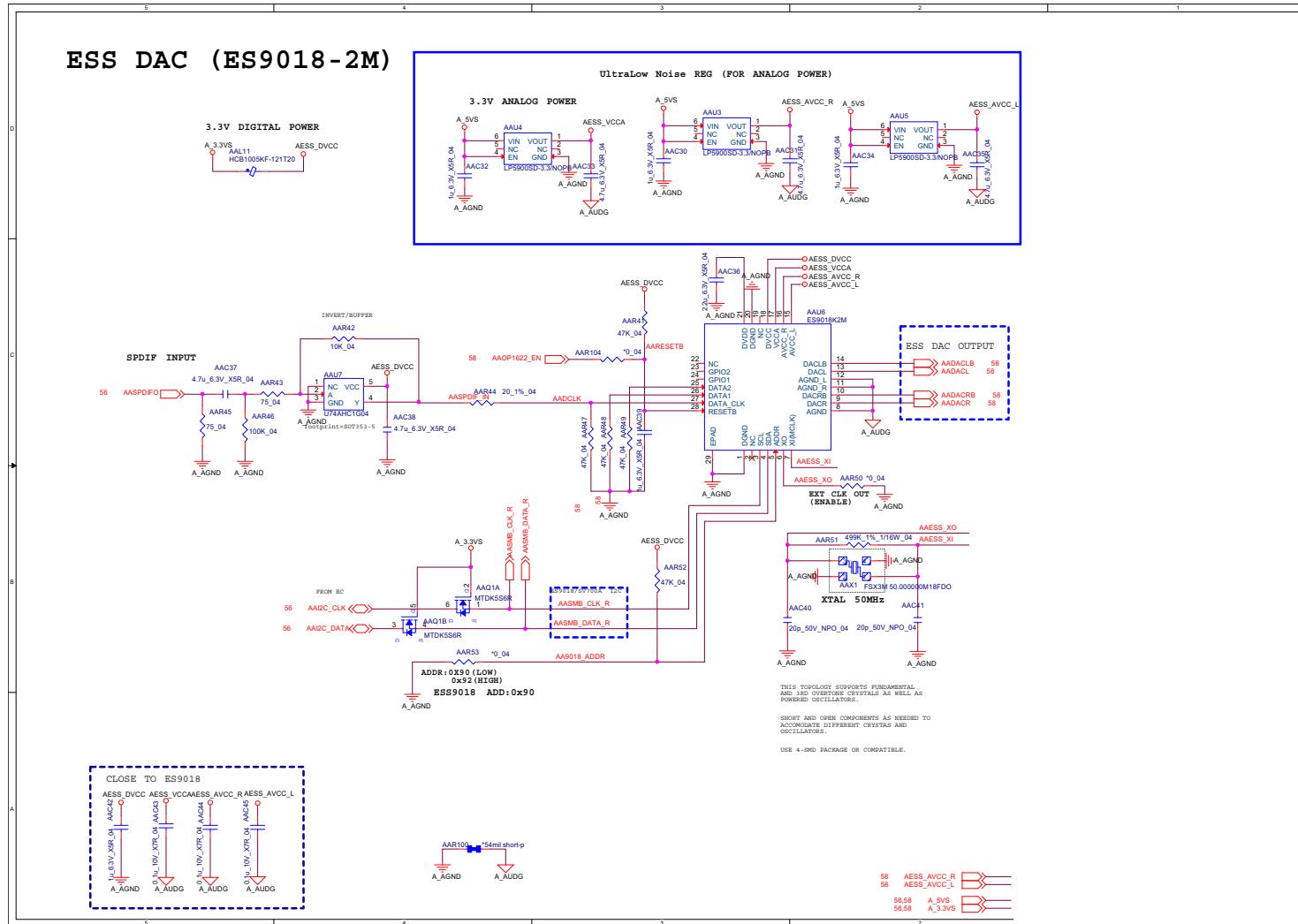


Sheet 56 of 69  
P750DM Audio  
Board

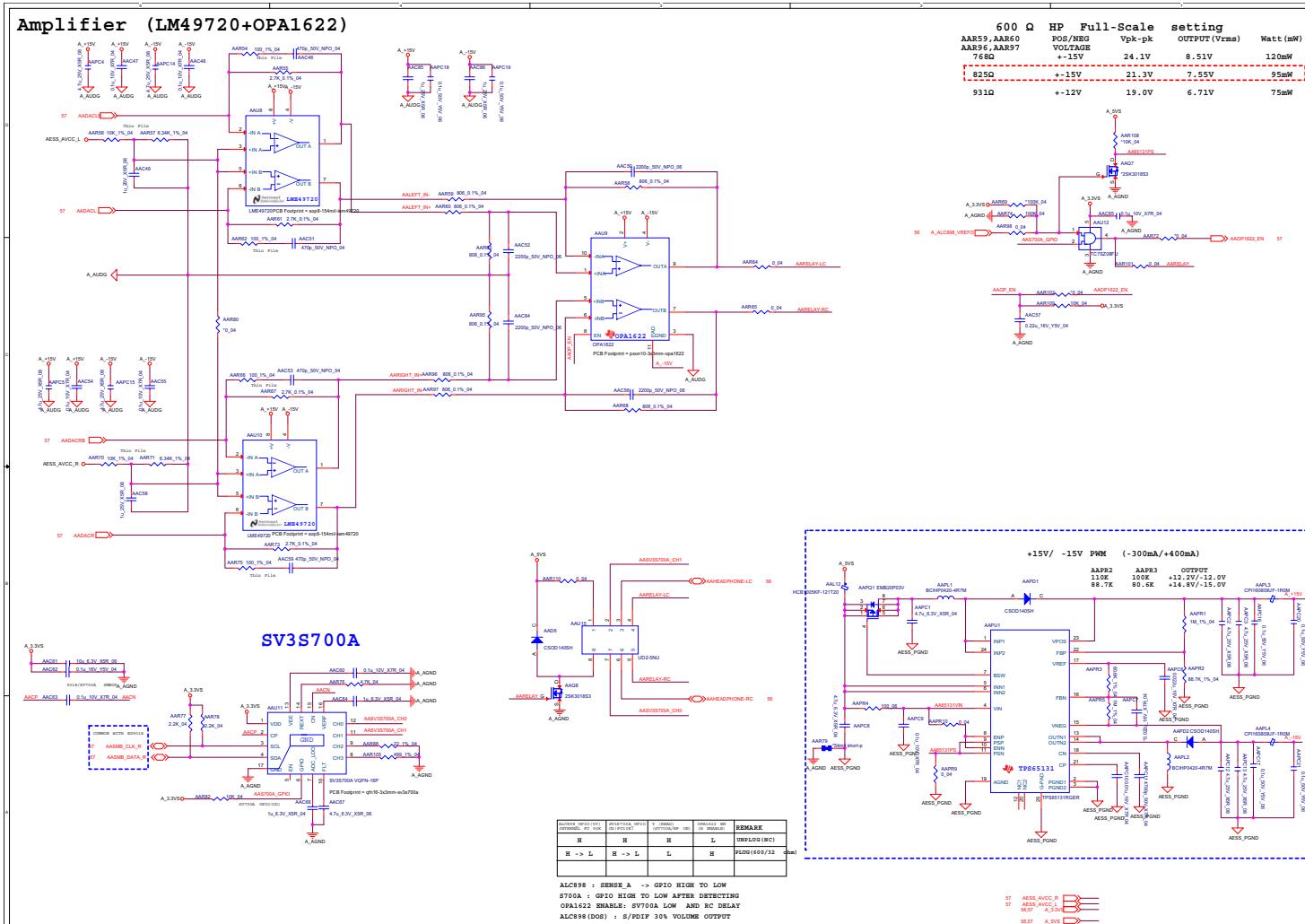
## Schematic Diagrams

# P750DM Audio ESS DAC

**Sheet 57 of 69**  
**P750DM Audio ESS**  
**DAC**



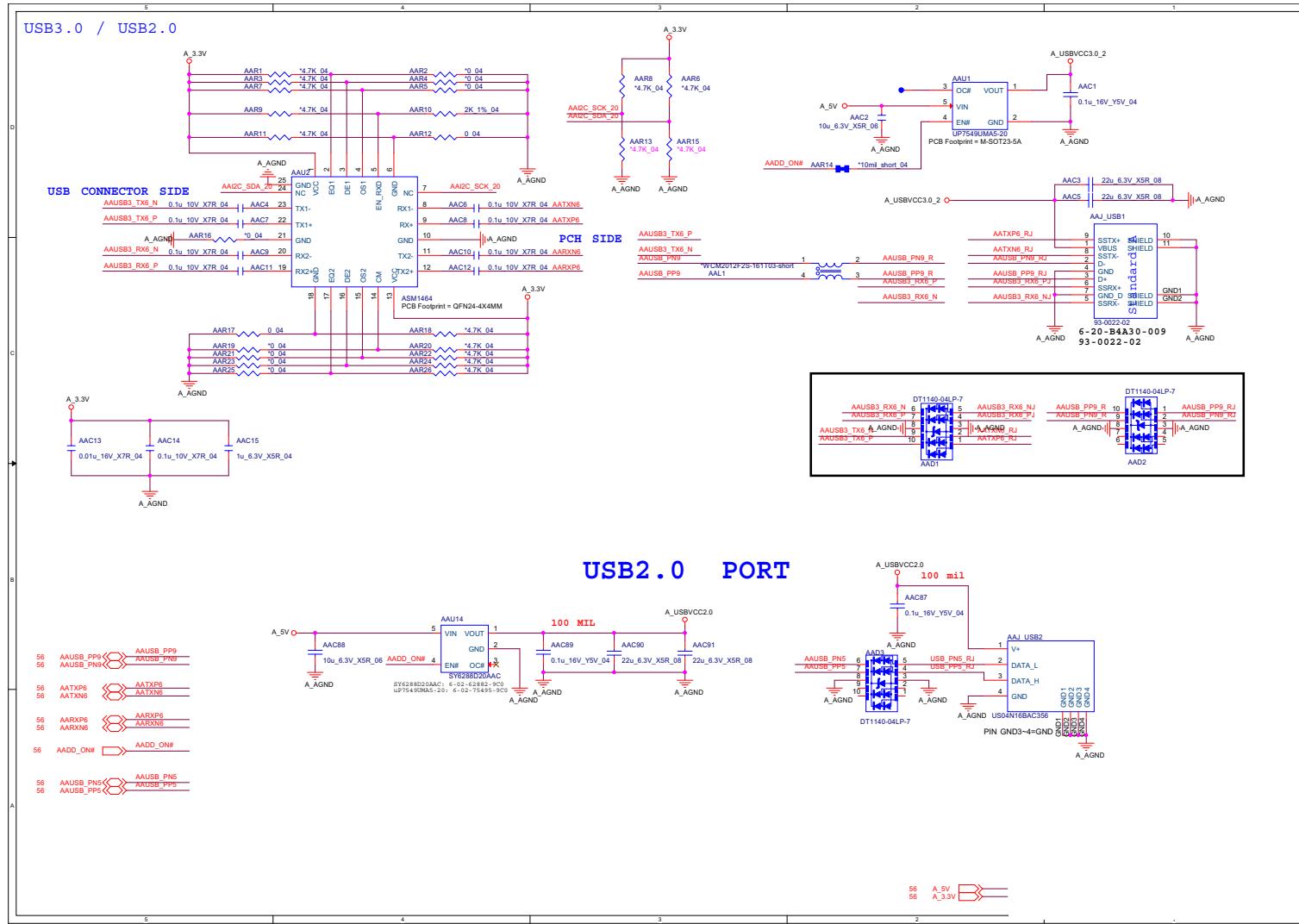
# P750DM Audio HP AMP



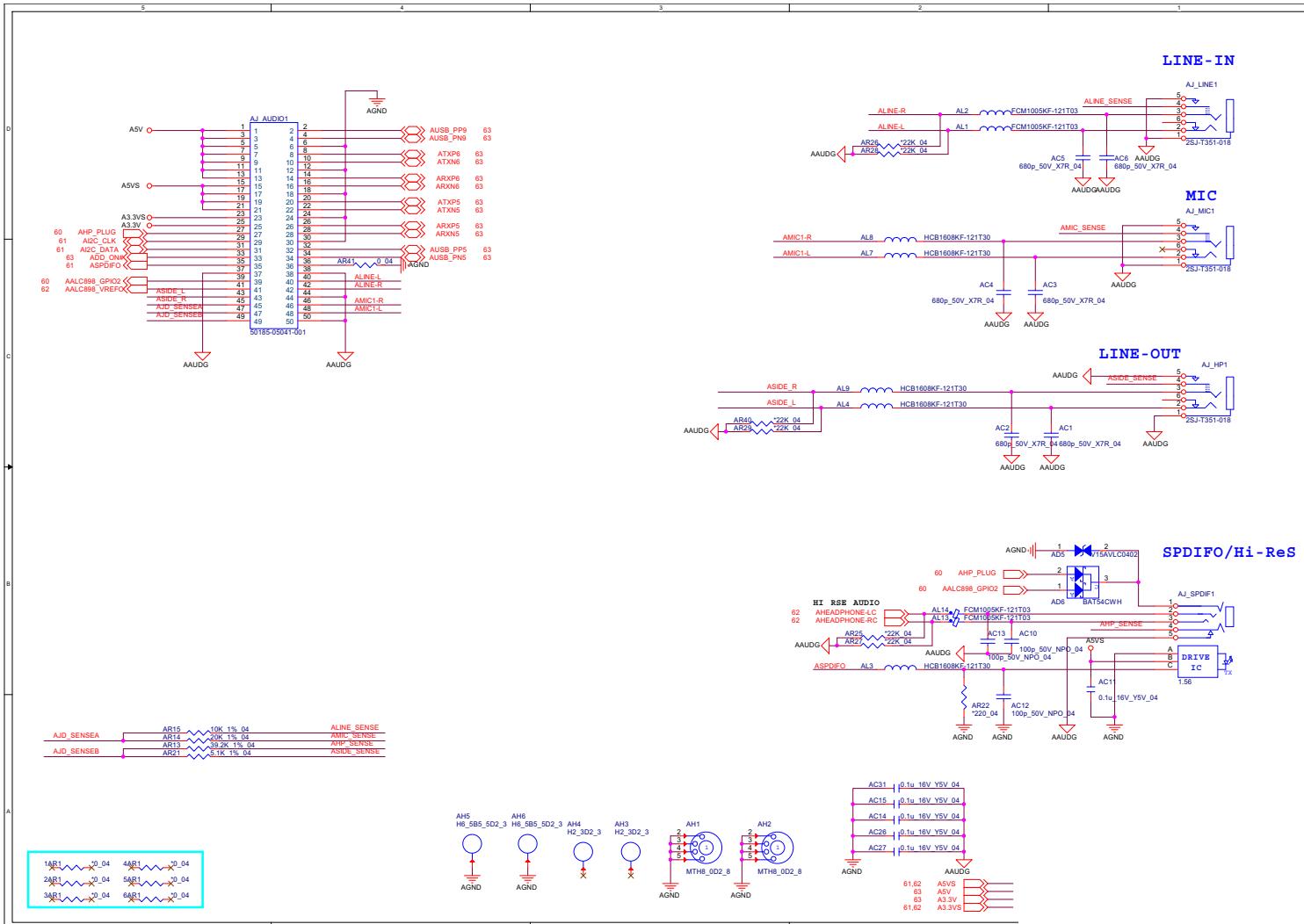
## Schematic Diagrams

### P750DM Audio Board

Sheet 59 of 69  
P750DM Audio  
Board



# P775DM Audio Board

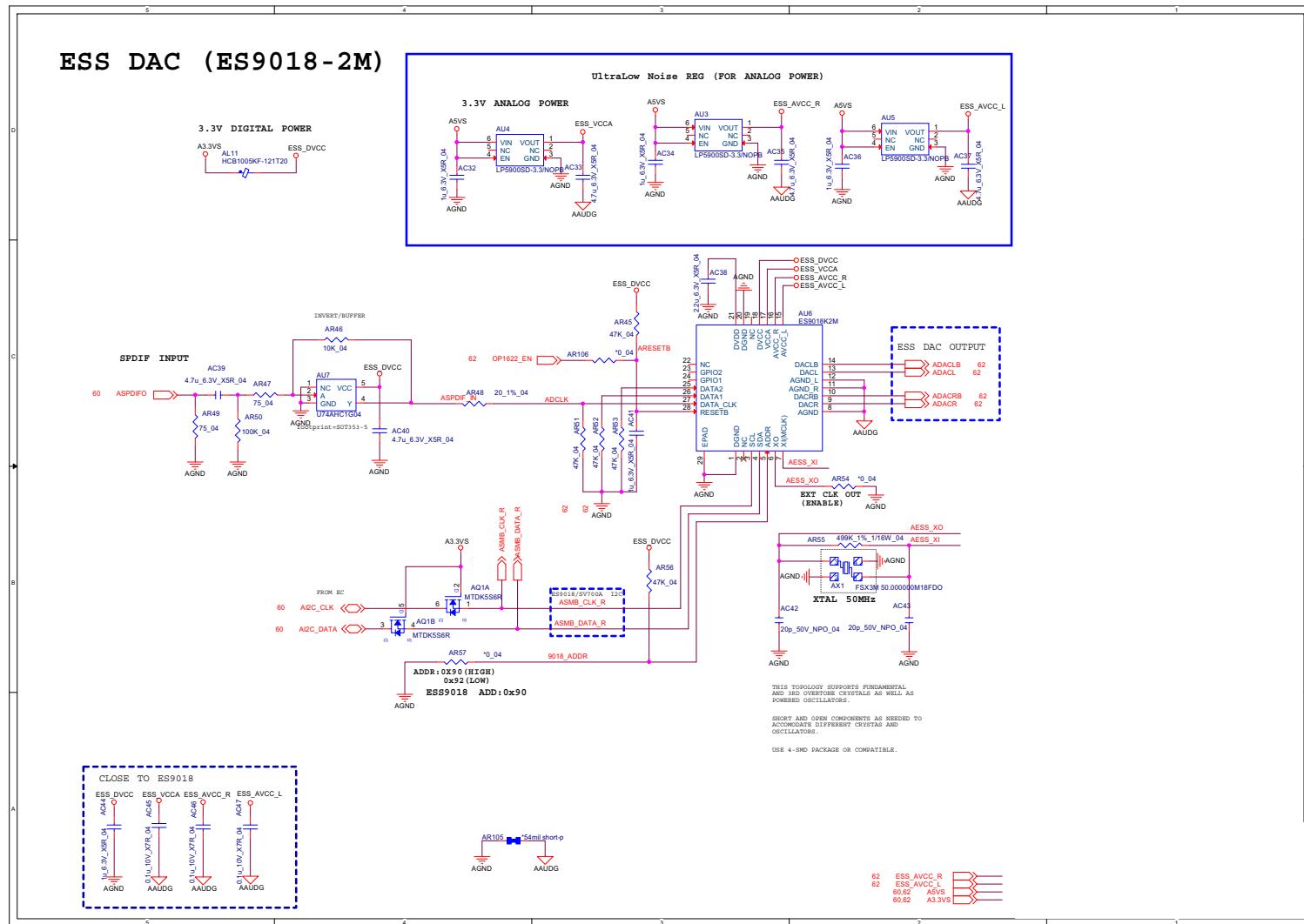


Sheet 60 of 69  
P775DM Audio  
Board

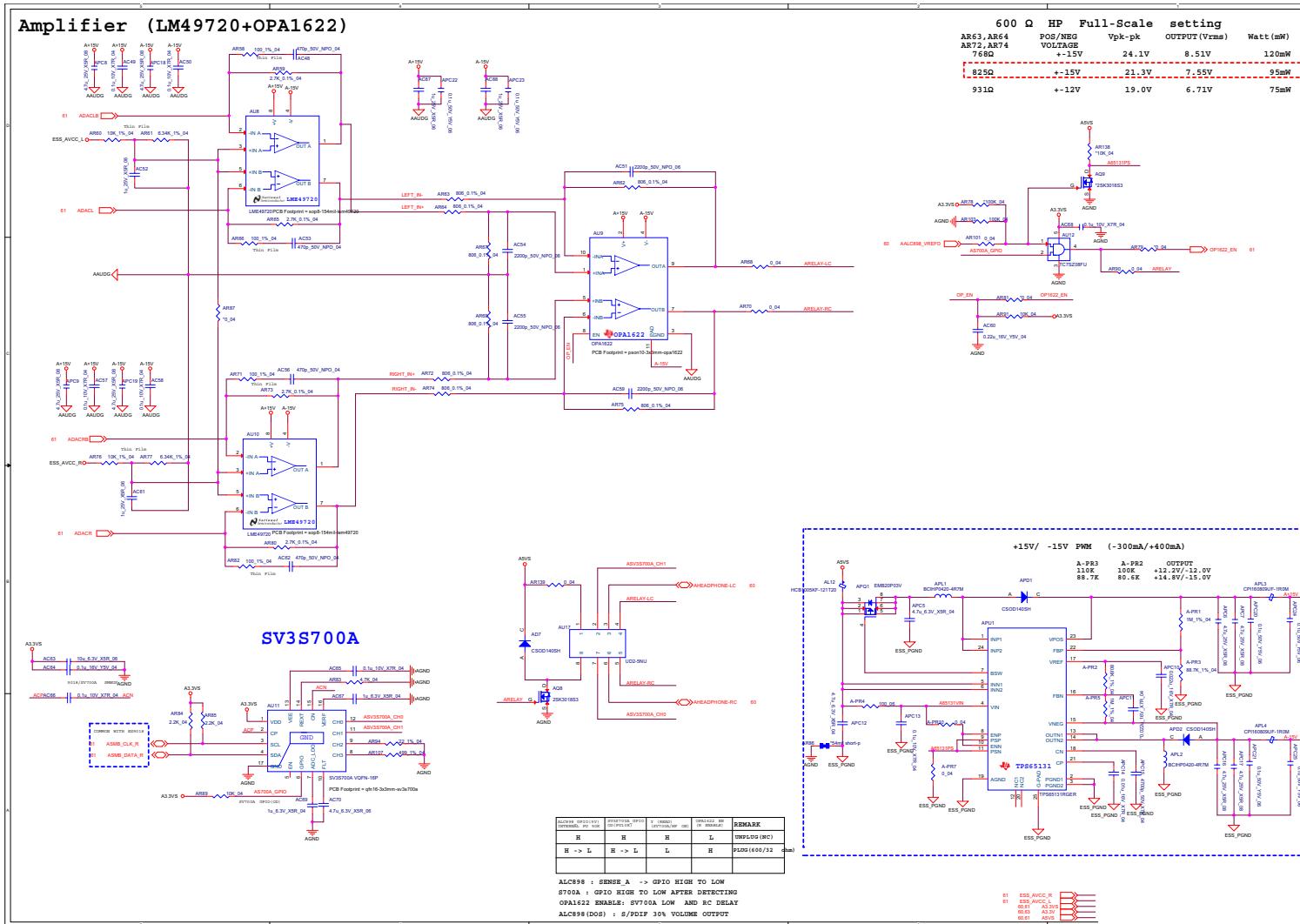
## B. Schematic Diagrams

## Schematic Diagrams

# P775DM Audio ESS DAC



# P775DM Audio HP AMP

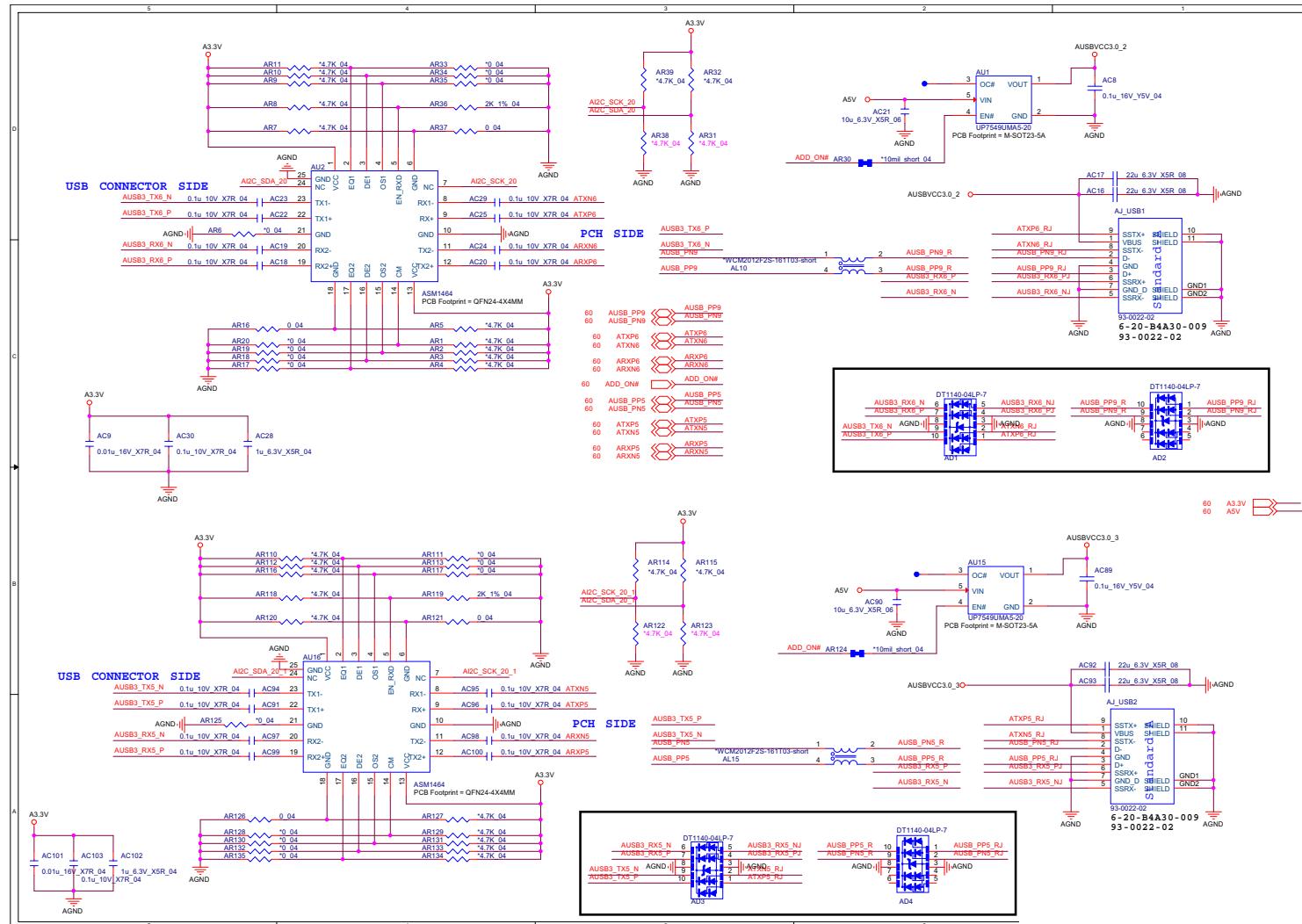


Sheet 62 of 69  
P775DM Audio HP AMP

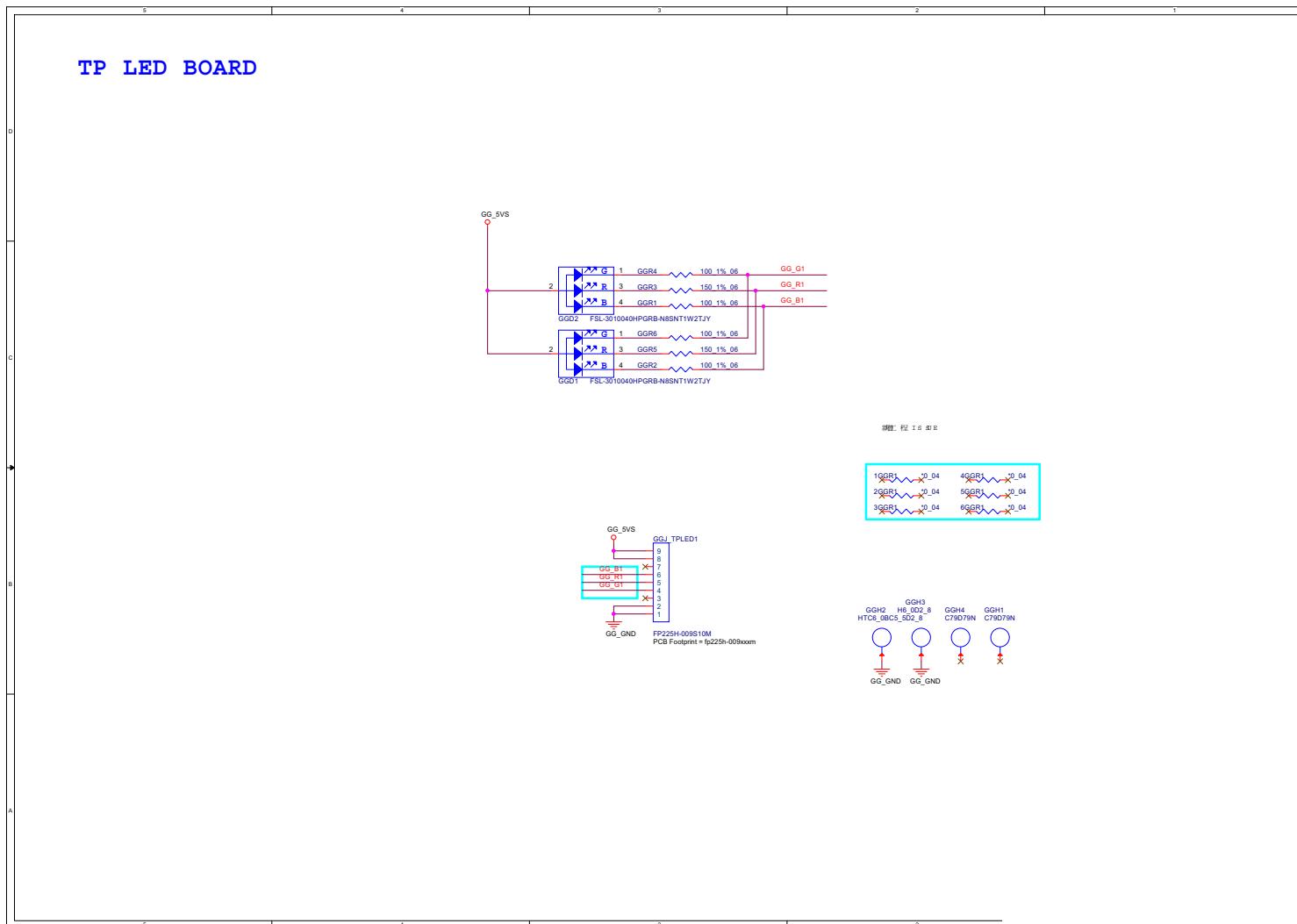
## Schematic Diagrams

# P775DM Audio Board

Sheet 63 of 69  
P775DM Audio  
Board



## P750DM BOT LED Board

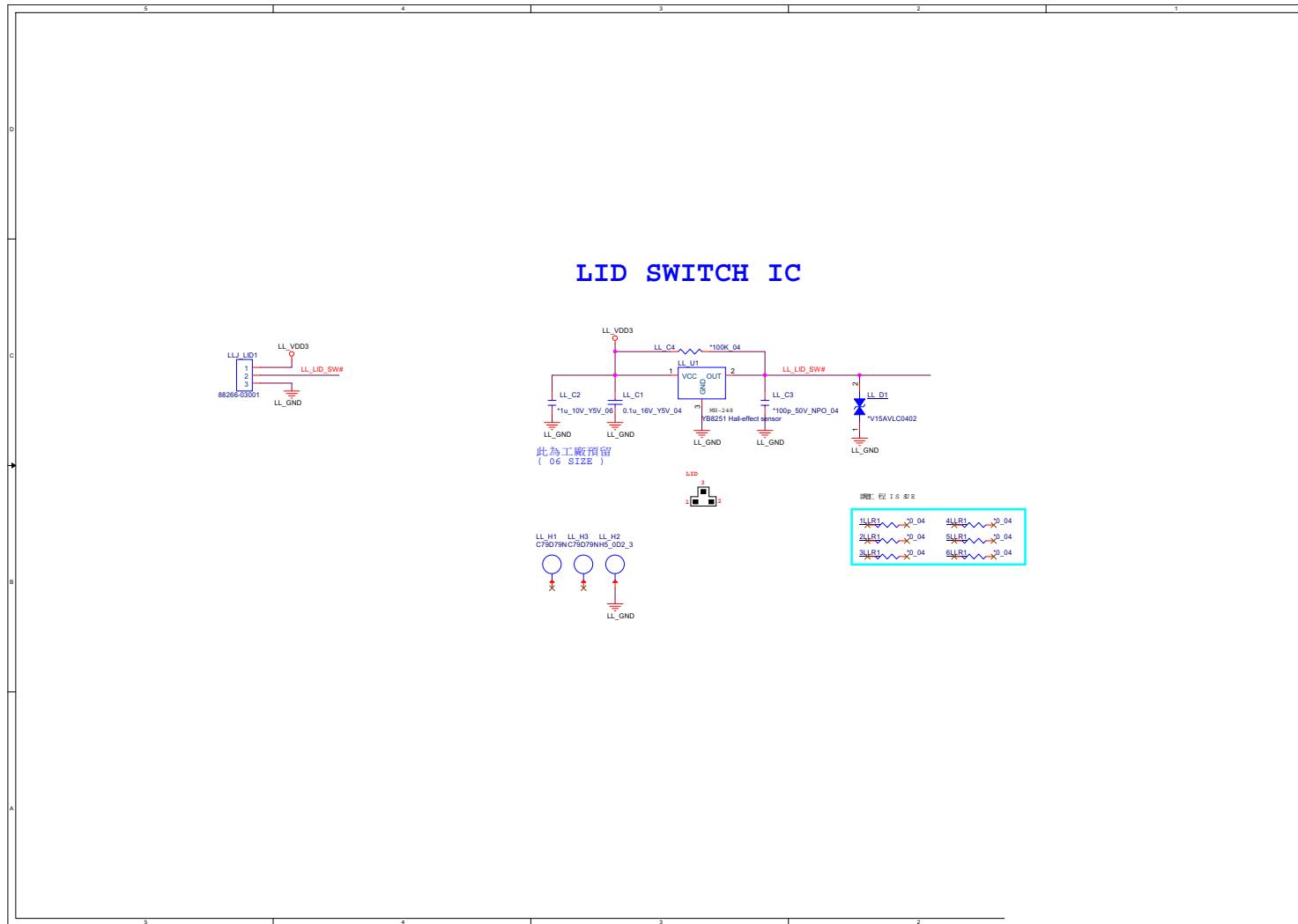


B.Schematic Diagrams  
Sheet 64  
P750DM B  
Boa

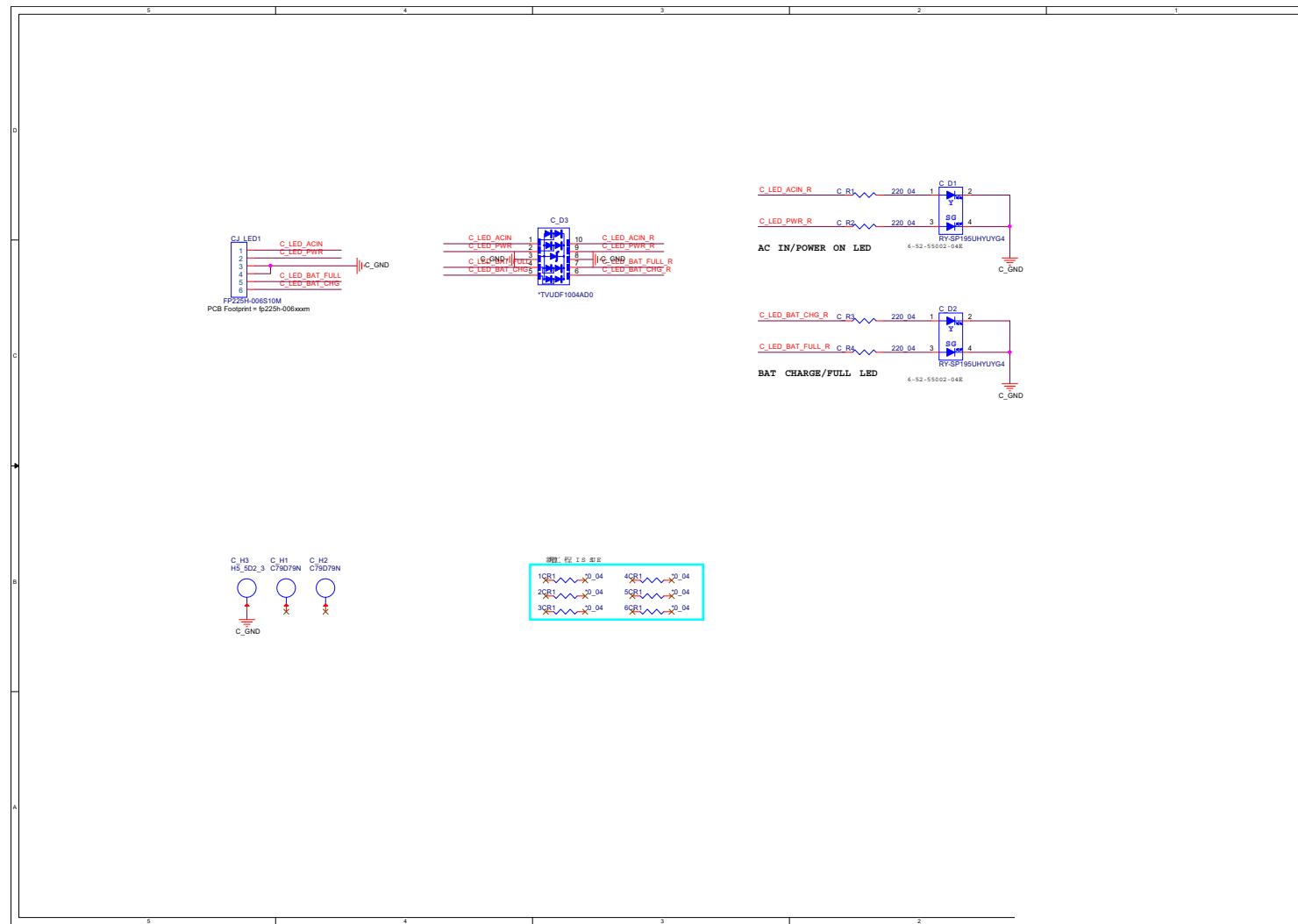
## Schematic Diagrams

### P750DM LID Switch Board

Sheet 65 of 69  
P750DM LID  
Switch Board



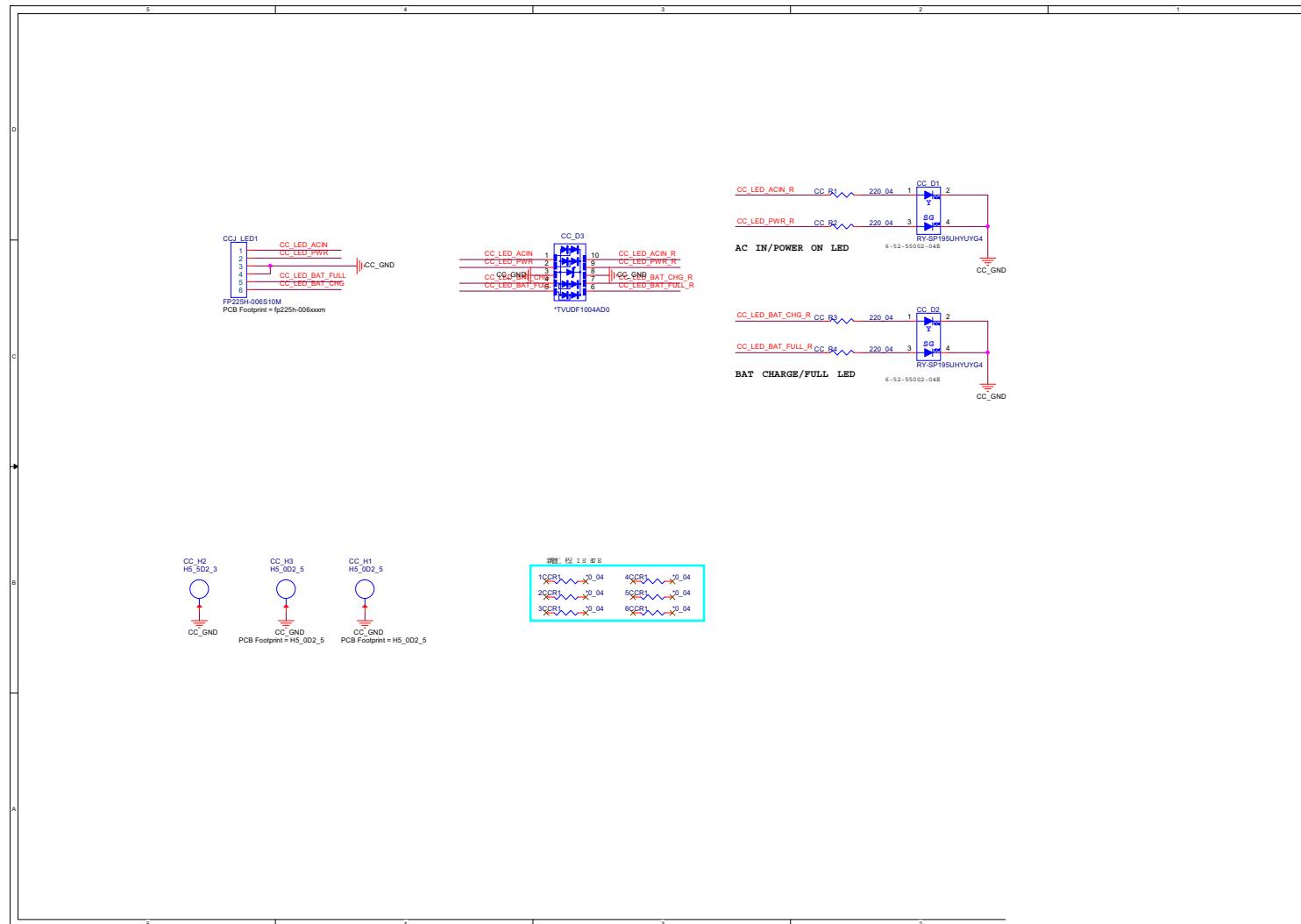
## P750DM Charge LED Board



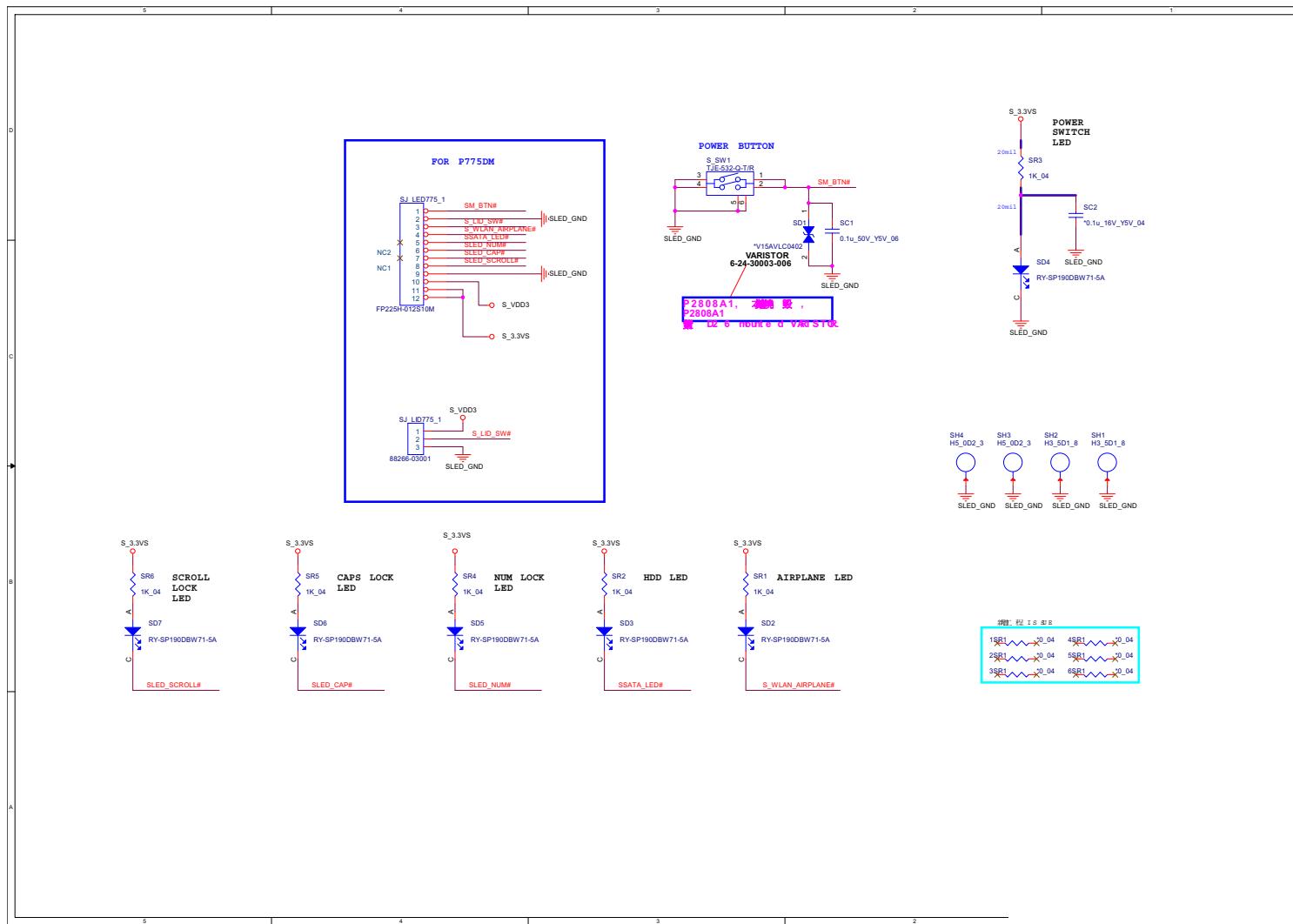
## Schematic Diagrams

### P775DM Charge LED Board

Sheet 67 of 69  
P775DM Charge  
LED Board



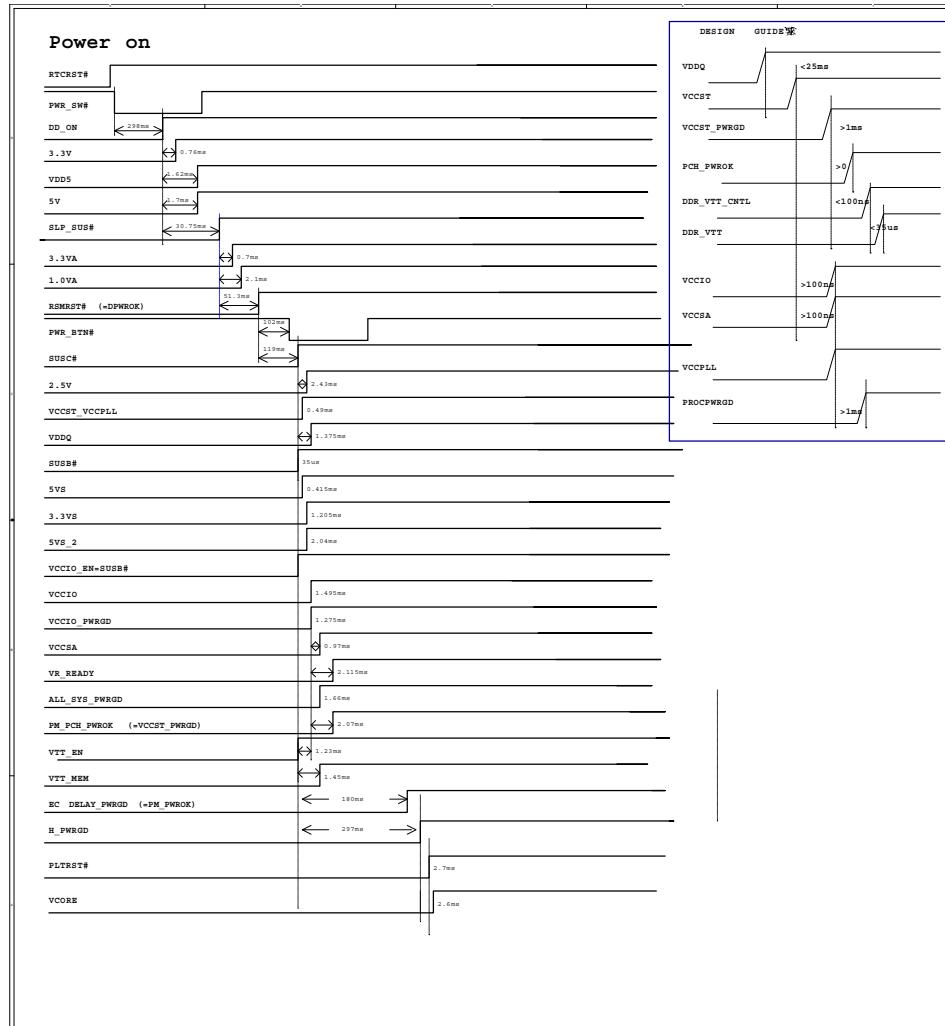
# P775DM Power LED Board



## Schematic Diagrams

### Power On Sequence

Sheet 69 of 69  
Power On Sequence



# Appendix C: Updating the FLASH ROM BIOS

## To update the FLASH ROM BIOS, you must:

- Download the BIOS update from the web site.
- Unzip the files onto a bootable CD/DVD/USB Flash Drive.
- Reboot your computer from an external CD/DVD/USB Flash Drive.
- Use the flash tools to update the flash BIOS using the commands indicated below.
- Restart the computer booting from the HDD and press **F2** at startup enter the BIOS.
- Load setup defaults from the BIOS and save the default settings and exit the BIOS to restart the computer.
- After rebooting the computer you may restart the computer again and make any required changes to the default BIOS settings.

### Download the BIOS

1. Go to [www.clevo.com.tw](http://www.clevo.com.tw) and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (see sidebar for important information on BIOS versions).

### Unzip the downloaded files to a bootable CD/DVD/ or USB Flash drive

1. Insert a bootable CD/DVD/USB flash drive into the CD/DVD drive/USB port of the computer containing the downloaded files.
2. Use a tool such as Winzip or Winrar to unzip all the BIOS files and refresh tools to your bootable CD/DVD/USB flash drive (you may need to create a bootable CD/DVD with the files using a 3rd party software).

### Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.



#### BIOS Version

Make sure you download the latest correct version of the BIOS appropriate for the computer model you are working on.

You should only download BIOS versions that are V1.0X.XX or higher as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore you may not downgrade your BIOS to an older version after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.0X.05, you MAY NOT then go back and flash the BIOS to ver 1.0X.04).

## BIOS Update

### Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**Starting MS-DOS**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by DOS. Choose “**N**” for any memory management programs.
2. You should now be at the DOS prompt e.g: DISK **C:****>** (C is the designated drive letter for the CD/DVD drive/USB flash drive).
3. **Type the following command** at the DOS prompt:

**C:**> Flash.bat****

4. The utility will then proceed to flash the BIOS.
5. You should then be prompted to press any key to restart the system or turn the power off, and then on again but make sure you remove the CD/DVD/USB flash drive from the CD/DVD drive/USB port before the computer restarts.

### Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F3**) and select “**Yes**” to confirm the selection.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

### Your computer is now running normally with the updated BIOS

You may now enter the BIOS and make any changes you require to the default settings.