

# SERVICE MANUAL

N350DW

*notebook*





**Notebook Computer**

**N350DW**

**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 *N350DW* 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 19V, 3.42A (65W) minimum AC/DC Adapter.

## CAUTION

**This Computer's Optical Device is a Laser Class 1 Product**

## FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

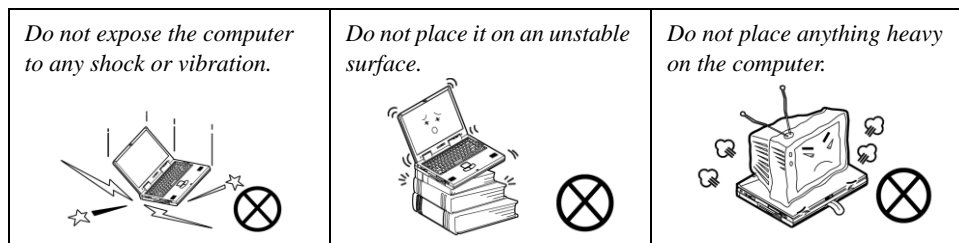
This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

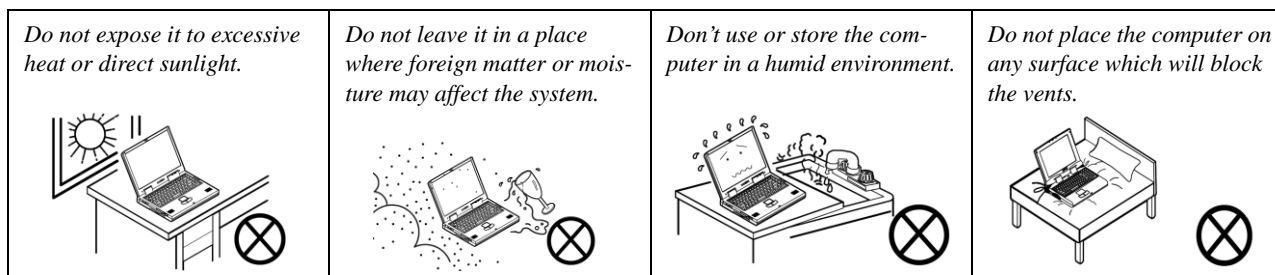
## Instructions for Care and Operation

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

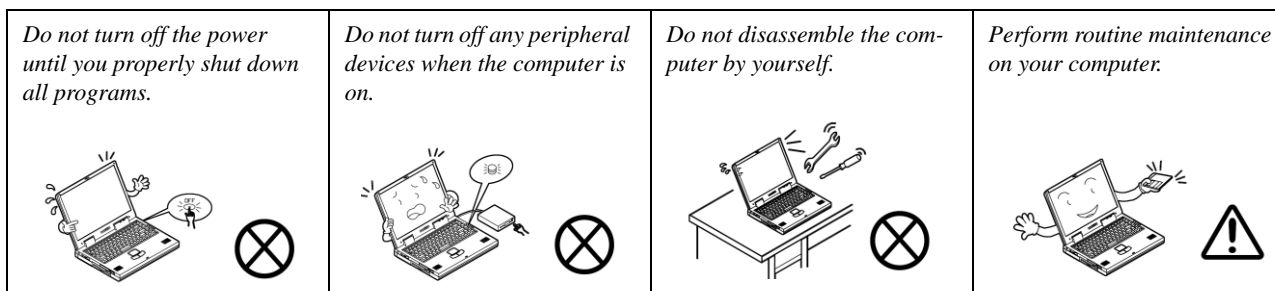
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



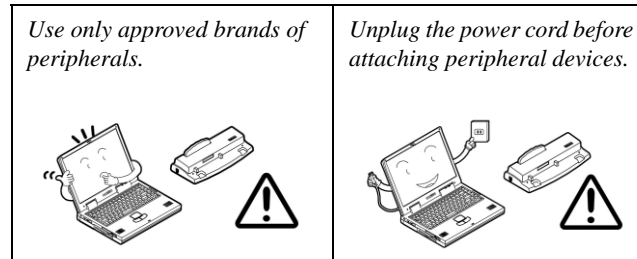
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



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.



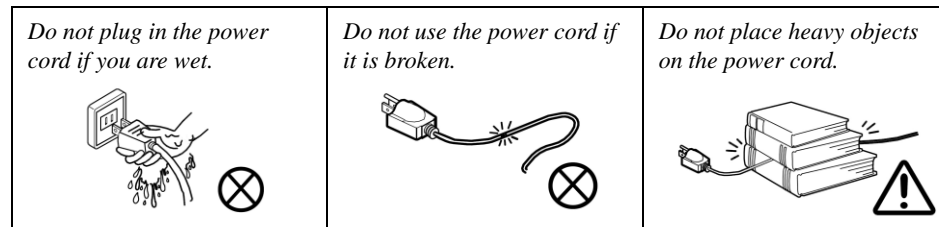
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



## 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.



### 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). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

## 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 CD/DVD

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. Attach the AC/DC adapter to the DC-In jack at the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
6. Use one hand to raise the lid/LCD to a comfortable viewing angle (**do not exceed 180 degrees - or 130 degrees if the system is docked to the docking station or has a 9 cell battery inserted**); 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/  
Computer with AC/DC  
Adapter Plugged-In



### Shut Down

Note that you should always shut your computer down by choosing the **Shut Down** command from the bottom right of the **Start** menu in **Windows**. This will help prevent hard disk or system problems.

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# Chapter 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the *N350DW* 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 the *User's Manual*. The manual is shipped with the computer.

Operating systems (e.g. *Windows 8.1*, etc.) have their own manuals as do application softwares (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The *N350DW* 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 take note of the warning and safety information indicated by the “” symbol.

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

## Introduction

# 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

The CPU is not a user serviceable part. Accessing the CPU in any way may violate your warranty.

### Processor Options

#### Intel® Core™ i7 Processor

##### i7-6700T (2.8GHz)

8MB Smart Cache, 14nm, DDR3L-1600MHz, TDP 35W

#### Intel® Core™ i5 Processor

##### i5-6600T (2.7GHz), i5-6500T (2.5GHz), i5-6400T (2.2GHz)

6MB Smart Cache, 14nm, DDR3L-1600MHz, TDP 35W

### LCD

15.6" (39.62cm), 16:9, HD (1366x768)/FHD (1920x1080)

### BIOS

AMI BIOS (128Mb SPI Flash ROM)

### Core Logic

Intel® H170 Chipset

### Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3L**

**1600MHz** Memory

Memory Expandable up to **16GB**

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

### Storage

One Changeable 2.5" 9.5mm/7.0mm (h) SATA HDD/SSD

**(Factory Option)** One Changeable 9.5mm(h) Super Multi Optical Device Drive

**(Factory Option)** One M.2 **SATA/PCIe Gen3 x4** Solid State Drive (SSD)

### Video Adapter

#### Intel Integrated GPU

#### Intel® HD Graphics 530

Dynamic Frequency

Intel Dynamic Video Memory Technology

Microsoft DirectX®12 Compatible

### Audio

High Definition Audio Compliant Interface

2 \* Built-In Speakers

Built-In Array Microphone

### Security

BIOS Password

Security (Kensington® Type) Lock Slot

Fingerprint Reader

TPM v 2.0

### Keyboard

Full-size "WinKey" keyboard (with numeric keypad)

**(Factory Option)** Full-size "WinKey" **Illuminated White-LED** Keyboard (with numeric keypad)

### Pointing Device

Built-in Touchpad (scrolling key functionality integrated)

### Interface

Three USB 3.0 Ports (Including one AC/DC Powered USB port)

One USB 2.0 Port

One HDMI-Out Port

One Headphone and S/PDIF Out Combo Jack

One Microphone-In Jack

One RJ-45 LAN Jack

One External Monitor Port

One Docking Port

One DC-in Jack

### Communication

Built-In Gigabit Ethernet LAN  
1.0M HD PC Camera Module  
(Factory Option) 3G or 4G M.2 Module

#### WLAN/ Bluetooth M.2 Modules:

(Factory Option) Intel® Wireless-AC 8260 Wireless LAN (802.11ac) + Bluetooth 4.1  
(Factory Option) Intel® Wireless-AC 3165 Wireless LAN (802.11ac) + Bluetooth 4.0  
(Factory Option) Intel® Wireless-N 7265 Wireless LAN (802.11b/g/n) + Bluetooth 4.0

### Slots

One ExpressCard/34(54) Slot  
(Factory Option) One Smart Card Reader Slot

#### M.2 Slots

Slot 1 for WLAN and Bluetooth Combo Module  
Slot 2 for SATA/PCIe Gen3 x4 SSD  
(Factory Option) Slot 3 for 3G/4G Module

### Card Reader

Embedded Multi-in-1 Push-Push Card Reader  
MMC (MultiMedia Card) / RS MMC  
SD (Secure Digital) / Mini SD / SDHC/ SDXC

### Environmental Spec

#### Temperature

Operating: 5°C - 35°C  
Non-Operating: -20°C - 60°C

#### Relative Humidity

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

### Power

Full Range AC/DC Adapter  
AC Input: 100 - 240V, 50 - 60Hz  
DC Output: 19V, 3.42A (65W)

Removable 6 Cell Smart Lithium-Ion Battery Pack, 62WH  
(Factory Option) Removable 9 Cell Smart Lithium-Ion Battery Pack, 93WH

### Dimensions & Weight

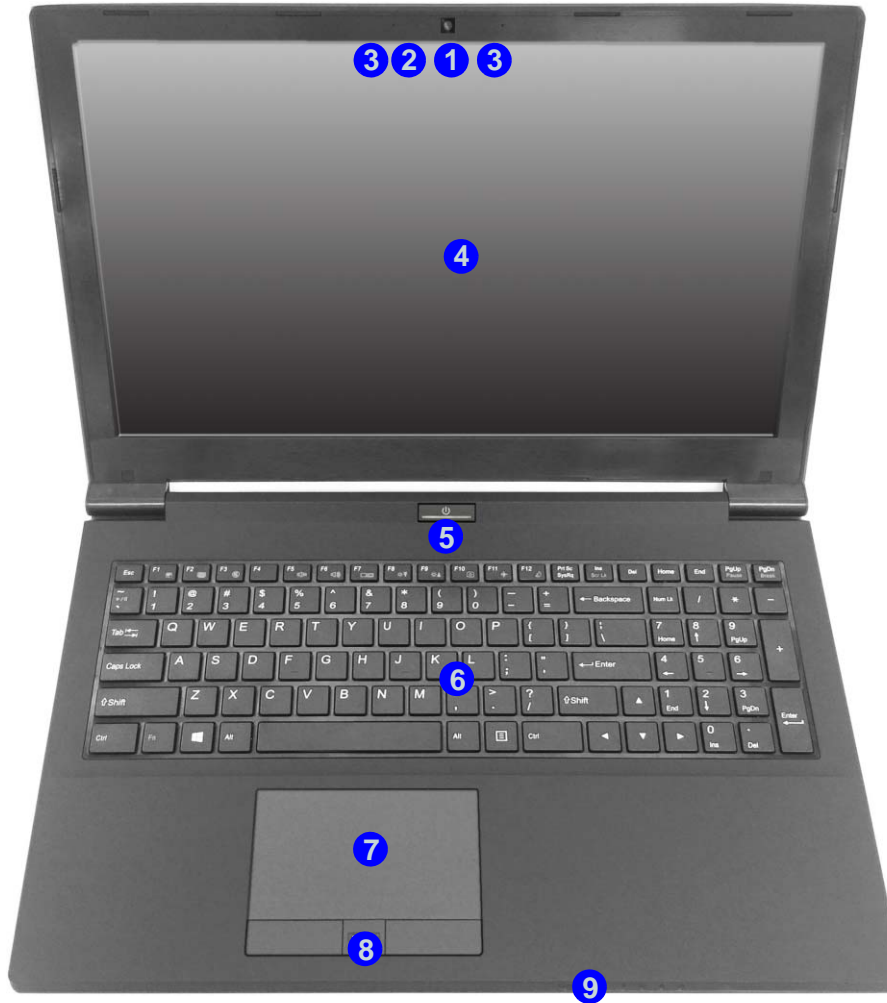
382mm (w) \* 259.5mm (d) \* 32.95mm (h)  
2.5kg (Barebone with 62WH Battery)

## Introduction

# External Locator - Top View with LCD Panel Open

Figure 1  
Top View

1. PC Camera  
(Optional)
2. \*PC Camera LED  
*\*When the PC camera is in use, the LED will be illuminated in red.*
3. Built-In Array Microphone
4. LCD
5. Power Button
6. Keyboard
7. Touchpad & Buttons
8. Fingerprint Reader
9. LED Indicators



## External Locator - Front & Right Side Views

FRONT VIEW



*Figure 2*  
**Front View**

1. LED Indicator

RIGHT SIDE VIEW



*Figure 3*  
**Right Side View**

1. USB 2.0 Port
2. Microphone-In Jack
3. Headphone and S/PDIF Out Combo Jack
4. Optical Device Drive Bay
5. Emergency Eject Hole
6. Smart Card Reader (Optional)
7. Security Lock Slot

## Introduction

### External Locator - Left Side & Rear View

*Figure 4*  
**Left Side View**

1. DC-In Jack
2. External Monitor Port
3. RJ-45 LAN Jack
4. Powered USB 3.0 Port
5. 2 \* USB 3.0 Ports
6. Vent
7. HDMI-Out Port
8. ExpressCard/ 54(34) Slot
9. Multi-in-1 Card Reader

LEFT SIDE VIEW



*Figure 5*  
**Rear View**

1. Battery

REAR VIEW



## External Locator - Bottom View

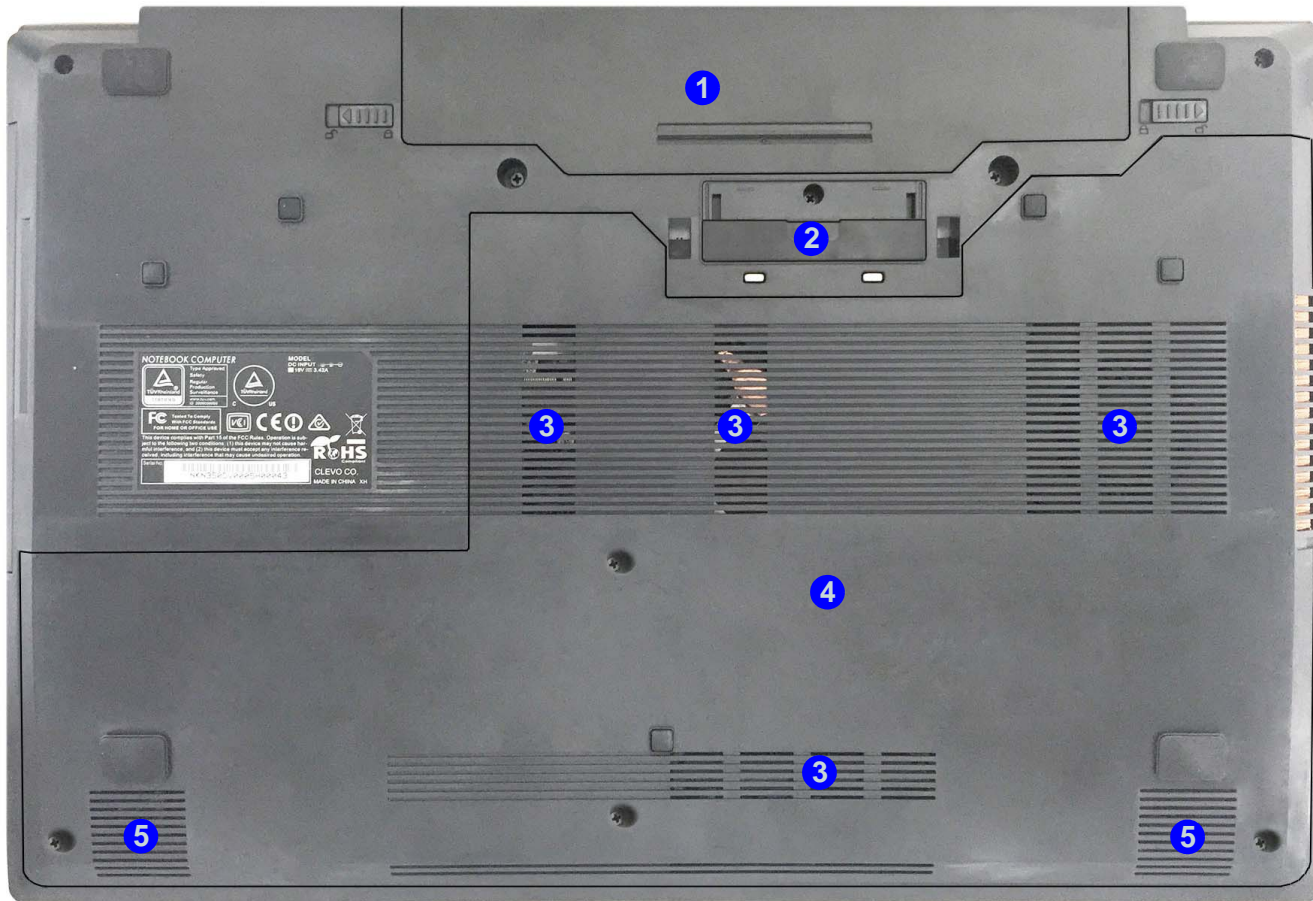


Figure 6  
Bottom View

1. Battery
2. Docking Port
3. Vent
4. Component Bay Cover
5. Speakers



### Overheating

To prevent your computer from overheating, make sure nothing blocks any vent while the computer is in use.

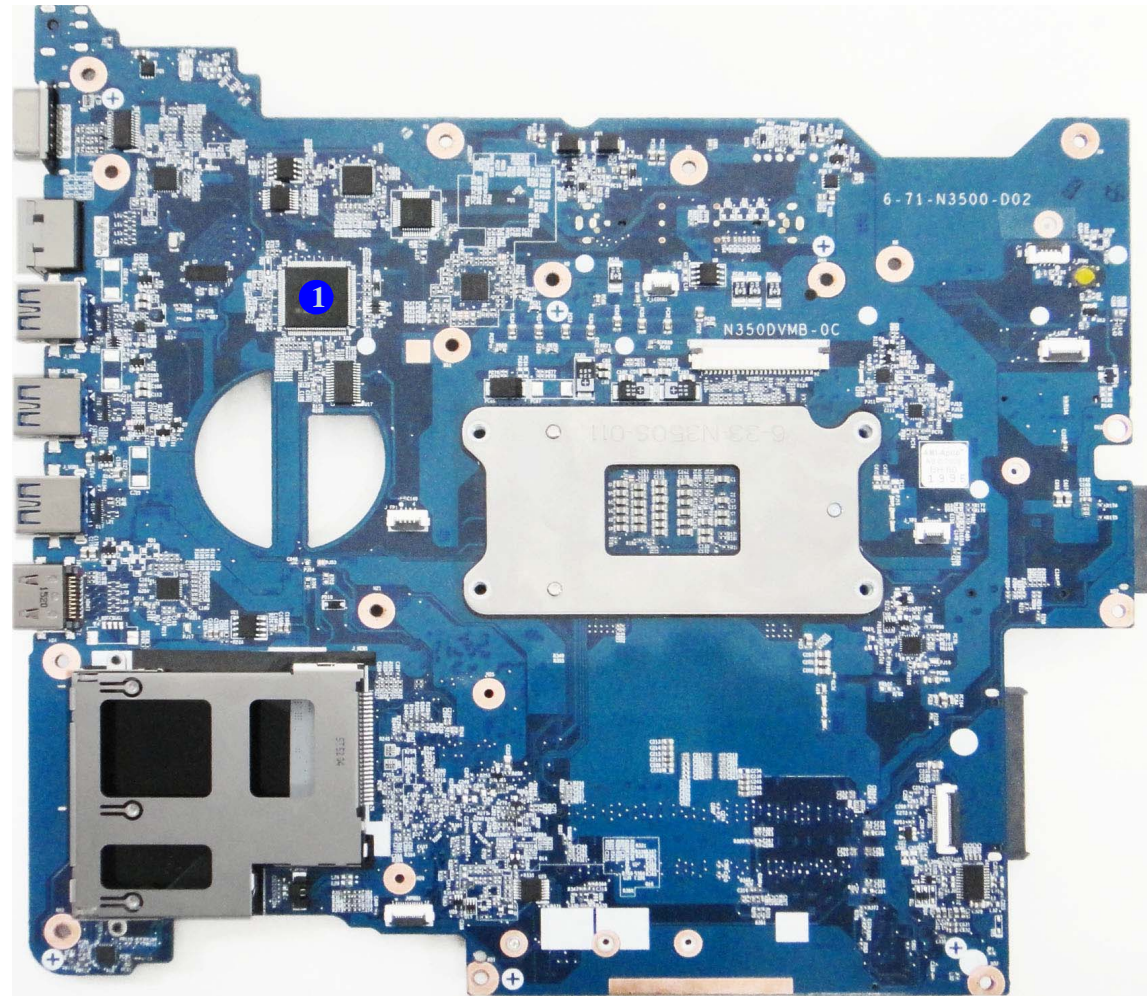


## Introduction

*Figure 7*  
Mainboard Top  
Key Parts

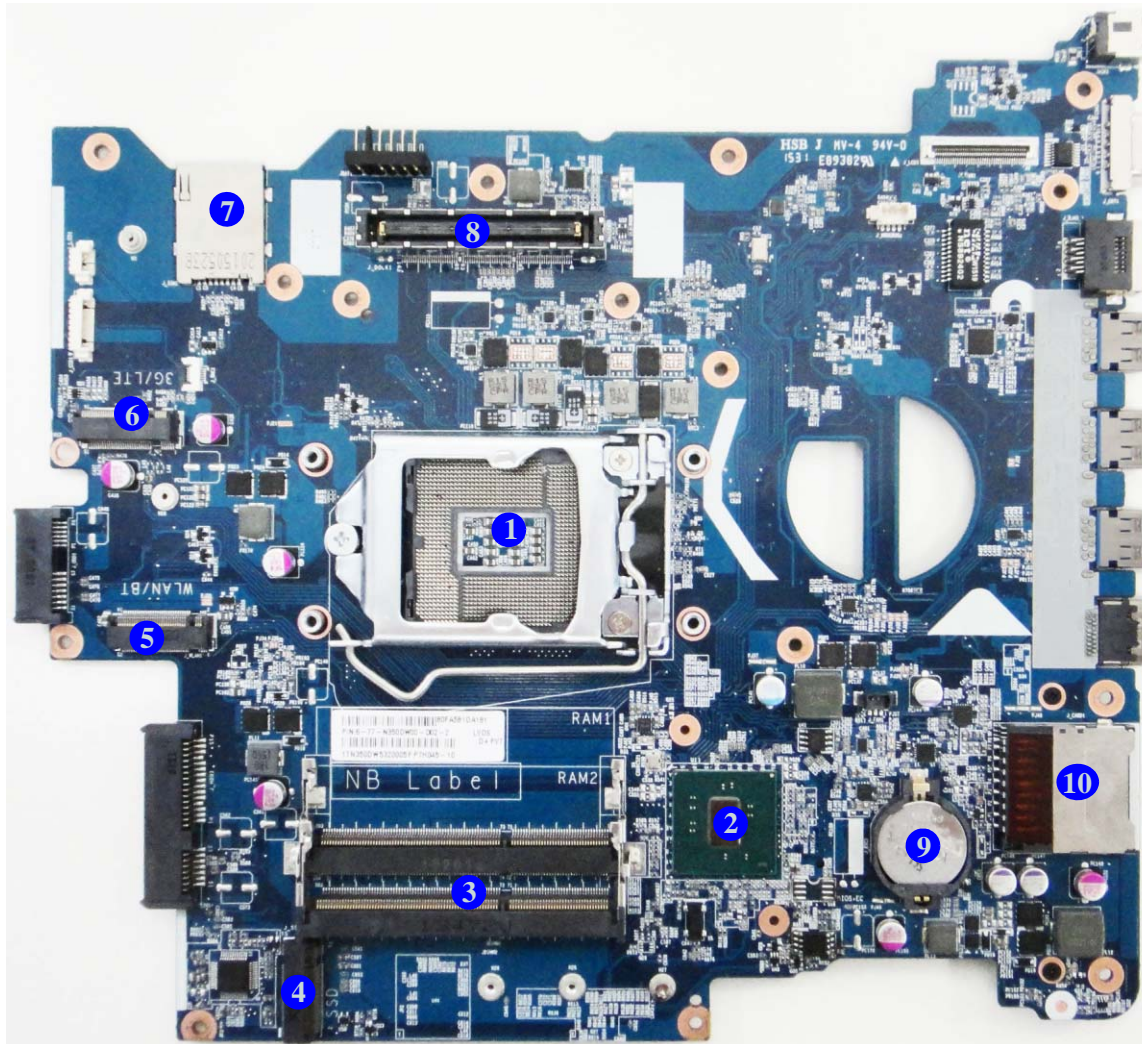
1. KBC ITE IT8587

## Mainboard Overview - Top (Key Parts)





## Mainboard Overview - Bottom (Key Parts)



*Figure 8*  
**Mainboard Bottom  
Key Parts**

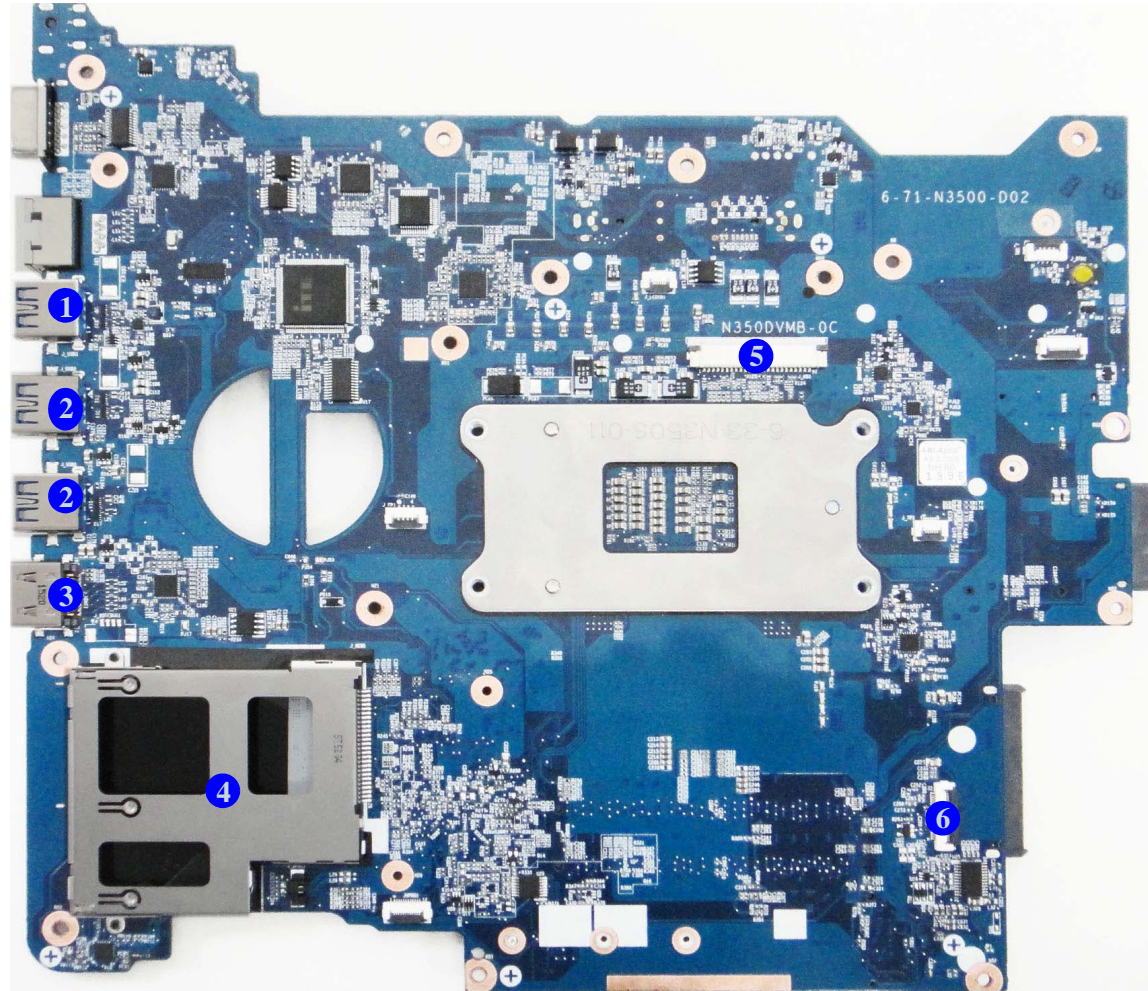
1. CPU Socket (no CPU installed)
2. Platform Controller Hub
3. Memory Slots DDR3 SO-DIMM
4. Mini-Card Connector (SSD Module)
5. Mini-Card Connector (WLAN/ BT Module)
6. Mini-Card Connector (3G/ LTE Module)
7. SIM LOCK
8. Docking Station Connector
9. CMOS Battery
10. Multi-in-1 Card Reader

## Introduction

*Figure 9*  
**Mainboard Top  
Connectors**

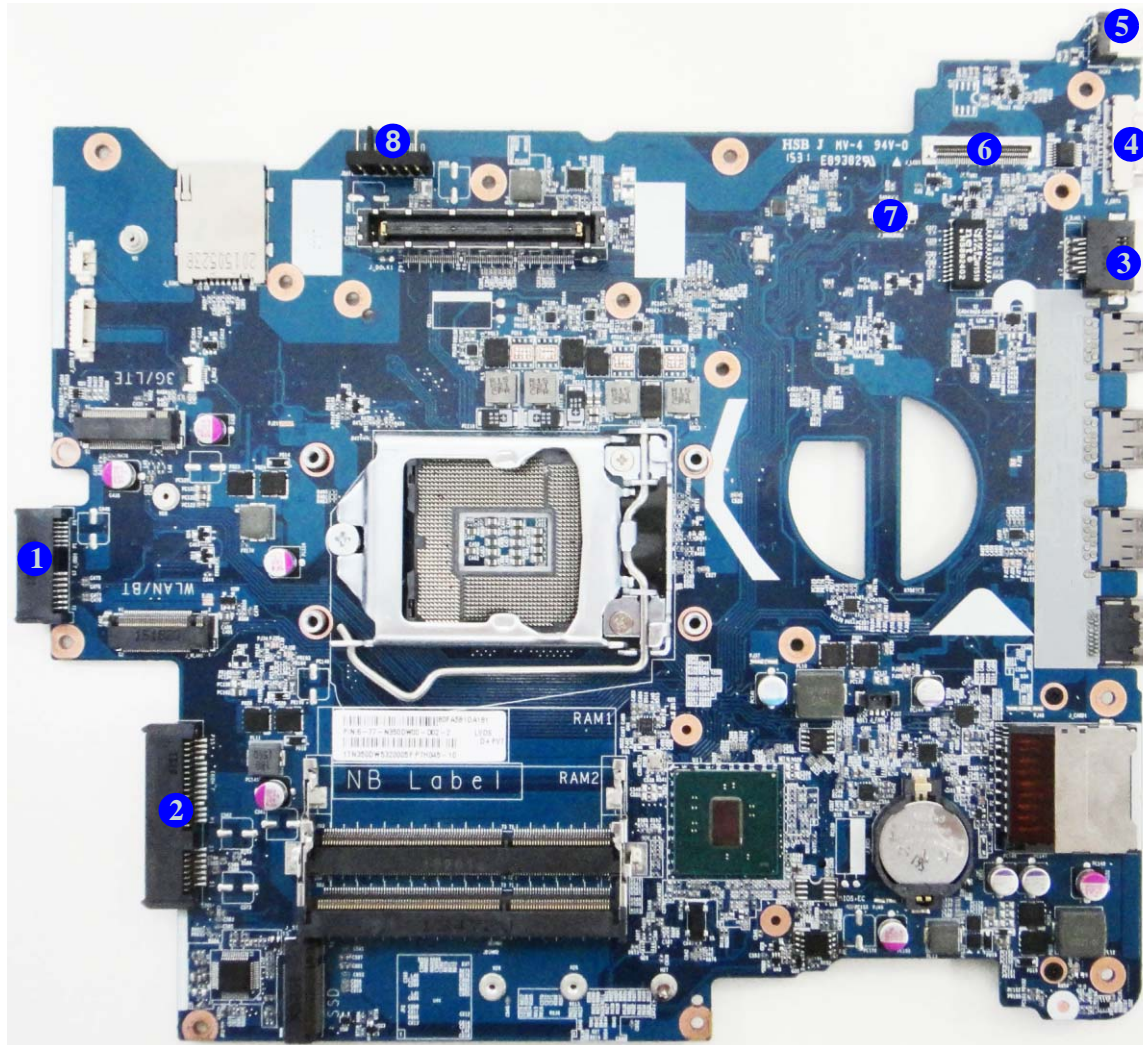
1. Powered USB 3.0 Port
2. USB Ports 3.0
3. HDMI-Out Port
4. ExpressCard Slot
5. Keyboard Cable Connector
6. Audio Board Connector

## Mainboard Overview - Top (Connectors)





## Mainboard Overview - Bottom (Connectors)



*Figure 10*  
**Mainboard Bottom  
Connectors**

1. ODD Connector
2. HDD Cable Connector
3. RJ-45 LAN Jack
4. External Monitor Port
5. DC-In Jack
6. LCD Cable Connector
7. Fan Cable Connector
8. Battery Connector




# Chapter 2: Disassembly

## Overview

This chapter provides step-by-step instructions for disassembling the *N350DW* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

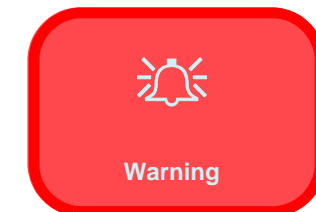
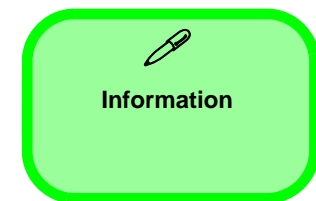
We suggest you completely review any procedure before you take the computer apart.

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-borne 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.



### 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). 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 System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 9*

#### To remove and install a Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 11*
3. Install the processor *page 2 - 13*

#### To remove the 3G Module:

1. Remove the battery *page 2 - 5*
2. Remove the 3G module *page 2 - 14*

#### To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the WLAN module *page 2 - 15*

#### To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the ODD *page 2 - 17*

#### To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 18*

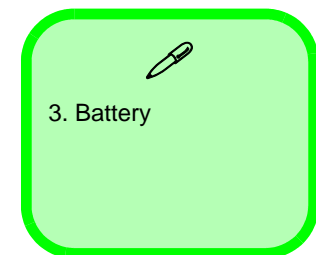
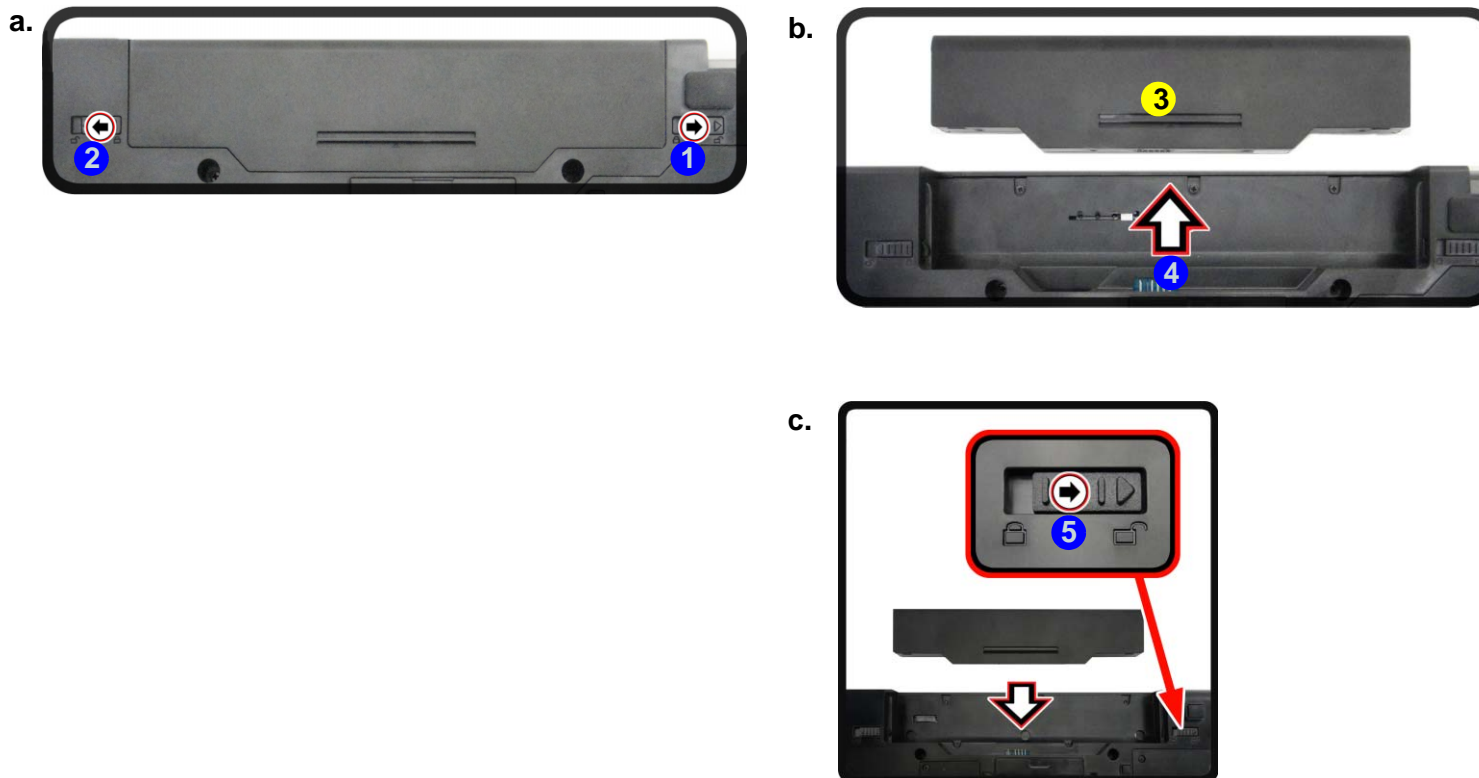


## Removing the Battery

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. Slide the battery **3** in the direction of the arrow **4** (*Figure 1b*).
5. Make sure the latch **5** is in the unlock position, and slide the battery into the bay until it locks into position. Make sure both locks are locked after the battery is in the bay.

*Figure 1*  
**Battery Removal**

- a. Slide the latch and hold it in place.
- b. Slide the battery out.
- c. Slide the battery in.



## Disassembly

*Figure 2*  
HDD Assembly  
Removal

- Remove the screws.
- Remove the hard disk bay cover.

## Removing and Installing the Hard Disk Drive

### Hdd Removal Procedure

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 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 Upgrade Process

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- Remove the screws **1** - **4**.
- Slide the hard disk bay cover **5** until the cover and case indicator **6** are aligned and remove it ([Figure 5b](#)).



#### HDD System Warning

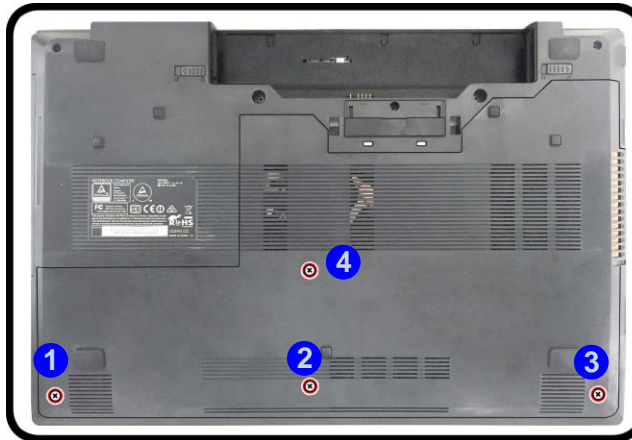
New HDD's are blank. Before you begin make sure:

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

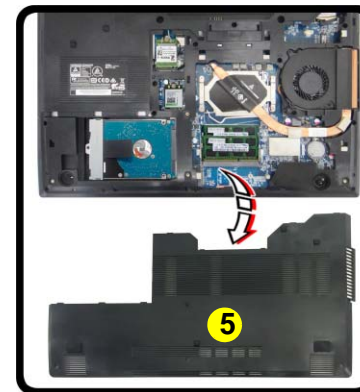
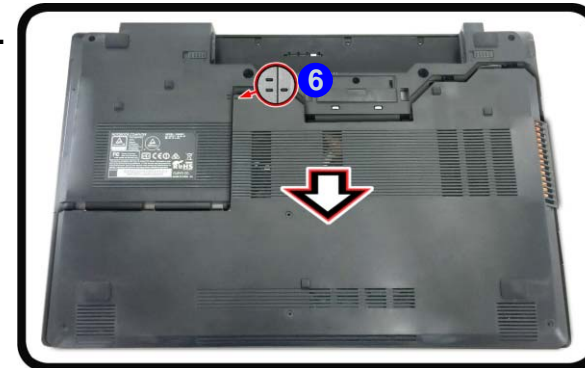
You have all the CD-ROMs and FDDs required to install your operating system and programs.

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.

a.



b.



5. Hard Disk Bay Cover

- 4 Screws

4. Remove the screw 6 from the hard disk assembly (Figure 3d).
5. Slightly lift and pull the hard disk assembly in the direction of arrow 7 (Figure 3b).
6. Lift the hard disk assembly 8 out of the bay 9 (Figure 3c).
7. Remove the screws 10 - 11 and the bracket 12 from the hard disk 13 (Figure 3d).
8. Reverse the process to install a new hard disk (do not forget to replace all the screws and bottom cover).

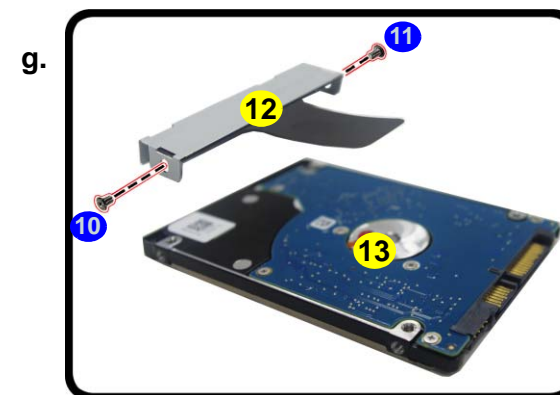
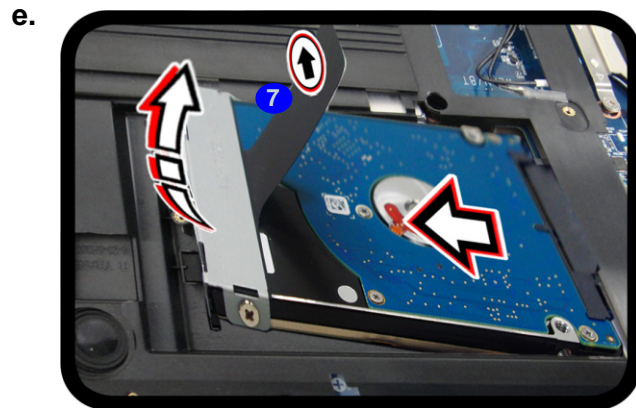
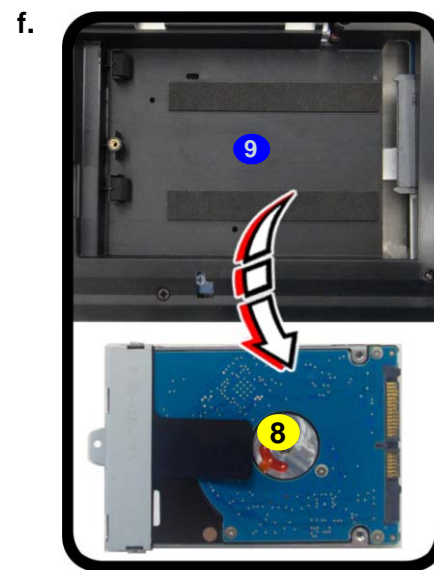
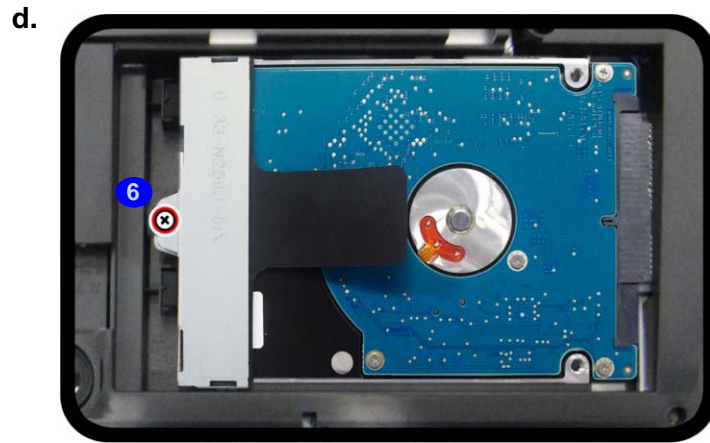



Figure 3  
HDD Assembly  
Removal (cont'd.)

- d. Remove the screw.
- b. Slightly lift and pull the HDD assembly in the direction of the arrow.
- c. Lift the HDD assembly out of the bay.
- d. Remove the screws and HDD bracket.



8. HDD Assembly  
12. HDD Bracket  
13. HDD

- 3 Screws

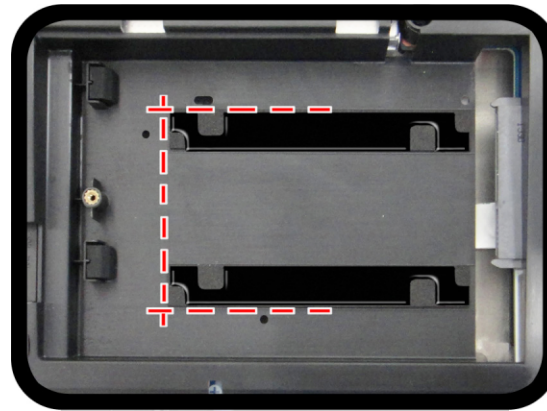
## Disassembly

---

### 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.

## Removing the System Memory (RAM)

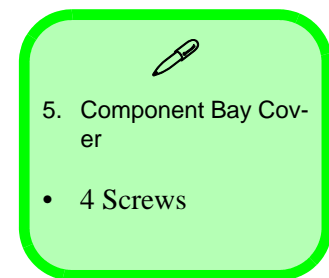
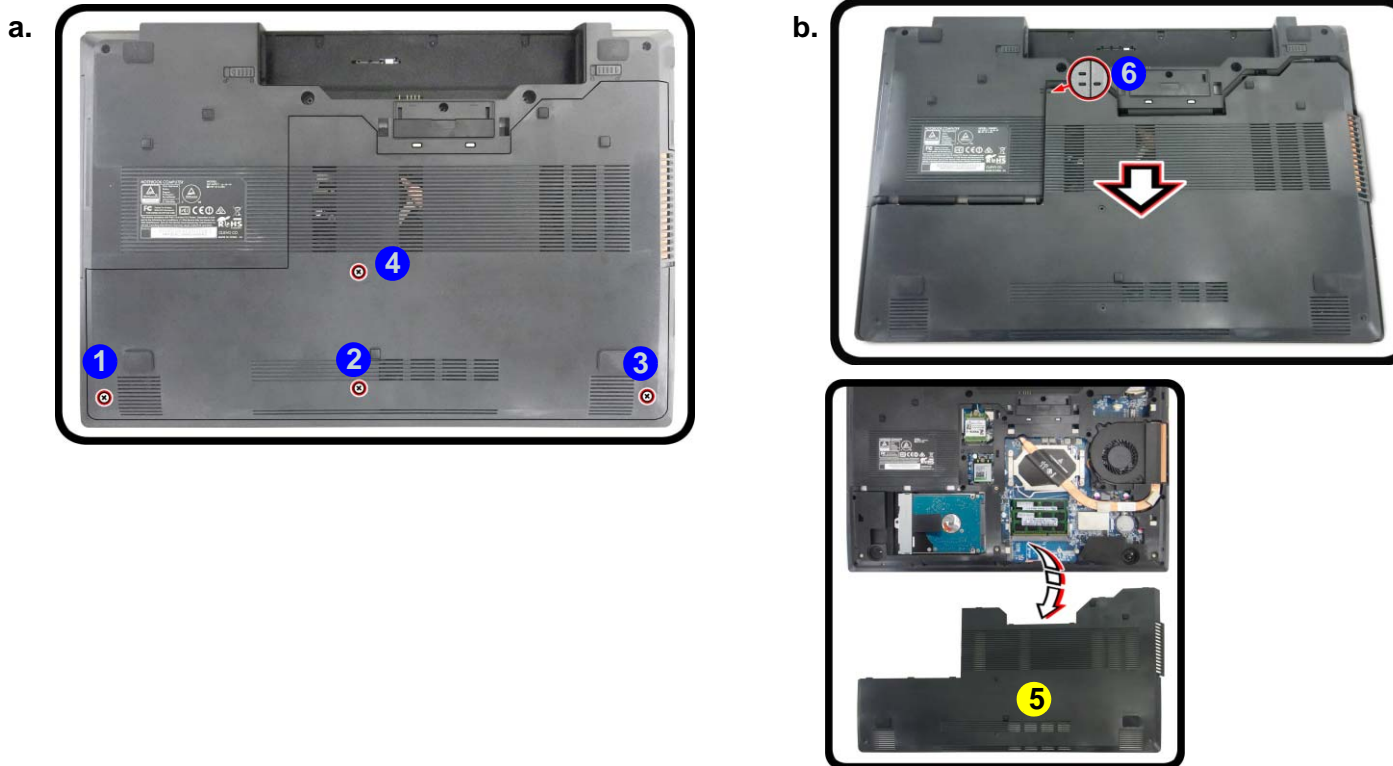
The computer has two memory sockets for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR3L Up to 1600 MHz. The main memory can be expanded up to 16GB. The total memory size is automatically detected by the POST routine once you turn on your computer.

### Memory Upgrade Process

1. Turn **off** the computer, turn it over to remove the battery ([page 2 - 5](#)).
2. Locate the component bay cover and remove screws **1** - **4**.
3. Slide the component bay cover **5** until the cover and case indicator **6** are aligned and remove it ([Figure 5b](#)).

*Figure 5*  
**RAM Module Removal**

- a. Remove the screws.
- b. Remove the cover.





## Disassembly

### Figure 6 RAM Module Removal (cont'd)

- c. The RAM modules will be visible.
- d. Pull the release latches.
- e. Remove the module.

4. The RAM modules will be visible at point **7** on the mainboard.
5. Gently pull the two release latches (**8** & **9**) on the sides of the memory socket in the direction indicated by the arrows (**Figure 6d**).
6. The RAM module **10** will pop-up (**Figure 6e**), and you can then remove it.
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 will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. **DO NOT FORCE IT**; 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 component bay cover (see [page 2 - 6](#)).
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.



#### 10. RAM Modules

c.



d.



e.



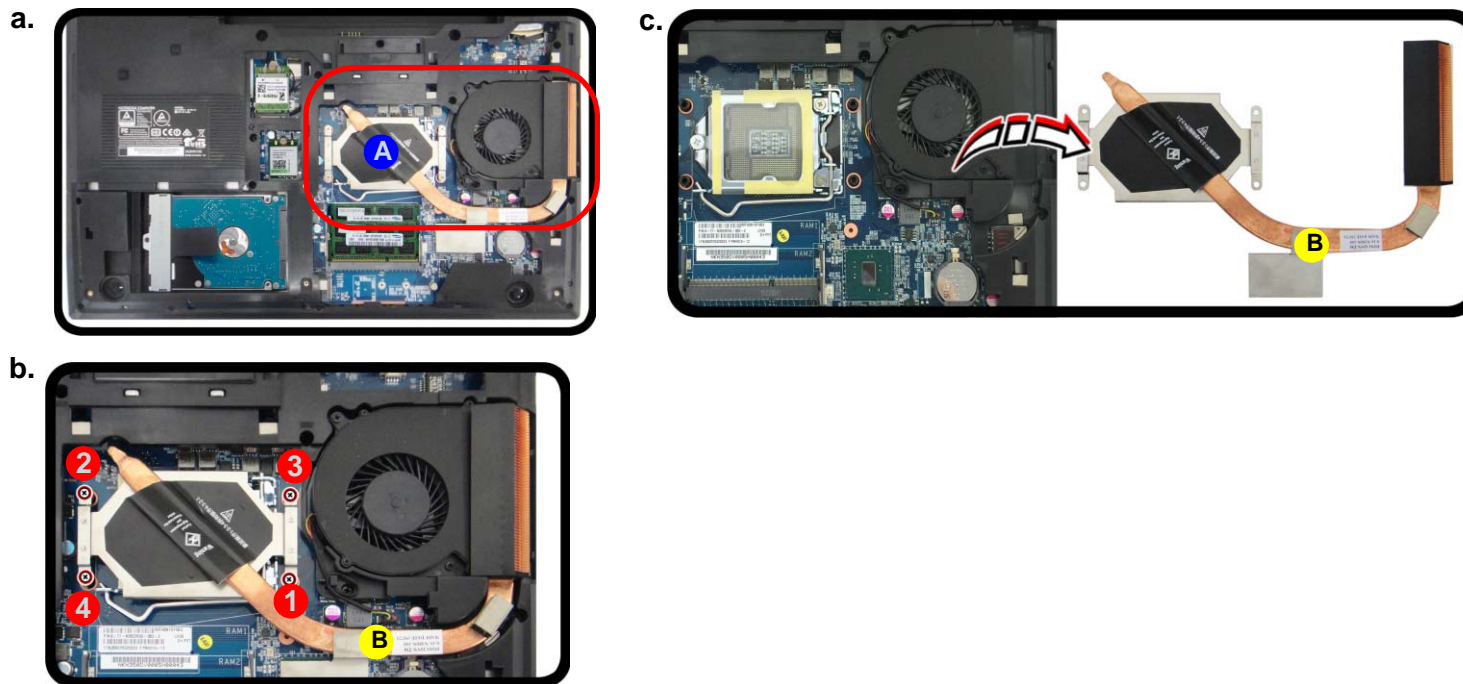
# Removing and Installing a Processor


## Processor Removal Procedure

1. Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)), component bay cover ([page 2 - 6](#)) and RAM ([page 2 - 9](#)).
2. The CPU heat sink will be visible at point **A** ([Figure 7a](#)).
3. 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 7b](#)).
4. Carefully (it may be hot) remove the heat sink unit **B** ([Figure 7c](#)).

*Figure 7*  
**Processor Removal**

- a. The CPU heat sink will be visible at point **A**.
- b. Remove the screws from the CPU heatsink.
- c. Carefully lift the heat sink up and off the computer.





B. Heat Sink

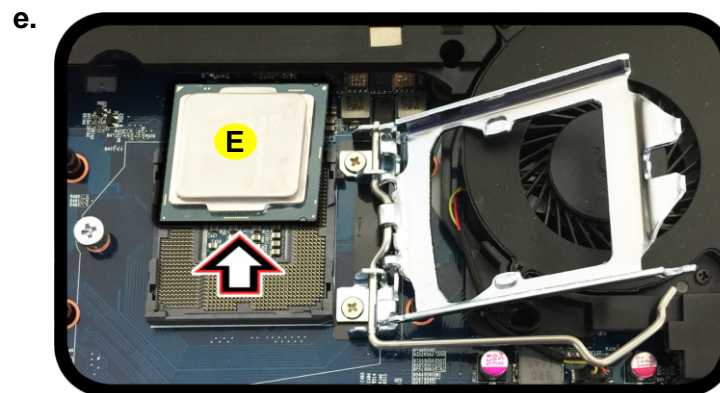
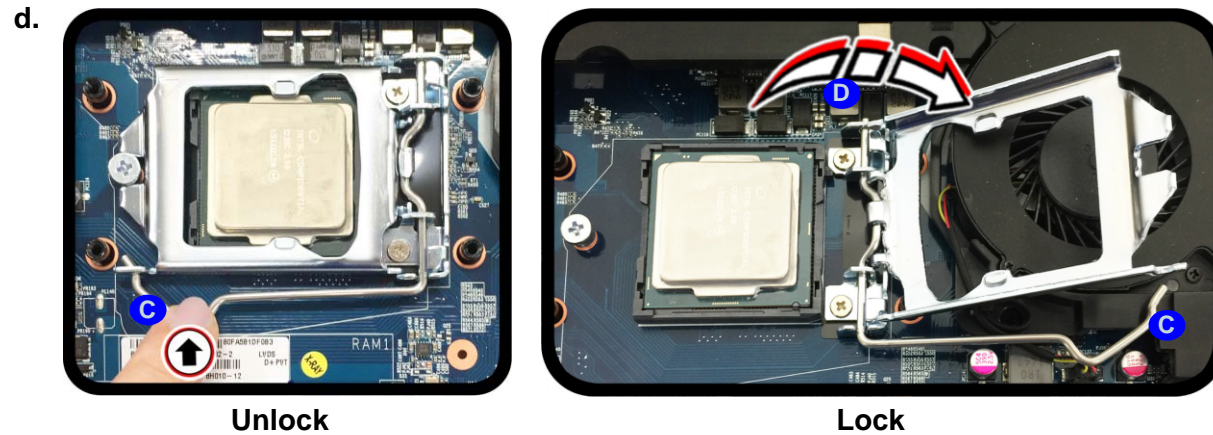
- 4 Screws

## Disassembly

### Figure 8 Processor Removal (cont'd)

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

5. Press down and hold the latch **C** (with the latch held down you will be able to release it).
6. Move the latch **C** and bracket **D** fully in the direction indicated to unlock the CPU (**Figure 8c**).
7. Carefully (it may be hot) lift the CPU **E** up and out of the socket (**Figure 8e**).
8. See [page 2 - 13](#) for information on inserting a new CPU.
9. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).



#### 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.

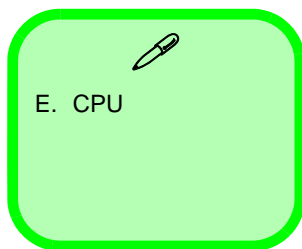


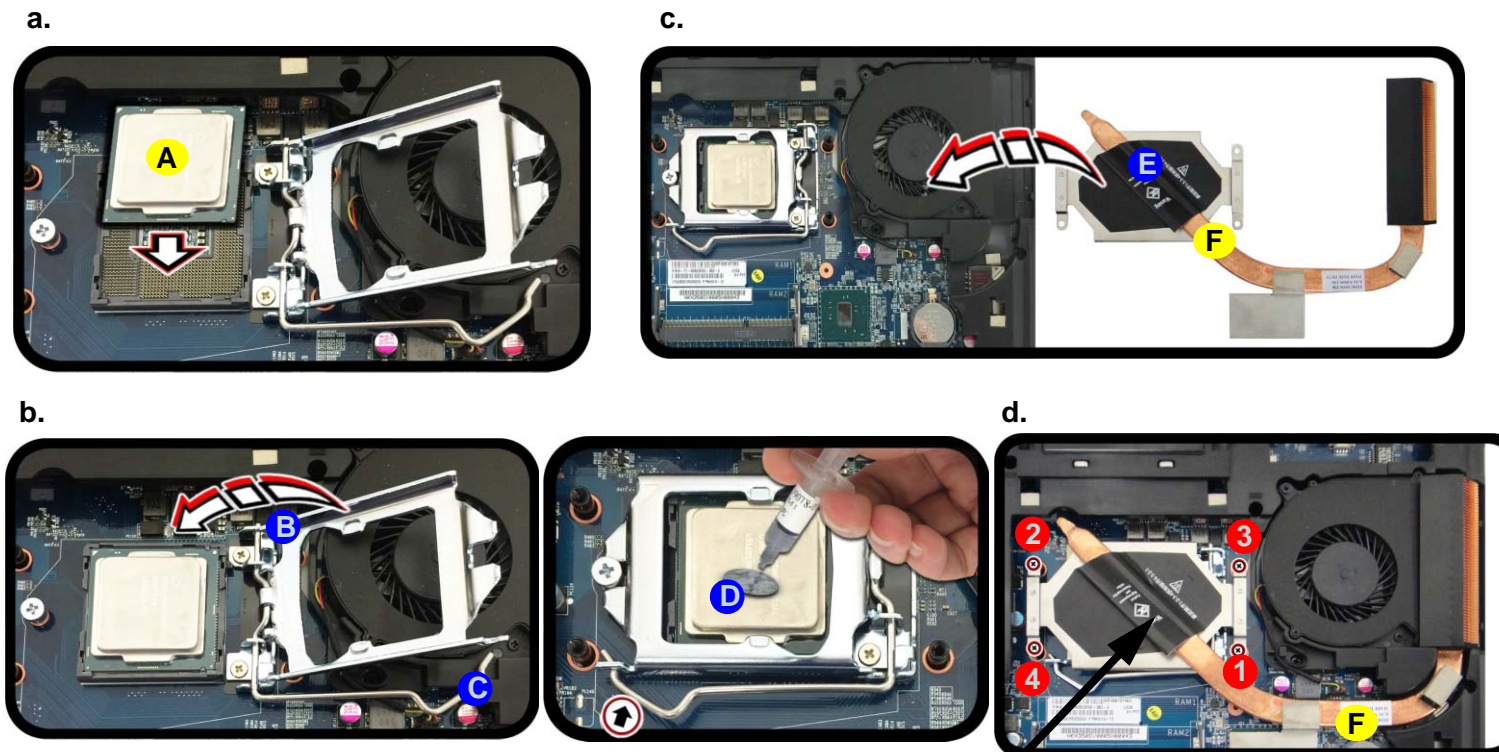


Figure 9  
Processor  
Installation

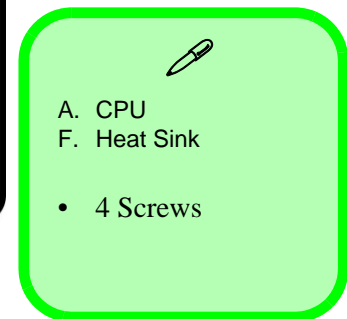
- a. Insert the CPU.
- b. Move the latch and bracket fully in the direction indicated to lock the CPU. Apply thermal grease.
- c. Remove the sticker from the heat sink unit and insert the heat sink.
- d. Tighten the screws.

### Processor Installation Procedure

1. Insert the CPU **A** (Figure 9a), pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!) (Figure 9a).
2. Move the bracket **B** and latch **C** fully in the direction indicated to lock the CPU.
3. Apply the thermal grease **D** to the top of the CPU as shown (Figure 9b).
4. **Remove the sticker E** (Figure 9c) from the heat sink unit (if it is a new unit).
5. Insert the heat sink unit **F** as indicated in Figure 9c.
6. Tighten the CPU heat sink screws in the order **1** - **4** (the order as indicated on the label and Figure 9d).
7. Replace the component bay cover and tighten the screws.



**Note:**  
Tighten the screws in the order as indicated on the label.

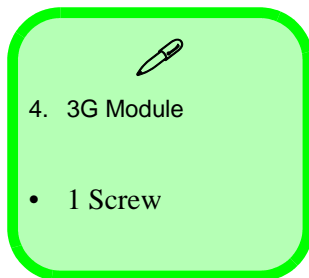


## Disassembly

*Figure 10*  
**3G Module Removal**

- Disconnect the cables and remove the screw.
- The module will pop-up.
- Remove the 3G module.

Note: Make sure you reconnect the antenna cable to socket.



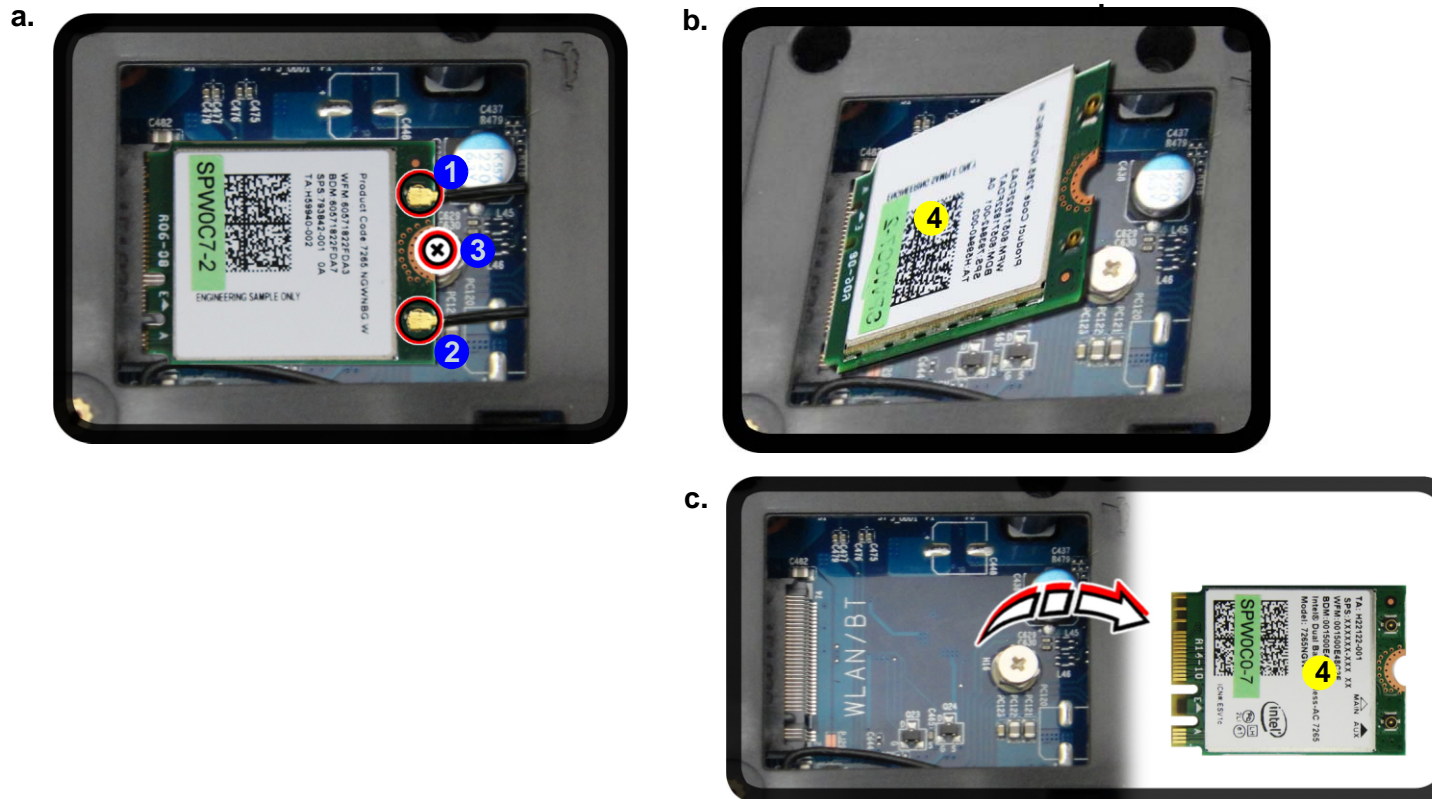
## Removing the 3G Module

- Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 9](#)).
- Carefully disconnect the cables **1** & **2**, and then remove the screw **3** ([Figure 10a](#)).
- The 3G module **4** will pop-up, and you can remove it from the computer ([Figure 10b](#)).




## Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 9](#)).
2. Carefully disconnect the cables **1** - **2**, and then remove the screw **3** ([Figure 11a](#)).
3. The Wireless LAN module **4** ([Figure 11b](#)) will pop-up, and you can remove it from the computer.



- a. Disconnect the cables and remove the screw.
- b. The WLAN module will pop up.
- c. Remove the WLAN module.

Note: Make sure you reconnect the antenna cable to the “1 + 2” socket ([Figure 11b](#)).



4. Wireless LAN Module

- 1 Screw

## Wireless LAN, Combo, 3G & LTE 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	Gray	
	WM 3	White	
LTE Broadband	LTE 1	Black	Black
	LTE 2	Gray	
3G Broadband	3G 1	Black	Black
	3G 2	Gray	

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

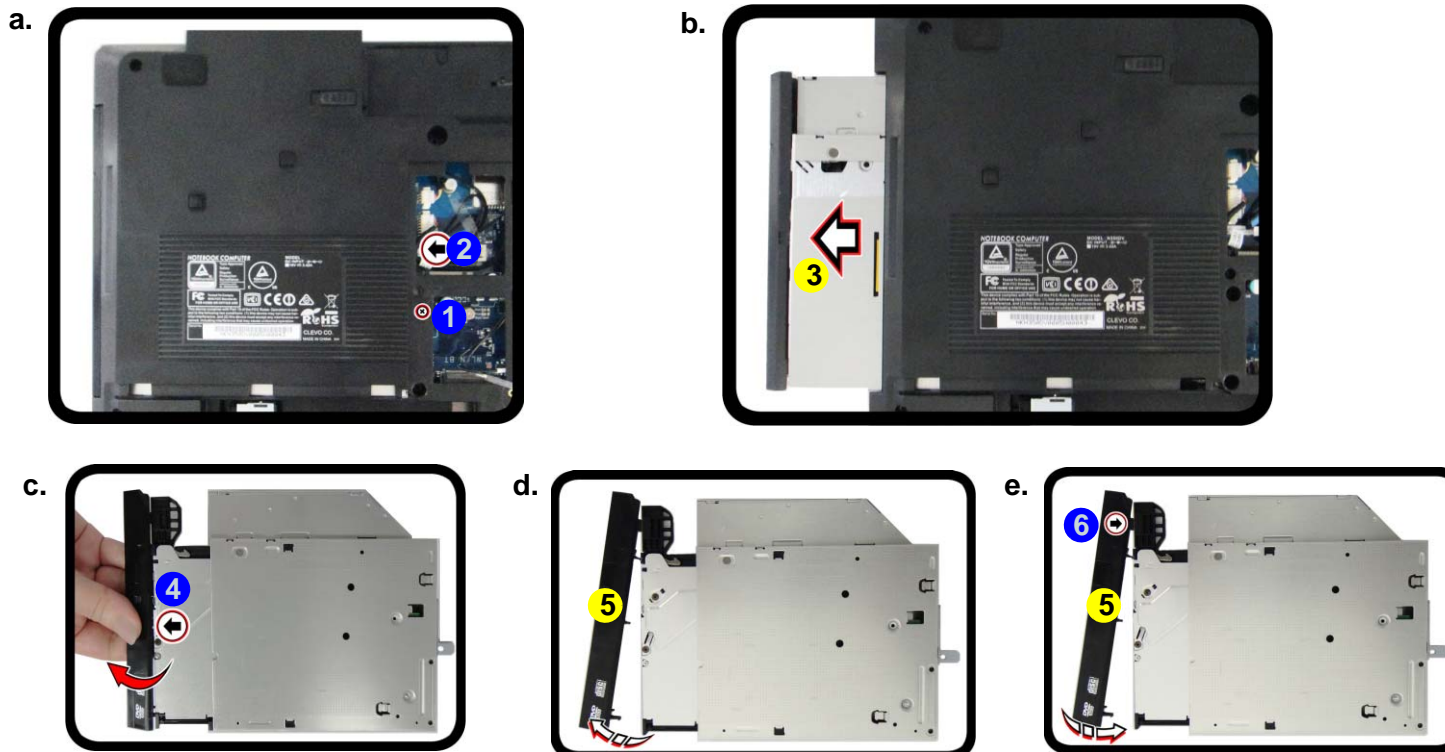



## Removing the Optical Device

1. Turn **off** the computer, turn it over, and remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 9](#)).
2. Remove the screw at point **1**, and use a screwdriver to carefully push out the optical device **3** at point **2**.
3. Carefully pry the bezel **5** off the optical device at point **4** ([Figure 12c](#)).
4. Separate the bezel **5** and the optical device as shown ([Figure 12d](#)).
5. Reverse the process to attach the front bezel **5** with the new optical device at point **6** ([Figure 12e](#)).
6. Insert the new device and carefully slide it into the computer (the device only fits one way. **DO NOT FORCE IT**; The screw holes should line up). Replace the bottom cover and tighten the screws.
7. Restart the computer to allow it to automatically detect the new device.

*Figure 12*  
**ODD Removal**

- a. Remove the screw.
- b. Push the optical device out of the computer.
- c. Pry the bezel off the optical device.
- d. Separate the bezel and optical device
- e. Install the front bezel.





3. Optical Device  
5. Bezel Cover

- 1 Screws

## Disassembly

Figure 13

### Keyboard Removal

- Remove screws from the bottom of the computer.
- Eject the keyboard using a special eject stick to push the keyboard out while releasing the keyboard as shown.
- Carefully lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
- Remove the keyboard.

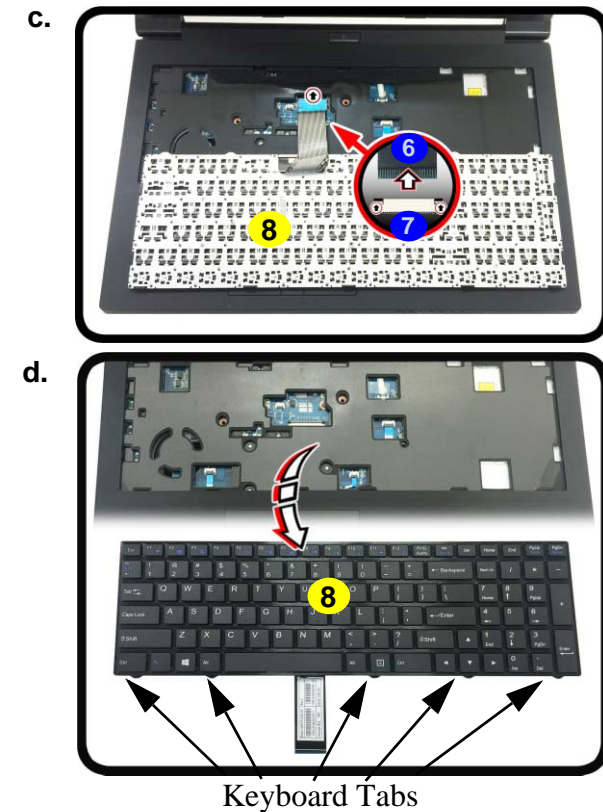
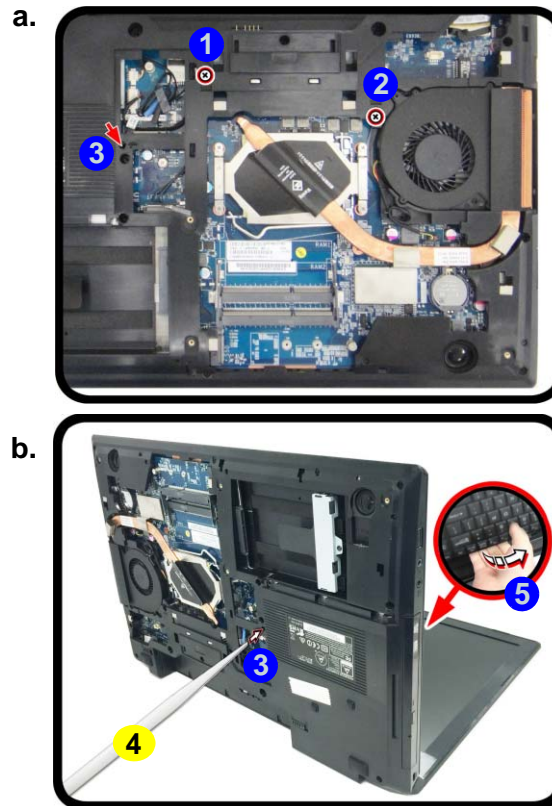
#### Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **five** keyboard tabs at the bottom (*Figure 13d*) at the bottom of the keyboard with the slots in the case.

- 4. Eject Stick
- 8 Keyboard
- 3 Screws

## Removing the Keyboard

- Turn **off** the computer, remove the battery (*page 2 - 5*), and the component bay cover (*page 2 - 9*).
- Remove screws **1** - **2** from the bottom of the computer.
- Open it up with the LCD on a flat surface before pressing at point **3** to release the keyboard module (use an eject stick **4** to do this) while releasing the keyboard in the direction of the arrow **5** as shown (*Figure 13b*).
- Carefully raise the keyboard up, being careful not to bend the keyboard ribbon cable **6**.
- Disconnect the keyboard ribbon cable **6** from the locking collar socket **7** (*Figure 13c*).
- Carefully lift up the keyboard **8** off the computer (*Figure 13d*).
- Reverse the process to replace the keyboard (make sure to reconnect the keyboard cable).



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# Appendix A:Part Lists

This appendix breaks down the *N350DW* 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.

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## Part List Illustration Location

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

*Table A - 1*  
**Part List Illustration  
Location**

Part	
Top	<i>page A - 3</i>
Bottom	<i>page A - 4</i>
HDD	<i>page A - 5</i>
DVD	<i>page A - 6</i>
LCD	<i>page A - 7</i>
MB	<i>page A - 8</i>



# Top

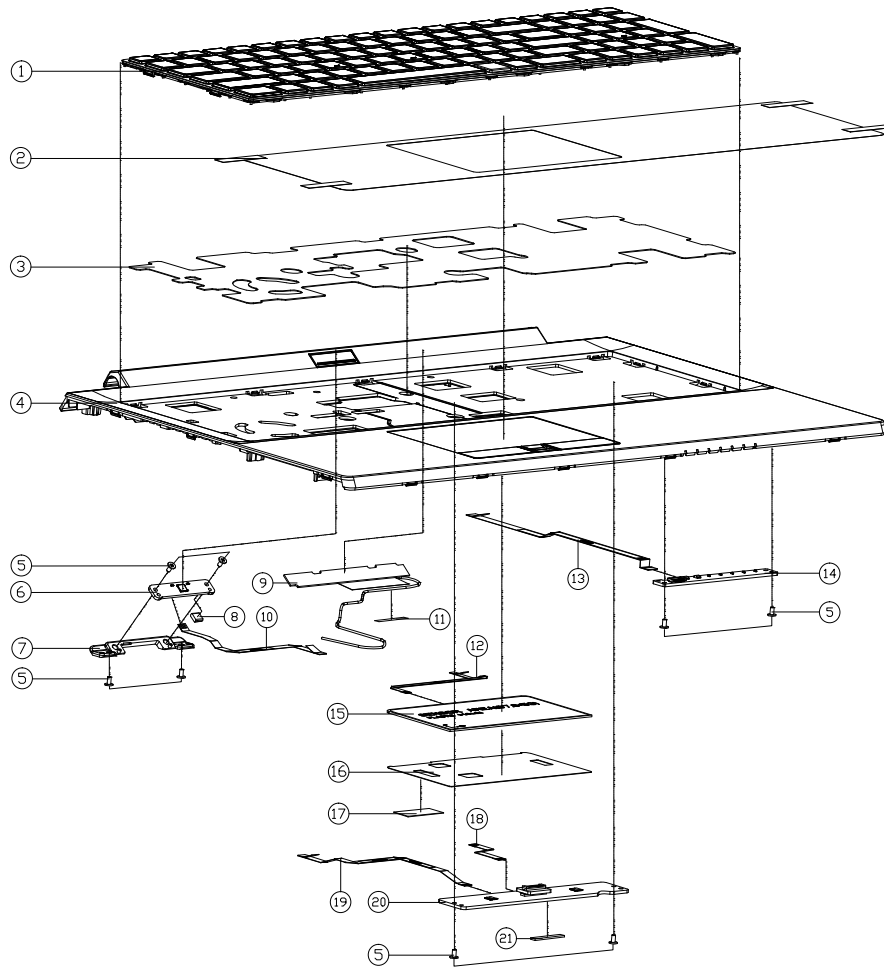
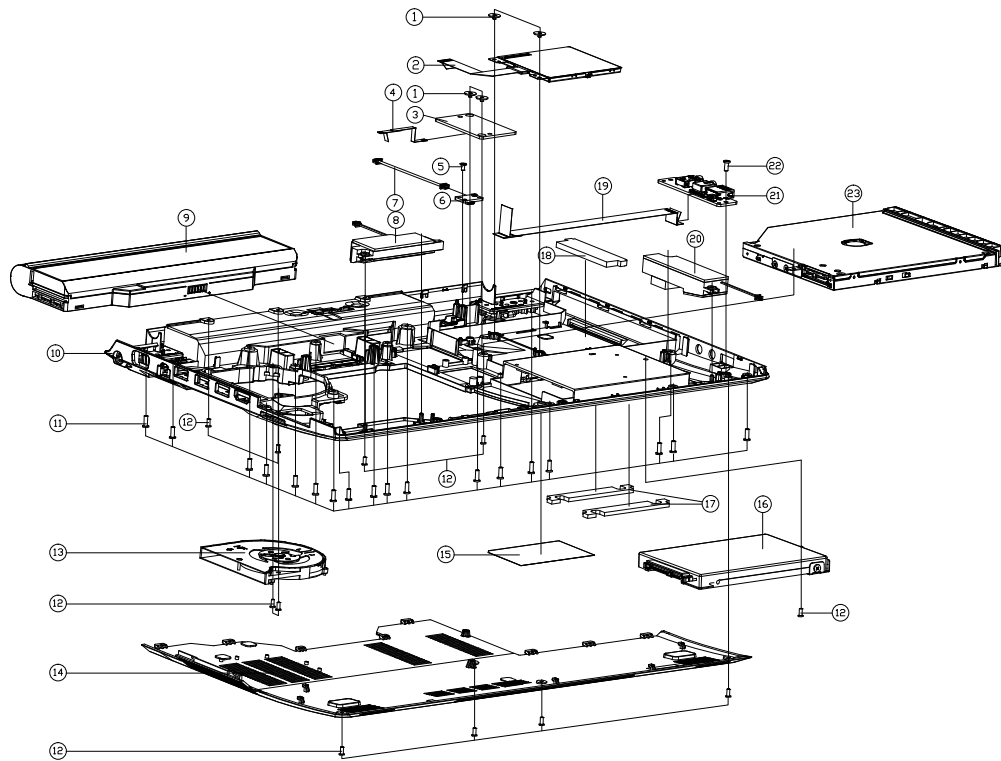


Figure A - 1  
Top

ITEM	PART NAME	PART NO	REMARK
1	WIN8 K/B US&BLACK% FRAME(US) MODULE FOR N250LU	6-79-N250LUOK-011-W	
2	TOP CASE PROTECT MYLAR (382*425*0.17) (PET+3089HS) N350DV	6-40-N3502-011	
3	W/O BACKLIGHT KB MYLAR (344*410*0.41) (PET+US-15) N350DV	6-40-N3502-030	ONLY FOR W/O BL KB
4	TOP CASE MODULE N350DV	6-39-N3502-012	
5	SCREW M2*4L KI NI ICT NY (DD=0.45,DT=0.4)	6-35-B1120-4RE	
6	POWER SW BOARD V2.0 N350DV	6-77-N350S-D02	
7	POWER BOARD HOLDER (PC+ABS SABIC C7230P) N350DV	6-42-N3502-051	
8	EMI GASKET (5*5*2)MM	6-47-00190-05G	
9	ANTENNA PERM LIE W/O LITE PER BL (K04018/15/15/15/23/23/23/23) LITE = 150MM N350DV	6-23-7N350-021	
10	FFC POWER TO MB 113MM 19V/3.3V 4PIN N350DV(HT)	6-43-N3500-031-1	
11	TAPE MYLAR (CB),MYLAR M550J	6-40-M55J2-020	
12	FFC TP TO MB 112MM 3.3V 6PIN N350DV(HT)	6-43-N3500-021-1	
13	FFC LED TO MB 158MM 3.3V 12PIN N350DV(HT)	6-43-N3500-041-1	
14	LED BOARD V2.0 N350DV	6-77-N3504-D02	
15	TOUCH PAD SYNAPTICS TM-03189-001(100*55MM) N250LU	6-49-N2503-010	
16	TOP TP MYLAR PET N250LU	6-40-N2502-040	
17	TP AL FOIL N350DV (2*25*0.3) ( AL FOIL+TI-219HPEI) N350DV	6-47-N3502-010	
18	FFC CABLE FOR CLICK TO TP CN2 4PIN W8400U-T (CNJS)	6-43-W8400-042	
19	FFC FINGER TO MB 135MM 3.3V 4PIN N350DV (HT)	6-43-N3500-011-1	
20	CLICK BOARD V2.0 +FINGER PRINT BOARD V2.0 N350DV	6-77-N350A-N02	
21	GASKET(26.5*4*2) (L26.5X4XH2,BLACK) W670SRQ	6-47-00190-260	

# Bottom

Figure A - 2  
Bottom



ITEM	PART NAME	PART NO.	REMARK
1	SCREW M2*2L KI BK/Z ICT NY(N8,T-0.6)	6-35-B6120-2RE	
2	SMART CARD CONNECTION CABLE (FFC CABLE 765 MM WITH PLIPAD PAPER)	6-23-FP175-010	FOR W/ SMART CARD
3	SMART CARD BOARD V2.0 N350DV	6-77-N350V-D02	FOR W/ SMART CARD
4	FFC CABLE SMART TO W/D (6P/10PITCH) 45MM N350DV (HT)	6-43-N3500-051-1	FOR W/ SMART CARD
5	SCREW M2*4L KI NI ICT NY (DD=0.45,DT=0.4)	6-35-B1120-4RE	
6	LID S/W BOARD V1.0 N350DV	6-77-N350C-D01	
7	WIRE CABLE FOR WALL SENSOR TO W/D 20MM 3PIN 3.0V N350DV (HT)	6-43-N3500-061	
8	SPK CABLE L 45MM 2W 4T US-100M-2L-K3-HF N350DV	6-23-5N350-0L1	
9	IMP LID (LID) ASSEMBLY FOR 3.5" OPTICAL DRIVE (OPTIONAL) N350DV	6-87-N350S-4D7	
10	BOTTOM CASE MODULE N350DV	6-39-N3503-012	
11	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
12	SCREW M2*5L KKT-0.8 D=4.0 BK/Z ICT NY	6-35-B6120-5R0	
13	CPU FAN MODULE (FOR SECOND) N550RC	6-31-N5502-102	
14	CPU COVER MODULE N350DV	6-42-N3503-102	
15	PRODUCT LABEL FOR N350DV	6-45-N350DV03-010	
15	PRODUCT LABEL FOR N350DV	6-45-N350DV03-010	
16	W/D HDD ASS'Y N350DV	6-79-N350DV0J-010	
16	W/HDD ASS'Y N350DV	6-79-N350DV0J-020	
17	SPONGE (16MM*25) GRABES FOR 7MM HDD (5.25INCH) 63	6-47-0019A-763	
18	RUBBER FOR SMART CARD HOLE N350DV	6-47-N3503-020	FOR W/D SMART CARD
19	FFC AUDIO TO W/D 22PIN (5PITCH) 170MM N350DV (HT)	6-43-N3500-070-1	
20	SPK CABLE R 45MM 2W 4T US-100M-2L-K3-HF N350DV	6-23-5N350-0R1	
21	AUDIO BOARD V2.0 N350DV	6-77-N3508-D02	
22	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
23	W/D DDD ASS'Y N350DV	6-79-N350DV02-000	OPTION
23	SATA DVD SUPER MULTI 8X ASS'Y N350DV	6-79-N350DV00-001	OPTION

# HDD

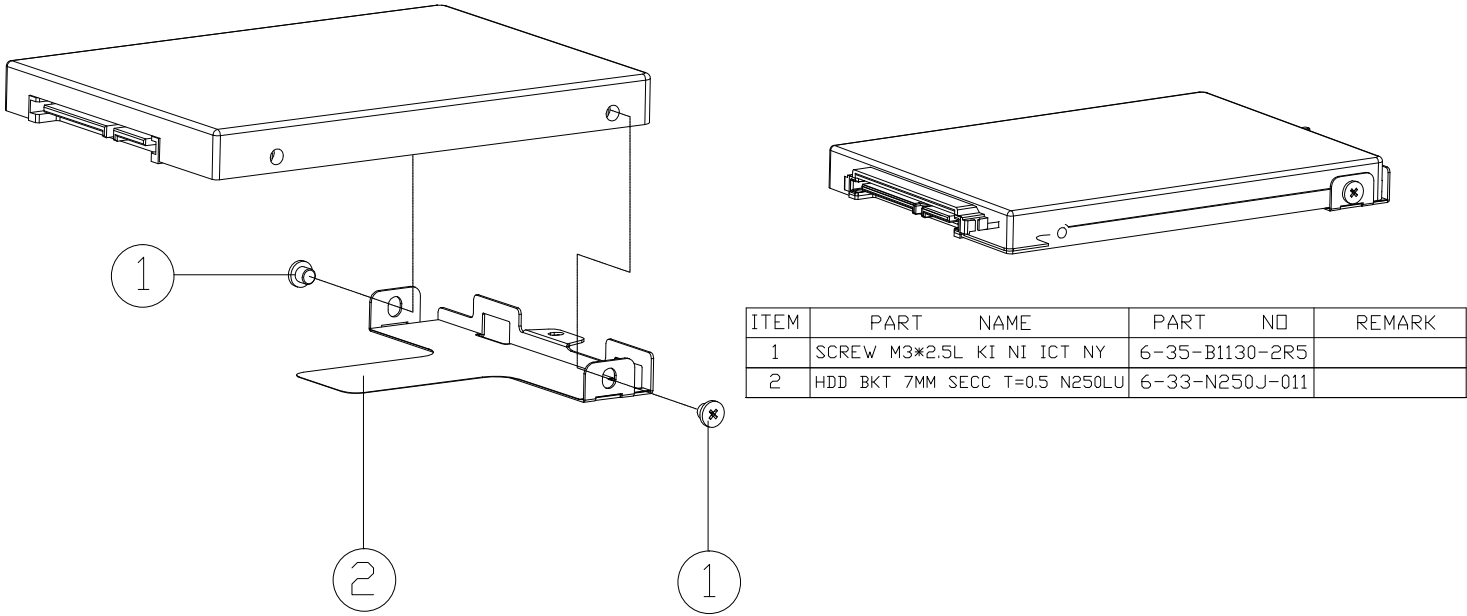
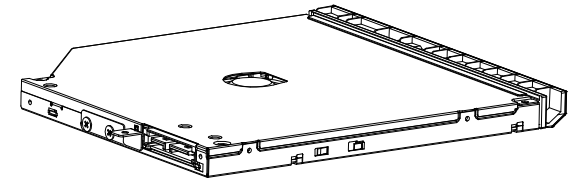
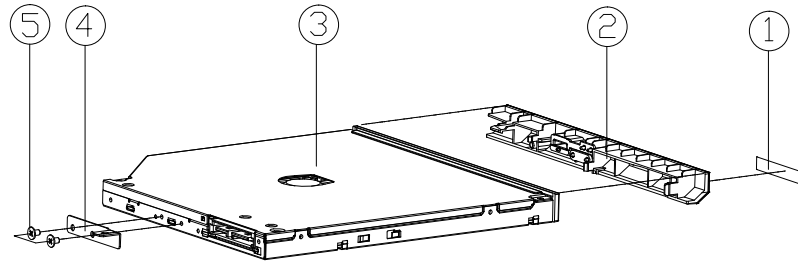


Figure A - 3  
HDD

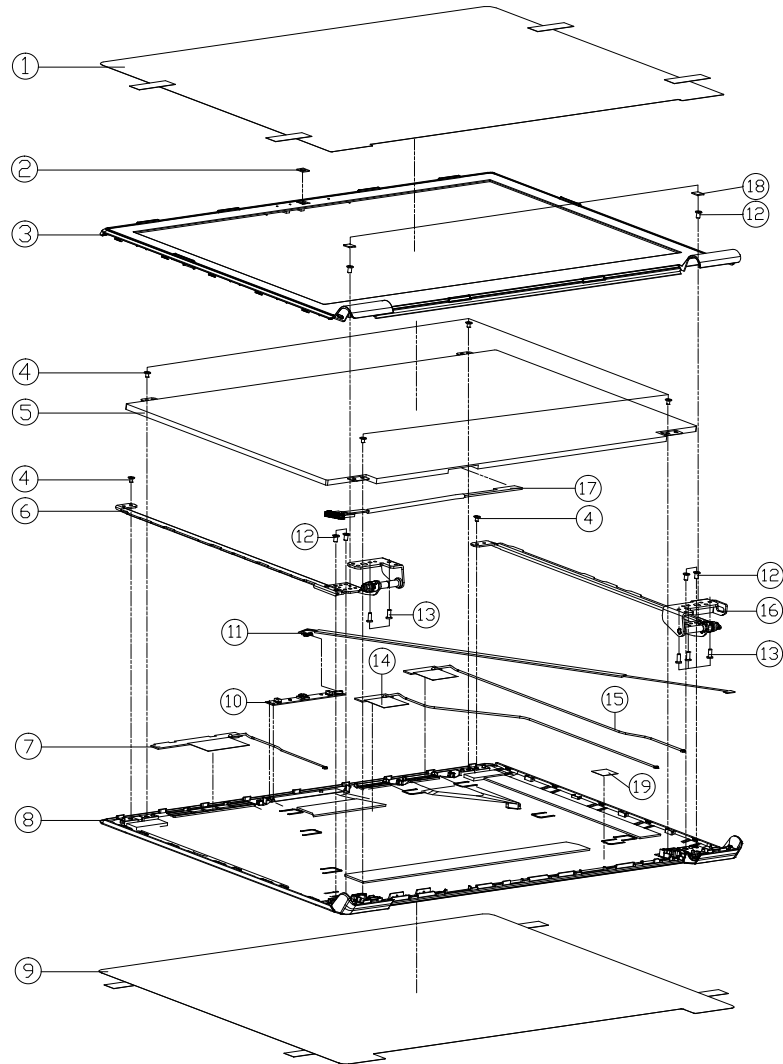
# DVD

Figure A - 4  
DVD



ITEM	PART NAME	PART NO	REMARK
1	SUPER MULTI ODD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-012	
2	ODD BEZEL MODULE N350DV	6-42-N350Z-101	
3	SATA DVD SUPER MULTI 5.25\"/>		
3	SATA DVD SUPER MULTI 5.25\"/>		
4	ODD BRACKET SECC W547BL	6-33-W547Z-011	
5	SCREW M2*3L KI BZ ICT NY (DD=φ4.5,DT=0.4)	6-35-B6120-3RD	

# LCD



ITEM	PART NAME	PART NO	REMARK
1	FRONT COVER PROTECT MYLAR N350DV	6-40-N3508-010	
2	CCD LENS (PMMA)6.2*6.2*0.6T W230SS-H	6-42-W23H1-010	
3	LCD FRONT COVER MODULE N350DV	6-39-N3501-012	
4	SCREW M2*3L KI BZ ICT NY (DD=0.45,DT=0.4)	6-35-B6120-3RD	
5	LCD 15.6" HD EDP CLARE TYPE INNOLUX NS6BGE-E42 (LED) 36 MM	6-50-L8136-V00	
5	LCD 15.6" FHD INNOLUX NS6HGE-LG1 3.4MM (LED)	6-50-LB234-V00	
5	LCD 15.6" FHD/PS/EP LG LPS6W6-SP1 0ND QLED SUPPORT SV4 6.5INC * 32MM	6-50-LB232-L04	
5	LCD 15.6" HD CHIMEI NS6BGE-L31 3.8 MM FOR DISTI	6-50-L8138-D01-D	
6	HINGE L (SGCC+SK7) SNR N350DV	6-33-N3501-0L1	
7	ANTENNA PEHA LTE V01 LTE PCB BR 0.76/0.35/0.55/0.28/0.28/0.17E-50MM NES0V	6-23-7N350-010	OPTION
8	LCD BACK COVER MODULE N350DV	6-39-N3501-022	
9	BACK COVER PROTECT MYLAR N350DV	6-40-N3508-020	
10	INC COVER COCONY FIX DIFFRACREPERLA IN HD HINDI HISS VAPLU V220 VLED W23-ME	6-88-W94LC-5120	
10	INC COVER COCONY FIX DIFFRACREPERLA IN HD HINDI HISS VAPLU FVMS WLED W23-ME 更換背膠	6-88-W94LC-4911	
11	WIRE CABLE FOR CCD D-MIC 500MM 3.3V BP (HL) NES0LU	6-43-N250T-011	
12	SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
13	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
14	ANTENNA IPEXA WLAN HTK W1 PCB AR 2.4G/5GHZ W1-50MM NES0RC	6-23-7N550-020	
15	ANTENNA IPEXA WLAN HTK W2 PCB AR 2.4G/5GHZ W2-50MM NES0RC	6-23-7N550-030	
16	HINGE R (SGCC+SK7) SNR N350DV	6-33-N3501-0R1	
17	WIRE CABLE FOR LVDS 20MM PIN 4PIN LCD 11線 線端接線 15MM 01 04LV CON (VGA-2E-4) NES0LU	6-43-N2501-011-N	FOR (LVDS)
17	WIRE CABLE FOR EDP 20MM PIN 4PIN LCD 11線 線端接線 15MM 01 04LV CON (VGA-2E-4) NES0LU	6-43-N2401-011-N	FOR (EDP)
18	RUBBER FRONT COVER SCREW SILICONE W970SLW	6-47-W9701-041	
19	BACK COVER RUBBER/SILICONE 80X16.5*16.5*1.1D) N170SD LG	6-47-N1701-050	

Figure A - 5  
LCD

# MB

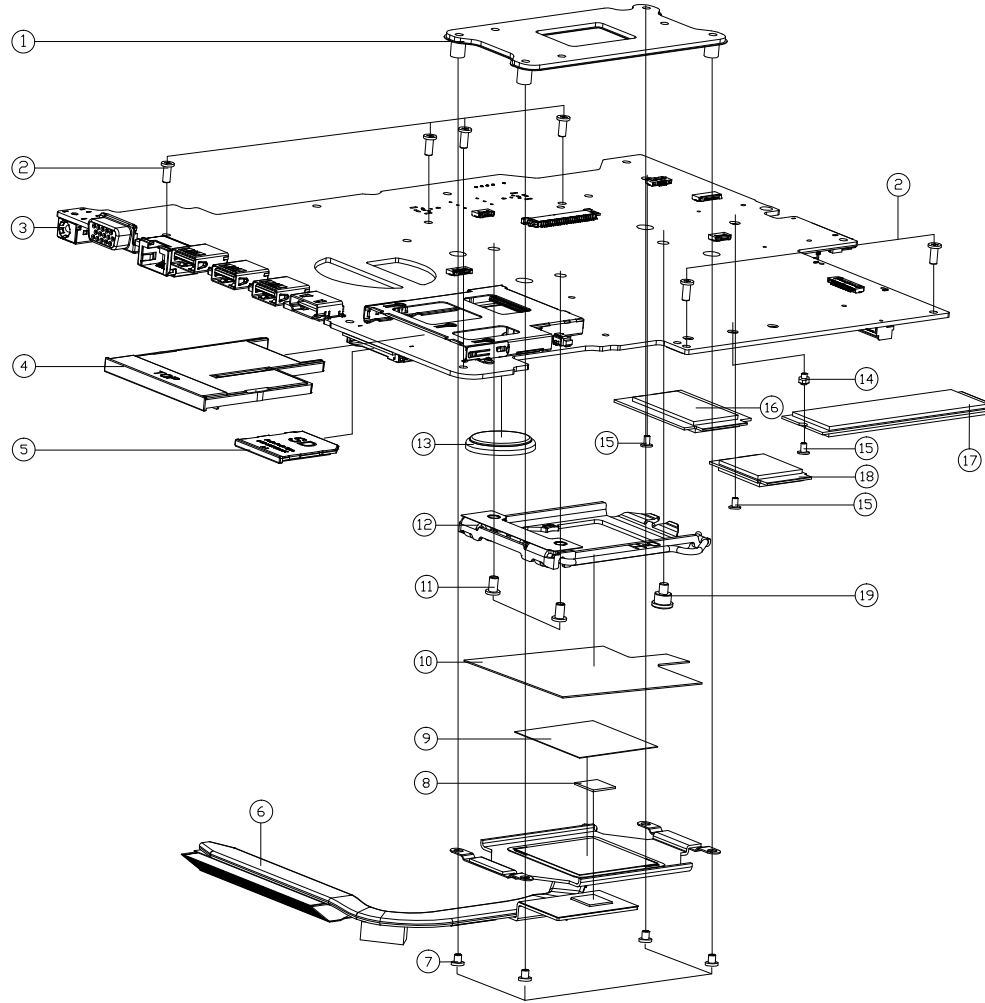


Figure A - 6  
MB

ITEM	PART NAME	PART NO	REMARK
1	CPU SUPPORT FOR LGA 1150 SUS301 N350DV	6-33-N350S-011	
2	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
3	MAIN BOARD V2.0 (EDPXW/LTE) N350DV	6-77-N350DV00-002	
3	MAIN BOARD V2.0 (EDPXW/D) LTE) N350DV	6-77-N350DV00-002-1	
3	MAIN BOARD V2.0 (LVDSXW/LTE) N350DV	6-77-N350DV00-002-2	
3	MAIN BOARD V2.0 (LVDSXW/D) LTE) N350DV	6-77-N350DV00-002-3	
3	MAIN BOARD V2.0 (EDPXW/LTE) N350DV	6-77-N350DV00-002	
3	MAIN BOARD V2.0 (EDPXW/D) LTE) N350DV	6-77-N350DV00-002-1	
3	MAIN BOARD V2.0 (LVDSXW/LTE) N350DV	6-77-N350DV00-002-2	
3	MAIN BOARD V2.0 (LVDSXW/D) LTE) N350DV	6-77-N350DV00-002-3	
4	DUMMY NEW CARD PC+ABS T1N20R (REG08)	6-42-T12R3-011-2	
5	DUMMY SD PUSH TYPE PC+ABS (CZ20P-2010) V9700V	6-42-W9708-010	
6	CPU HEAT SINK MODULE N350DV	6-31-N350N-101	
7	SCREW M3*2.5L KI NI ICT NY	6-35-B1130-2R5	
8	THERMAL PAD T-FLEX 330 DC-1 10*10*0.75MM P7502M	6-48-P7503-0DD	
9	THERMAL PAD PSX 35*35*0.2MM N350DV	6-48-N350S-010	
10	CPU SOCKET MYLAR FOR D900F	6-40-D900S-070	
11	SCREW M3*5.0L KI NI ICT NY	6-35-B1130-5R0	
12	ILM FOR CPU SOCKET(METAL) LGA 1150P (PT44L3H-640)	6-86-25B50-001-S	
13	BATTERY 3V 220MA BBBCR2032B (KTS)	6-23-6A2B2-030	
14	SCREW HEX4 0#2.5 STEEL BT NY FOR MFT (DOWNHOLE INTERNAL)	6-35-ZA120-2R5	
15	SCREW M2*2L KI NI ICT NY (DD=05 J=0.5)	6-35-B1120-2R0	
16	MEM HANGER M2*2.5*4MM MFT (CPU) USB INTERFACE WITHOUT OPS SHIELD	6-88-S210W-8810	OPTION
16	LE 4 0#2.5 TORX HEXA HEAD TORX FOR CUSHION FOR CPU MFT (CPU) USB INTERFACE	6-88-W3306-8841	OPTION
16	LE 4 0#2.5 TORX TORX (DOWNHOLE) NEW FOR CPU MFT (CPU) USB INTERFACE	6-88-W3306-8830	OPTION
17	SSD M2 2280 SATA SHIMMING KEY/PS2280-3000 (MSD) P/EE G34 MLC	6-85-D515B-S00	OPTION
17	SSD M2 2280 SATA CRUCIAL CT500M2SS008 (MSD) SATA3 MLC	6-85-D515A-100	OPTION
17	SSD M2 2280 SATA INTEL S5500XAP6006 (MSD) SATA3 MLC	6-85-D513G-200	OPTION
17	SSD M2 2280 SATA SHIMMING KEY/PS2280-3000 (MSD) P/EE G34 MLC	6-85-D51R6-S01	OPTION
17	SSD M2 2280 SATA CRUCIAL CT500M2SS008 (MSD) SATA3 MLC	6-85-D51R0-100	OPTION
17	SSD M2 2280 SATA CRUCIAL MTFDMSV2000F (MSD) SATA3 MLC	6-85-D515B-101	OPTION
17	SSD M2 2280 SATA SHIMMING KEY/PS2280-3000 (MSD) P/EE G34 MLC	6-85-D515B-S02	OPTION
17	SSD M2 2280 SATA SHIMMING KEY/PS2280-3000 (MSD) P/EE G34 MLC	6-85-D515B-S03	OPTION
18	ALUMI COOLING RAIL FOR CPU (DOWNHOLE) IN SUPPORT FOR CPU MFT (CPU) USB INTERFACE	6-88-W95LF-4240	OPTION
18	ALUMI COOLING RAIL FOR CPU (DOWNHOLE) IN SUPPORT FOR CPU MFT (CPU) USB INTERFACE	6-88-N240F-4200	OPTION
18	ALUMI COOLING RAIL FOR CPU (DOWNHOLE) IN SUPPORT FOR CPU MFT (CPU) USB INTERFACE	6-88-P67RF-4200	OPTION
18	ALUMI COOLING RAIL FOR CPU (DOWNHOLE) IN SUPPORT FOR CPU MFT (CPU) USB INTERFACE	6-88-N25JF-4200	OPTION
19	SCREW M3*3.5L BZZZ ICT NY	6-35-Z2130-3R5	



# Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *N350DW* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>PCH-H 4/9 - Page B - 19</i>	<i>5VS, 3VS, 3.3VM, 5VM - Page B - 36</i>
<i>Processor 1/7 - Page B - 3</i>	<i>PCH-H 5/9 - Page B - 20</i>	<i>1.05V Series - Page B - 37</i>
<i>Processor 2/7 - Page B - 4</i>	<i>PCH-H 6/9 - Page B - 21</i>	<i>1.0V/VCC_IO - Page B - 38</i>
<i>Processor 3/7 - Page B - 5</i>	<i>PCH-H 7/9 - Page B - 22</i>	<i>DDR 1.35V / 0.75VS - Page B - 39</i>
<i>Processor 4/7 - Page B - 6</i>	<i>PCH-H 8/9 - Page B - 23</i>	<i>VDD3, VDD5 - Page B - 40</i>
<i>Processor 5/7 - Page B - 7</i>	<i>PCH-H 9/9 - Page B - 24</i>	<i>VCore &amp; VCCGT - Page B - 41</i>
<i>Processor 6/7 - Page B - 8</i>	<i>Intel LAN i219-LM - Page B - 25</i>	<i>VCore Output Stage - Page B - 42</i>
<i>Processor 7/7 - Page B - 9</i>	<i>LAN Transformer - Page B - 26</i>	<i>VCCGT Output Stage - Page B - 43</i>
<i>DDR3 SO-DIMM_0 - Page B - 10</i>	<i>Card Reader RTS5229 - Page B - 27</i>	<i>AC-In, Charger - Page B - 44</i>
<i>DDR3 SO-DIMM_1 - Page B - 11</i>	<i>USB Port - Page B - 28</i>	<i>Audio Board - Page B - 45</i>
<i>PS8625 - Page B - 12</i>	<i>3G, HDD, ODD - Page B - 29</i>	<i>Power Switch Board - Page B - 46</i>
<i>LVDS, Inverter - Page B - 13</i>	<i>WLAN, CCD, TPM - Page B - 30</i>	<i>Click &amp; Finger Board - Page B - 47</i>
<i>HDMI - Page B - 14</i>	<i>KBC-ITE IT8587 - Page B - 31</i>	<i>Fingerprint Board - Page B - 48</i>
<i>CRT - Page B - 15</i>	<i>AUDIO CODEC ALC892+TPA2008 - Page B - 32</i>	<i>LED Board - Page B - 49</i>
<i>PCH-H 1/9 - Page B - 16</i>	<i>New Card, SSD - Page B - 33</i>	<i>Smart Card Board - Page B - 50</i>
<i>PCH-H 2/9 - Page B - 17</i>	<i>Fan, TP, Connector - Page B - 34</i>	<i>LID Switch Board - Page B - 51</i>
<i>PCH-H 3/9 - Page B - 18</i>	<i>Docking Connector, COM Port - Page B - 35</i>	

*Table B - 1*  
**SCHEMATIC  
DIAGRAMS**

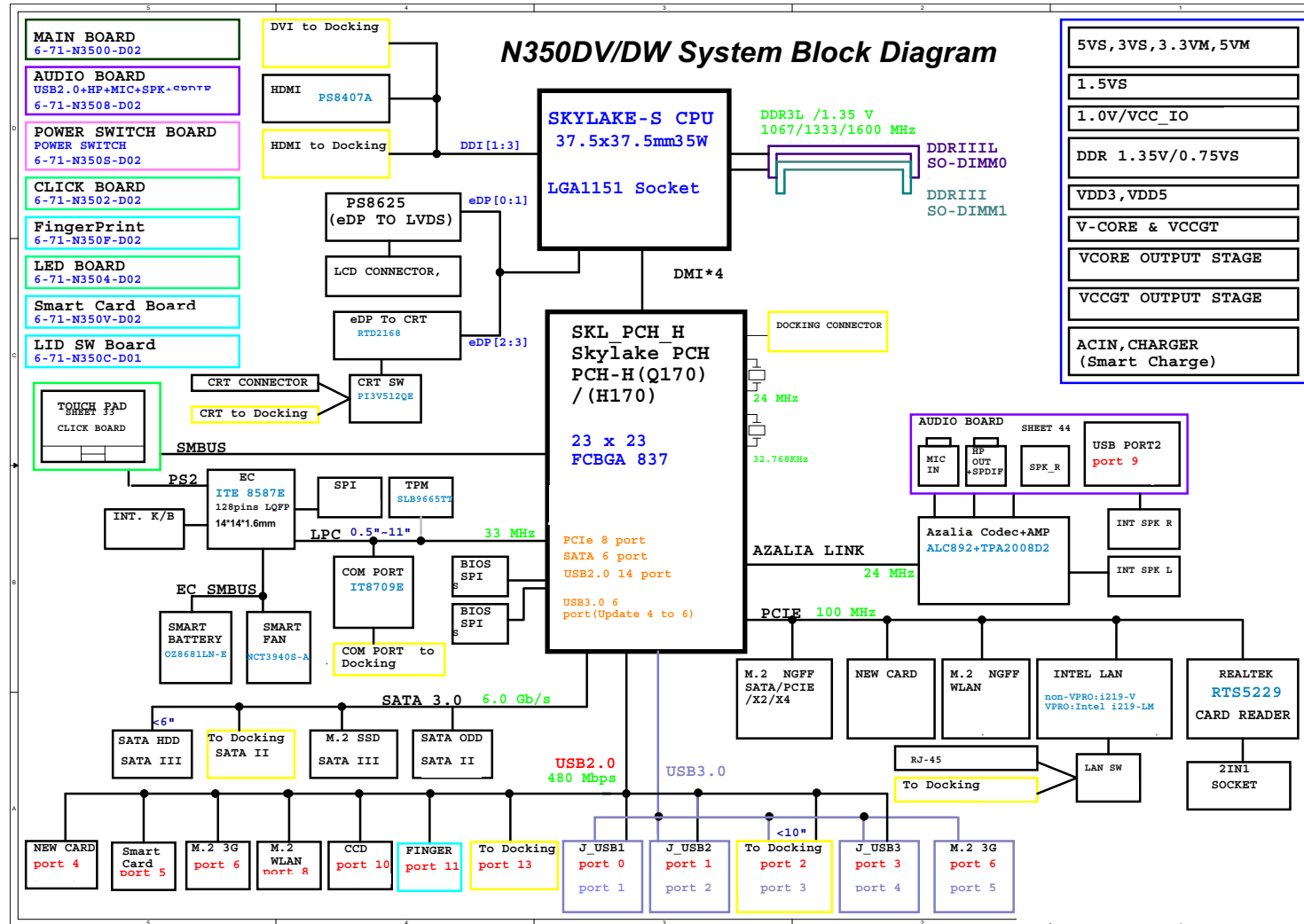


#### Version Note

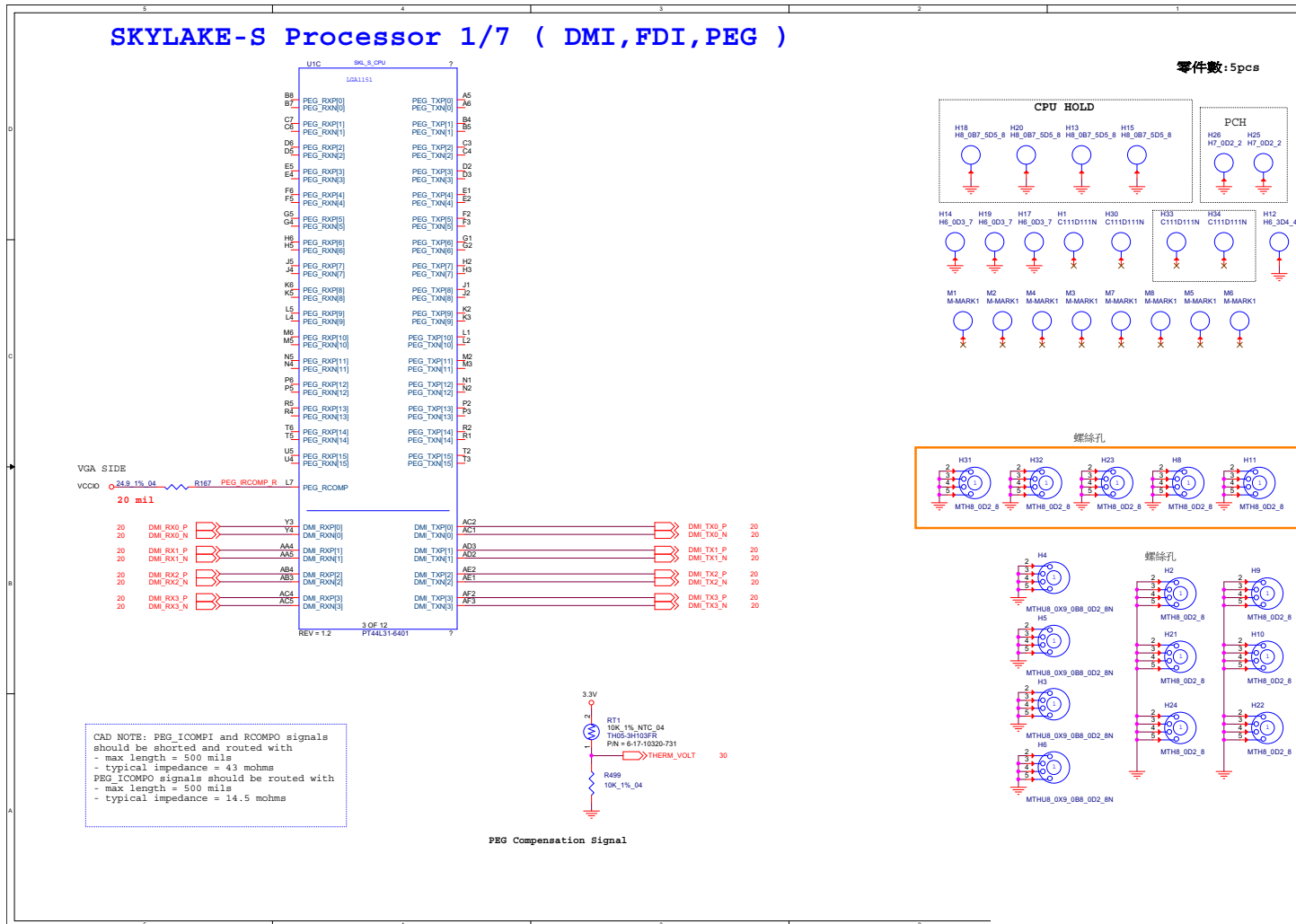
The schematic diagrams in this chapter are based upon version 6-7P-N3507-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

# System Block Diagram

Sheet 1 of 50  
System Block  
Diagram



# Processor 1/7

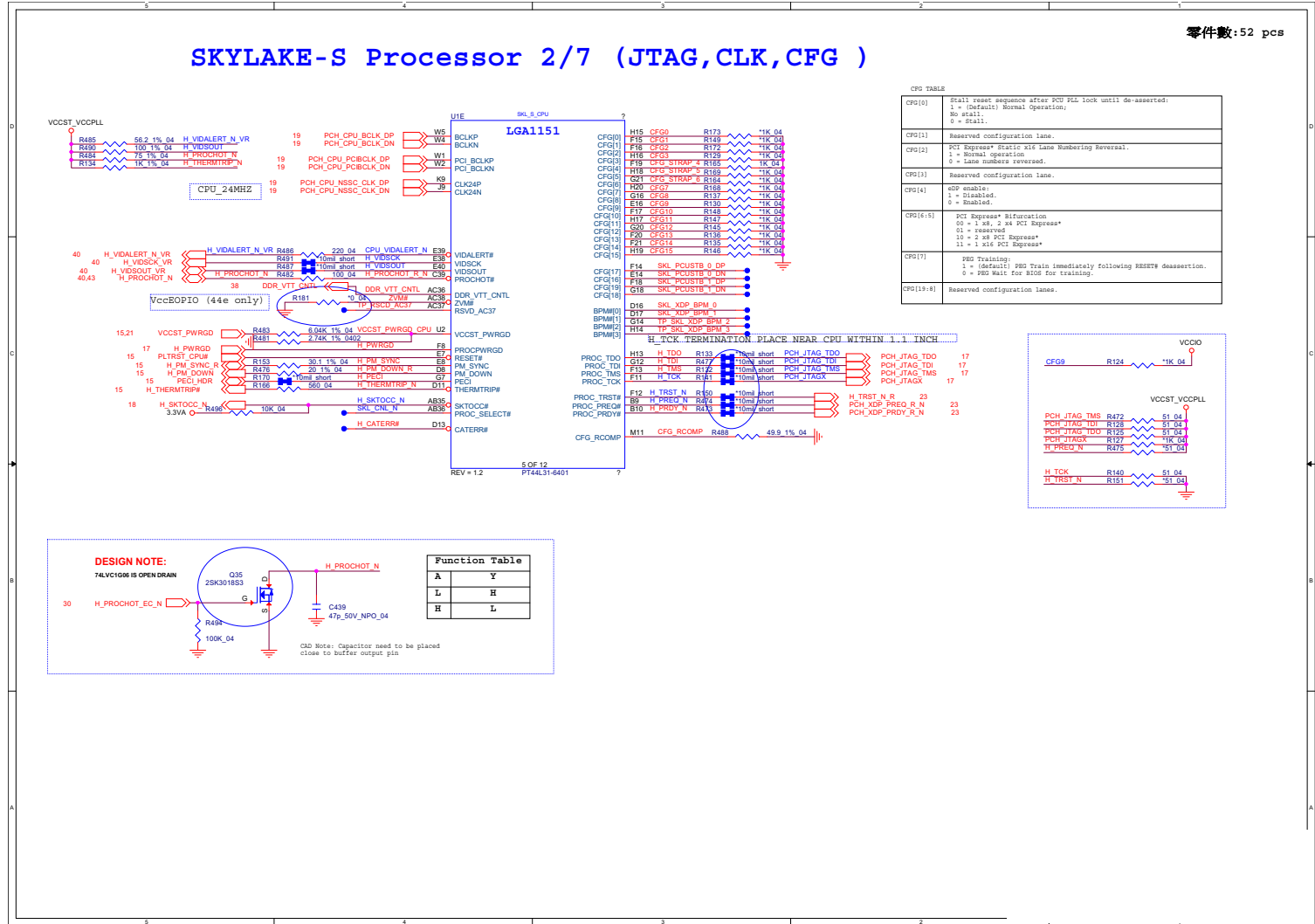


B.Schematic Diagrams

Sheet 2 of 50  
Processor 1/7

# Processor 2/7

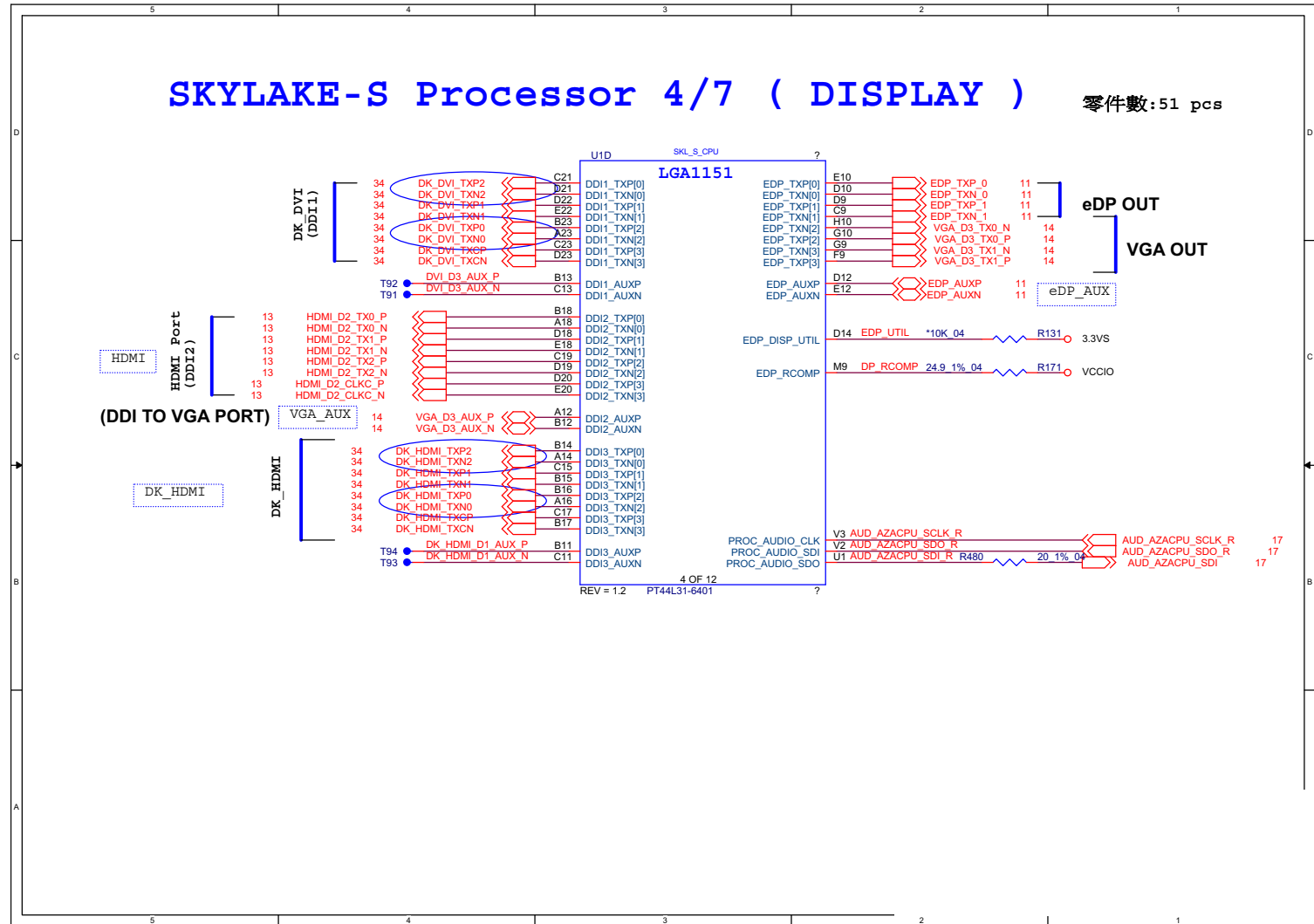
Sheet 3 of 50  
Processor 2/7





Processor 4/7

Sheet 5 of 50  
Processor 4/7

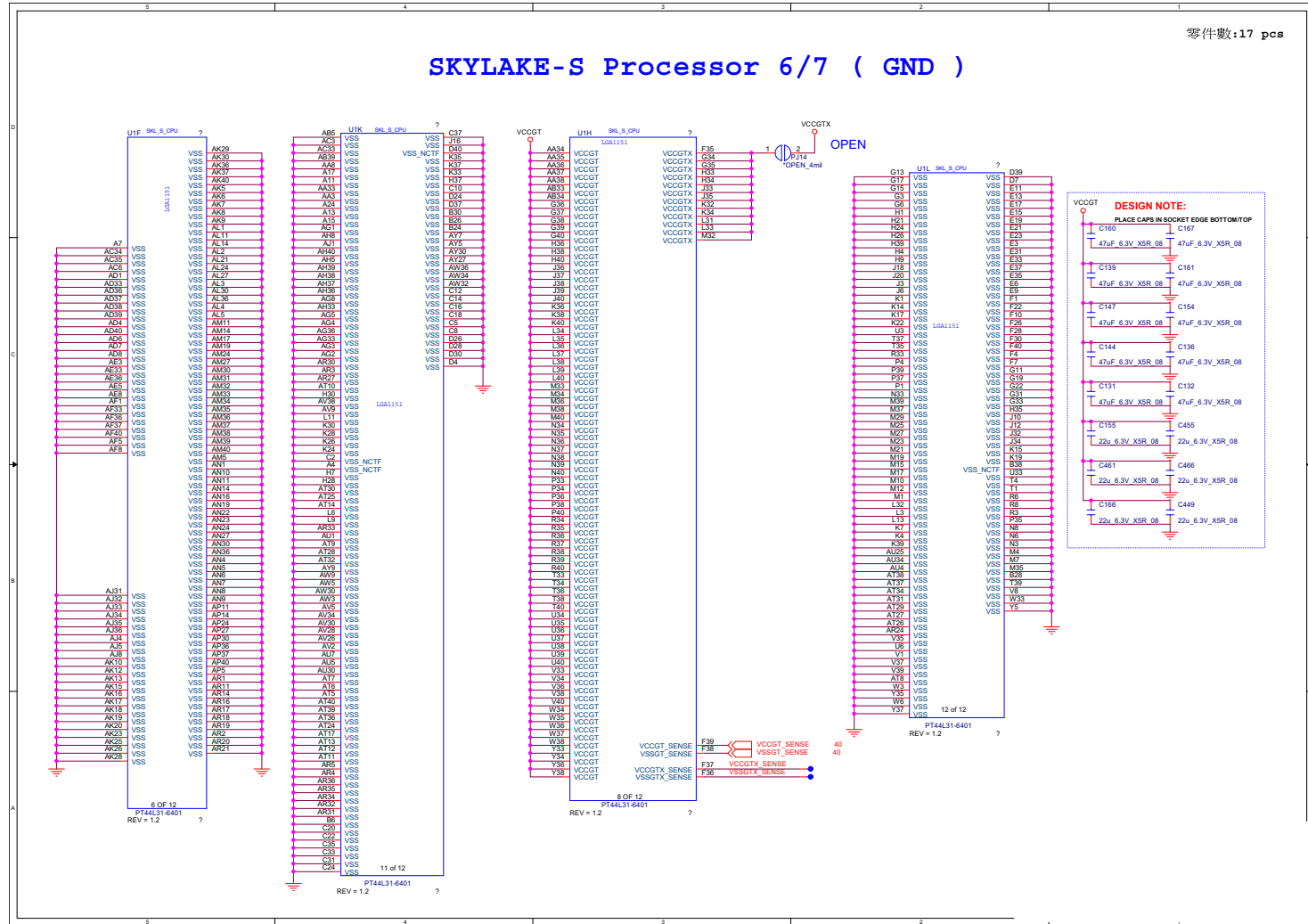




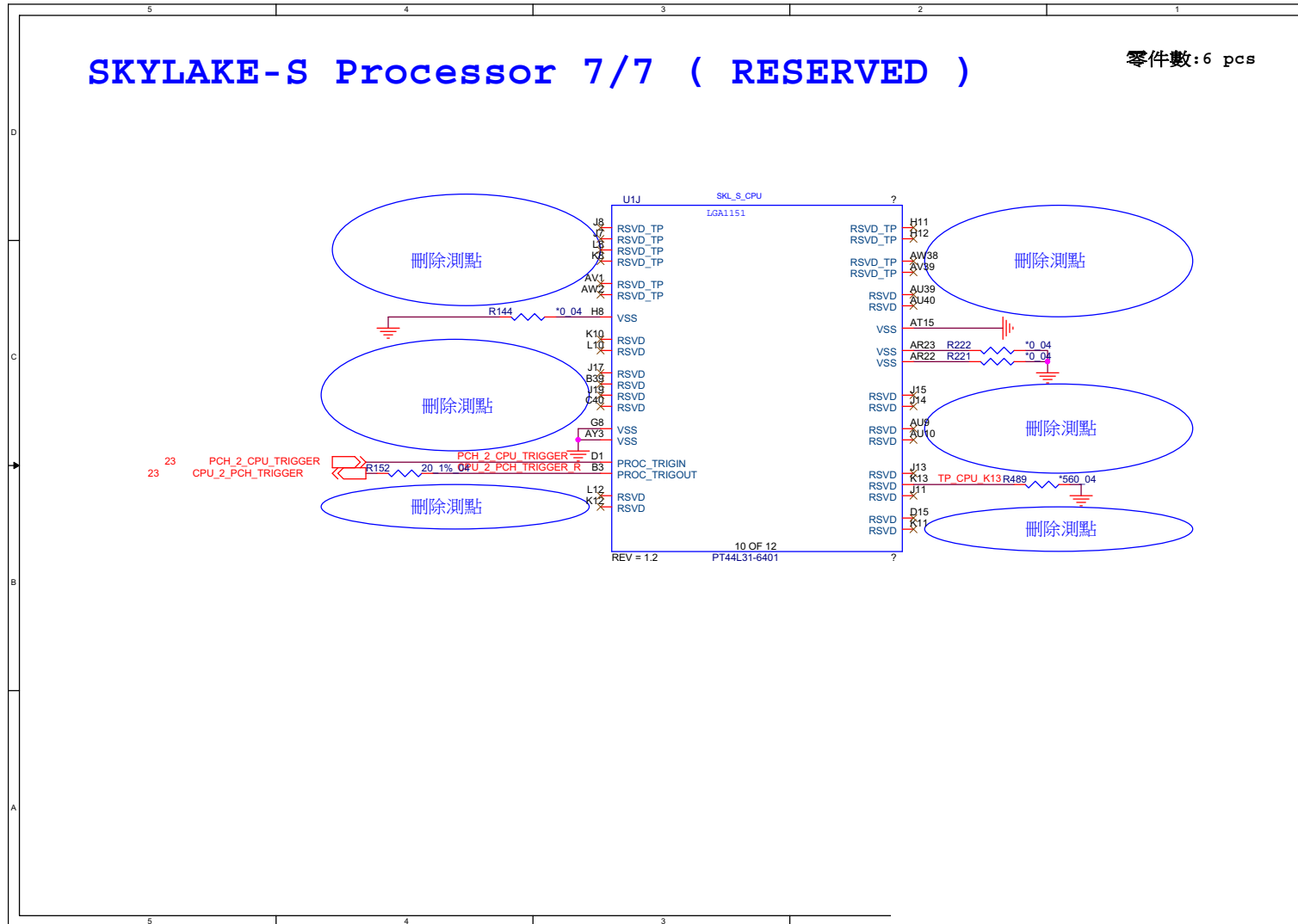


# Processor 6/7

Sheet 7 of 50  
Processor 6/7

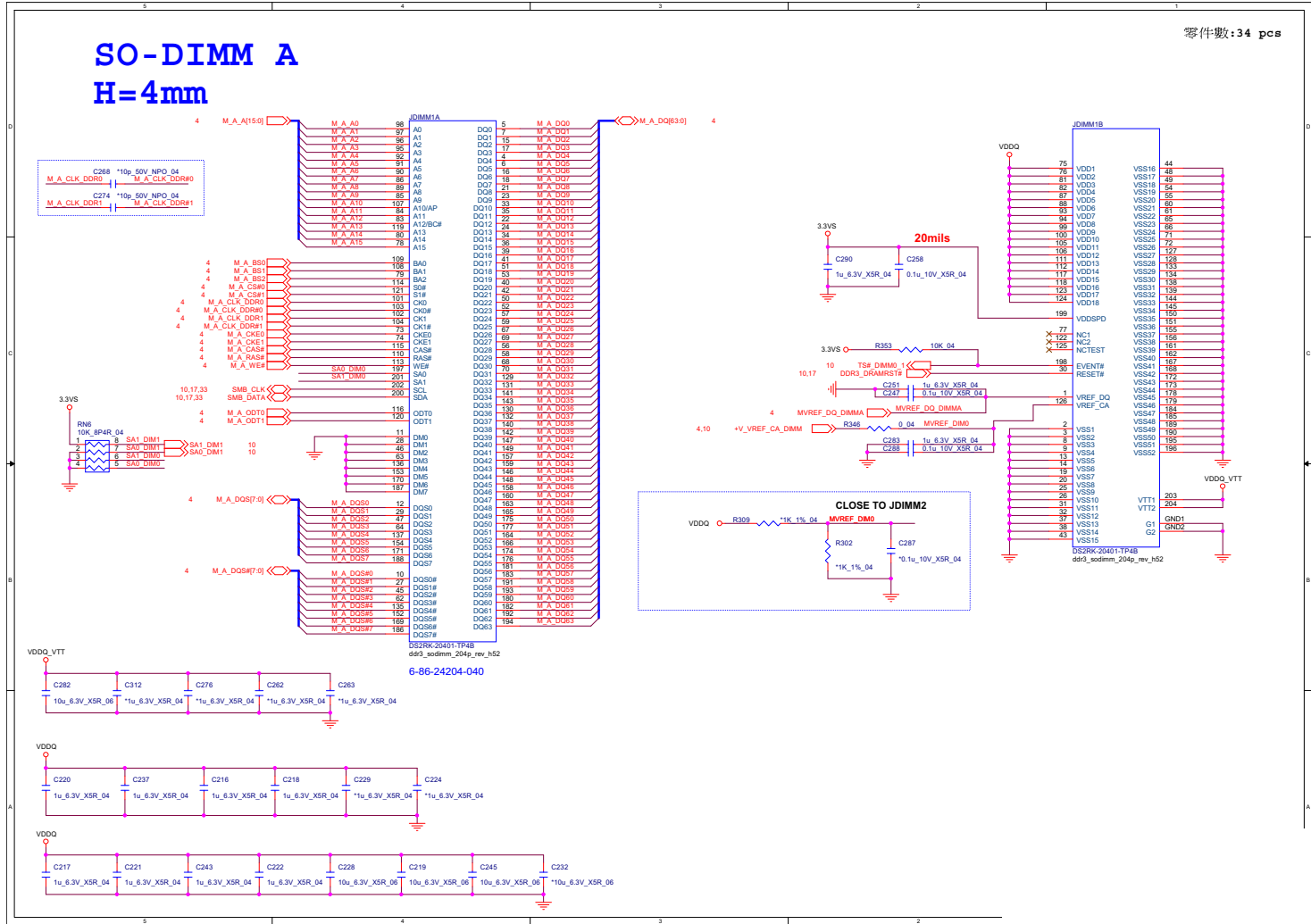


Processor 7/7

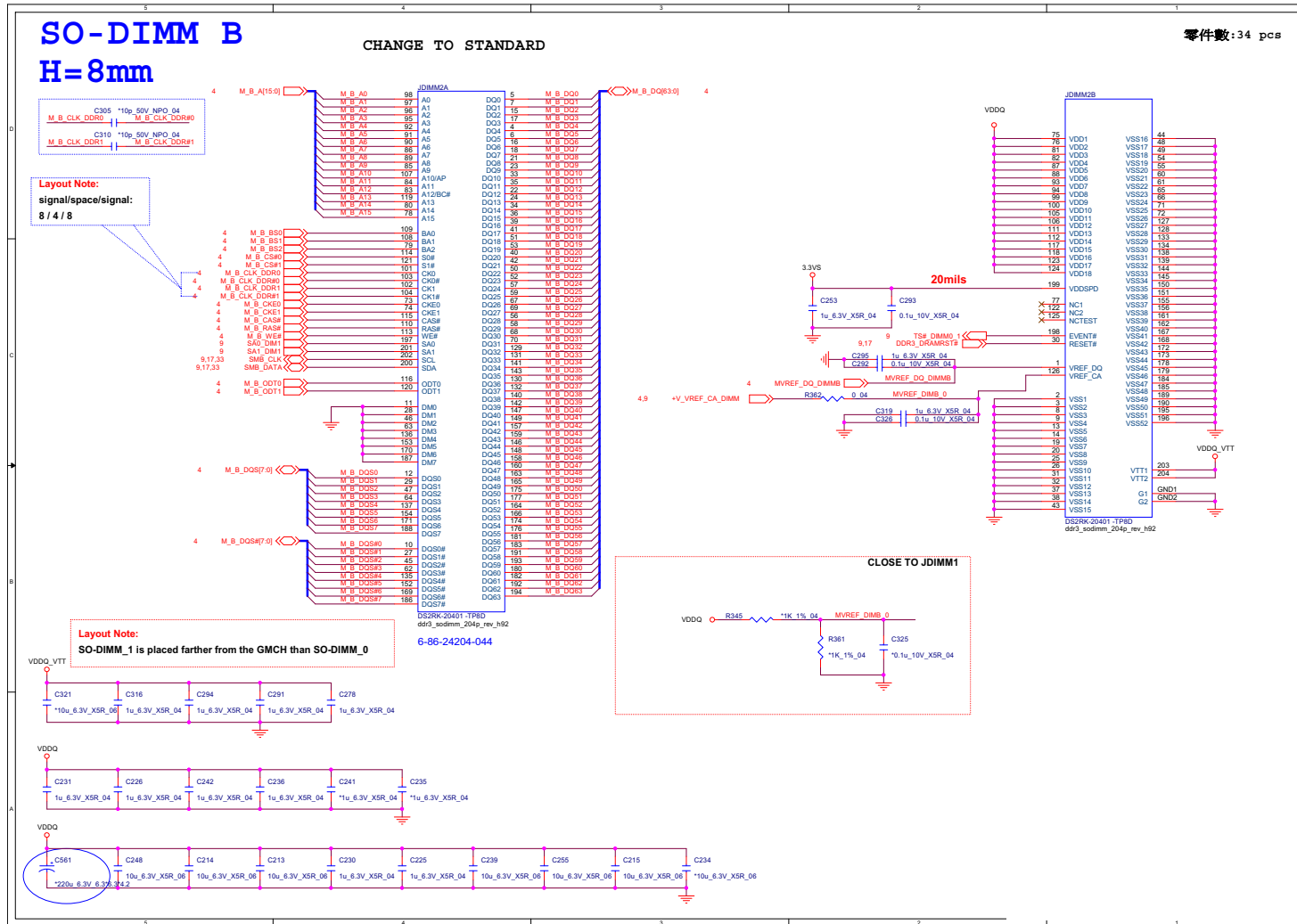


Sheet 8 of 50  
Processor 7/7

DDR3 SO-DIMM\_0



# DDR3 SO-DIMM\_1



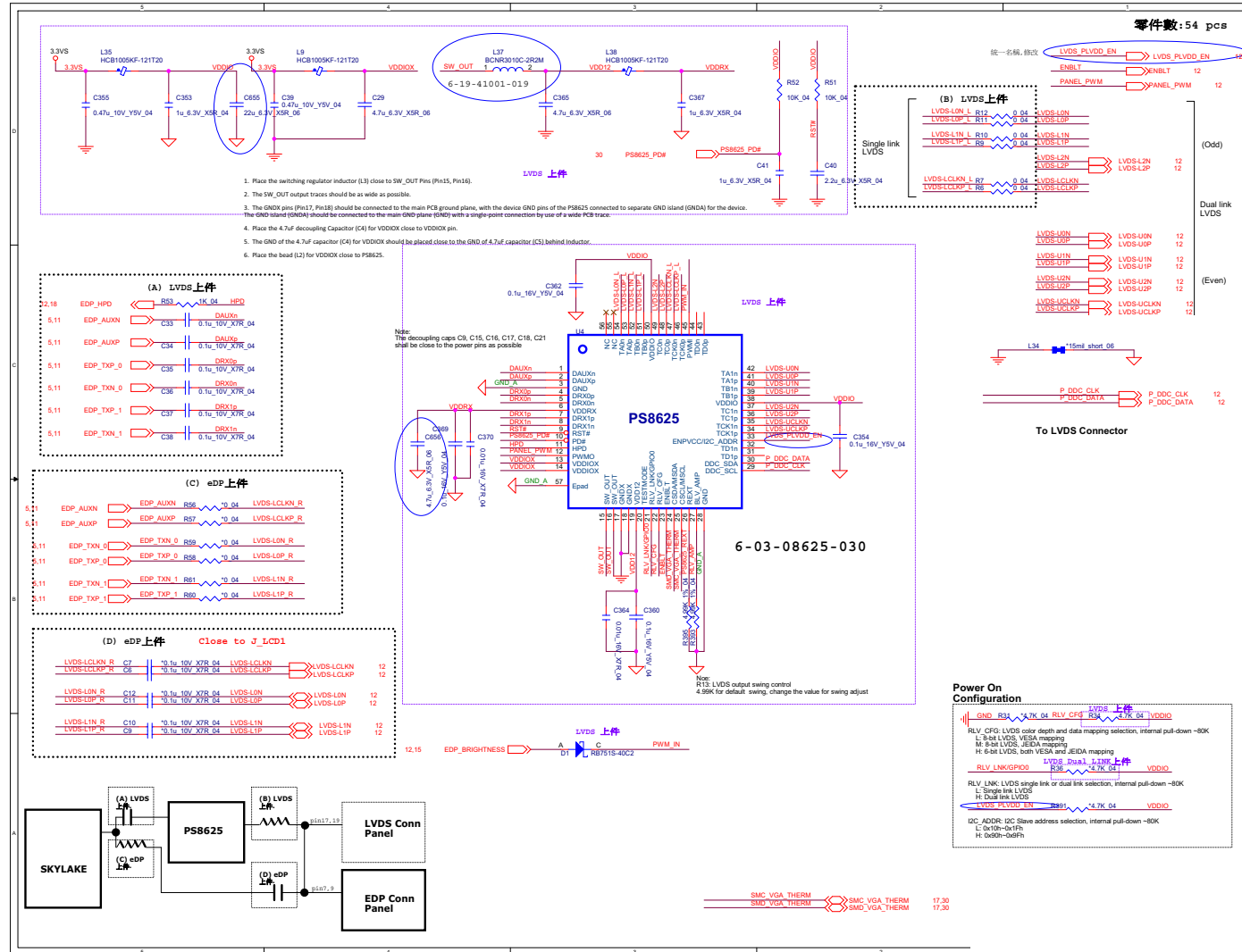
B.Schematic Diagrams

Sheet 10 of 50  
DDR3 SO-DIMM\_1

# Schematic Diagrams

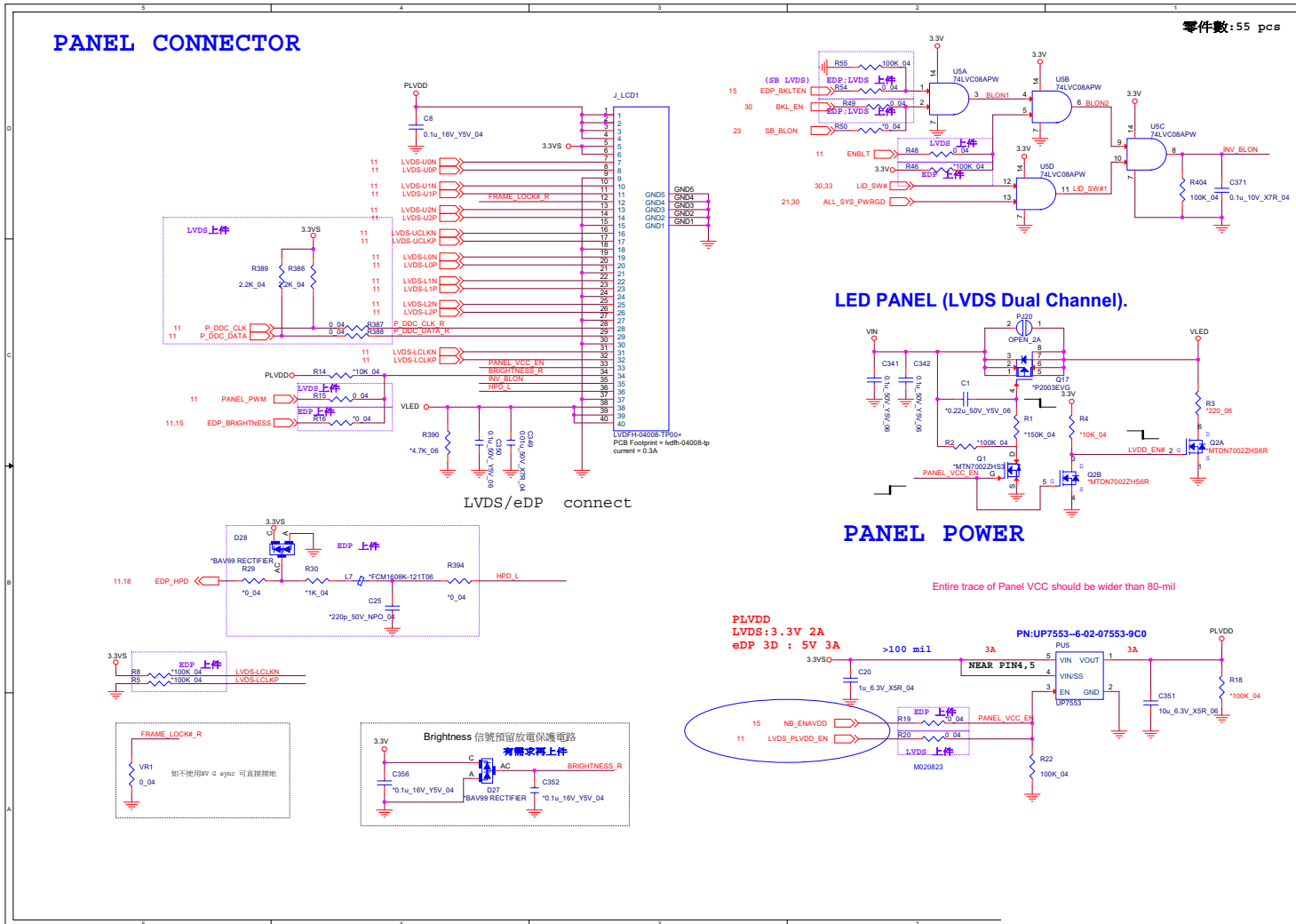
## PS8625

Sheet 11 of 50  
PS8625





# LVDS, Inverter



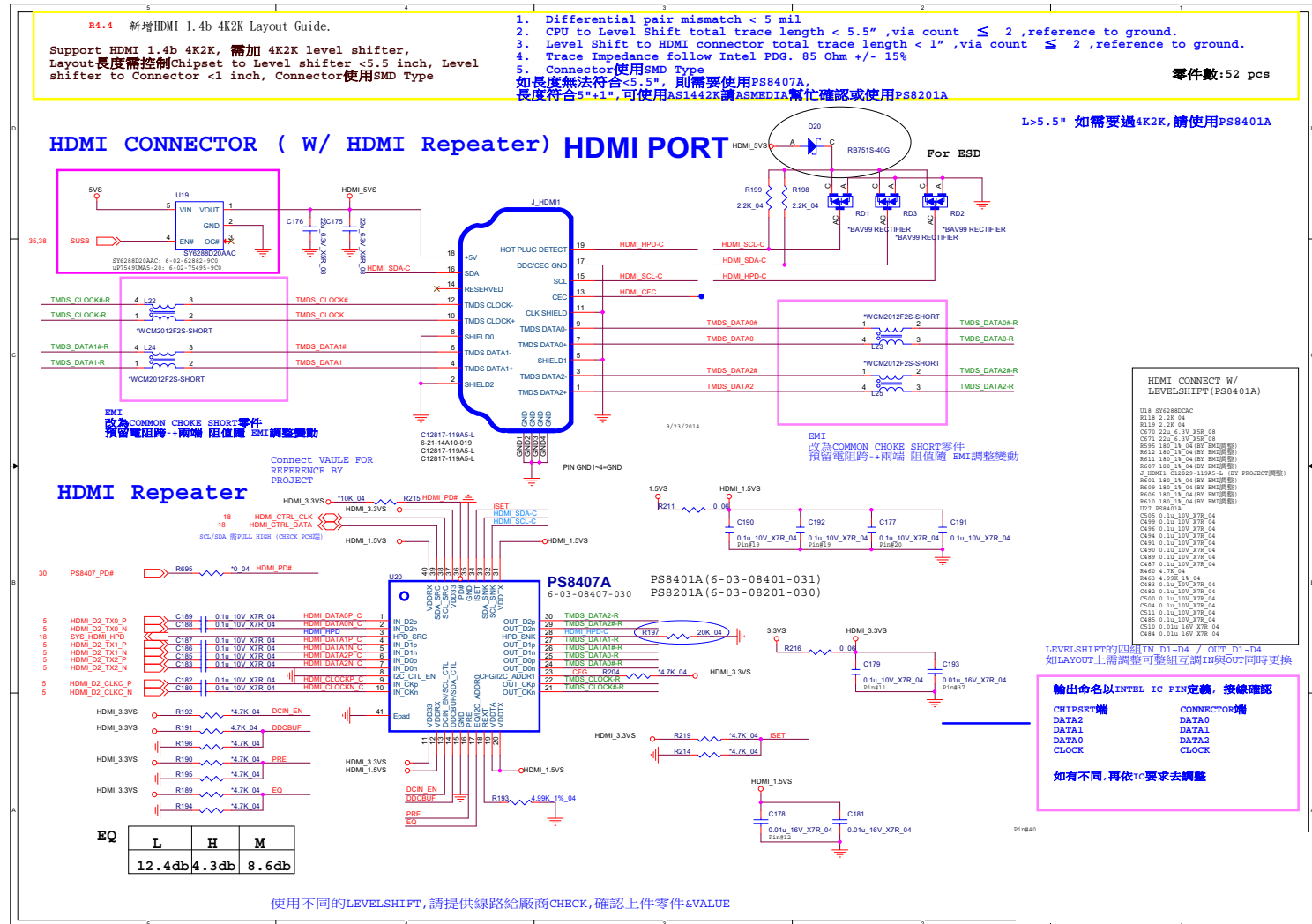
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LVDS, Inverter

B.Schematic Diagrams

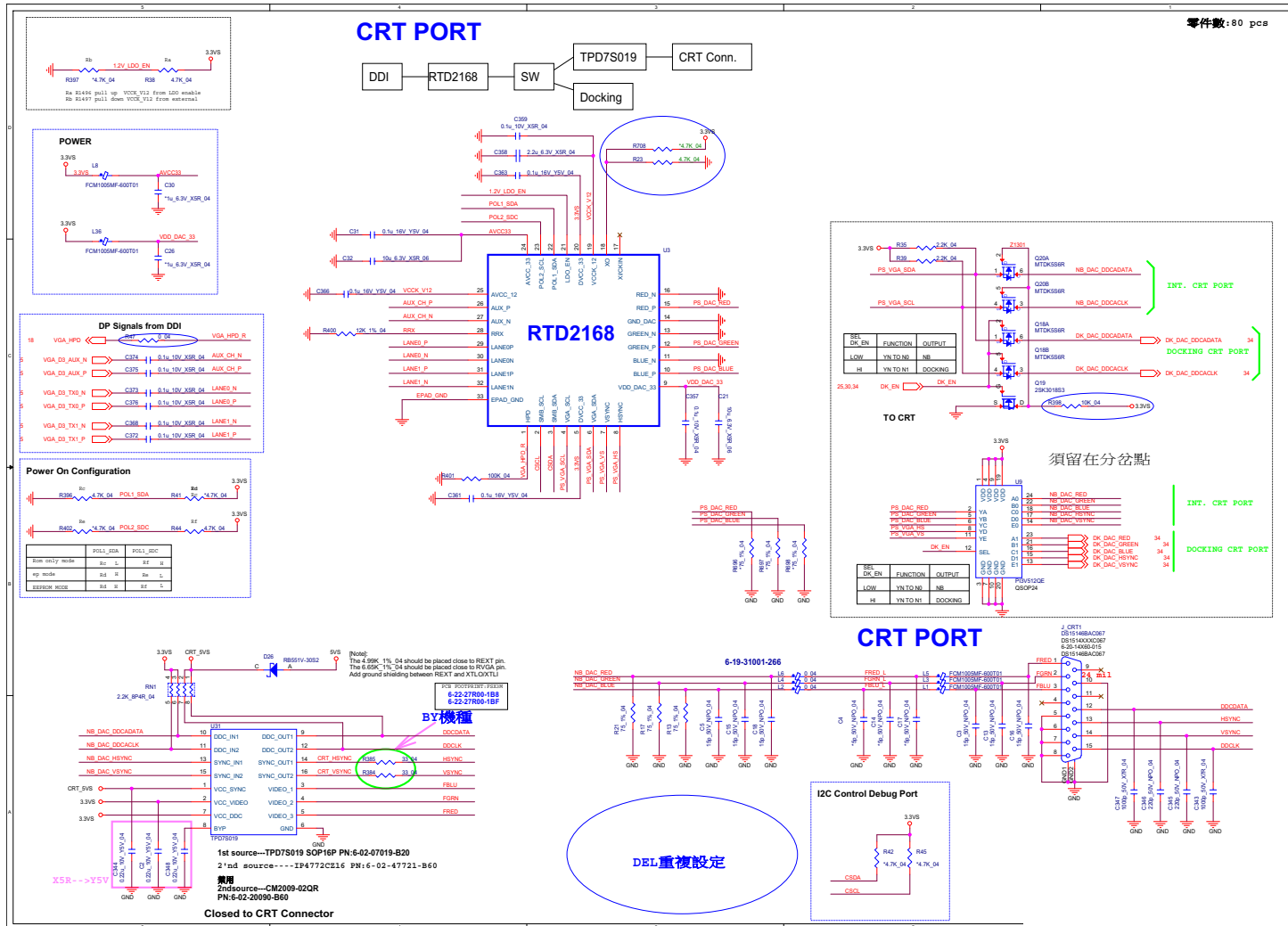
# Schematic Diagrams

## HDMI

Sheet 13 of 50  
HDMI



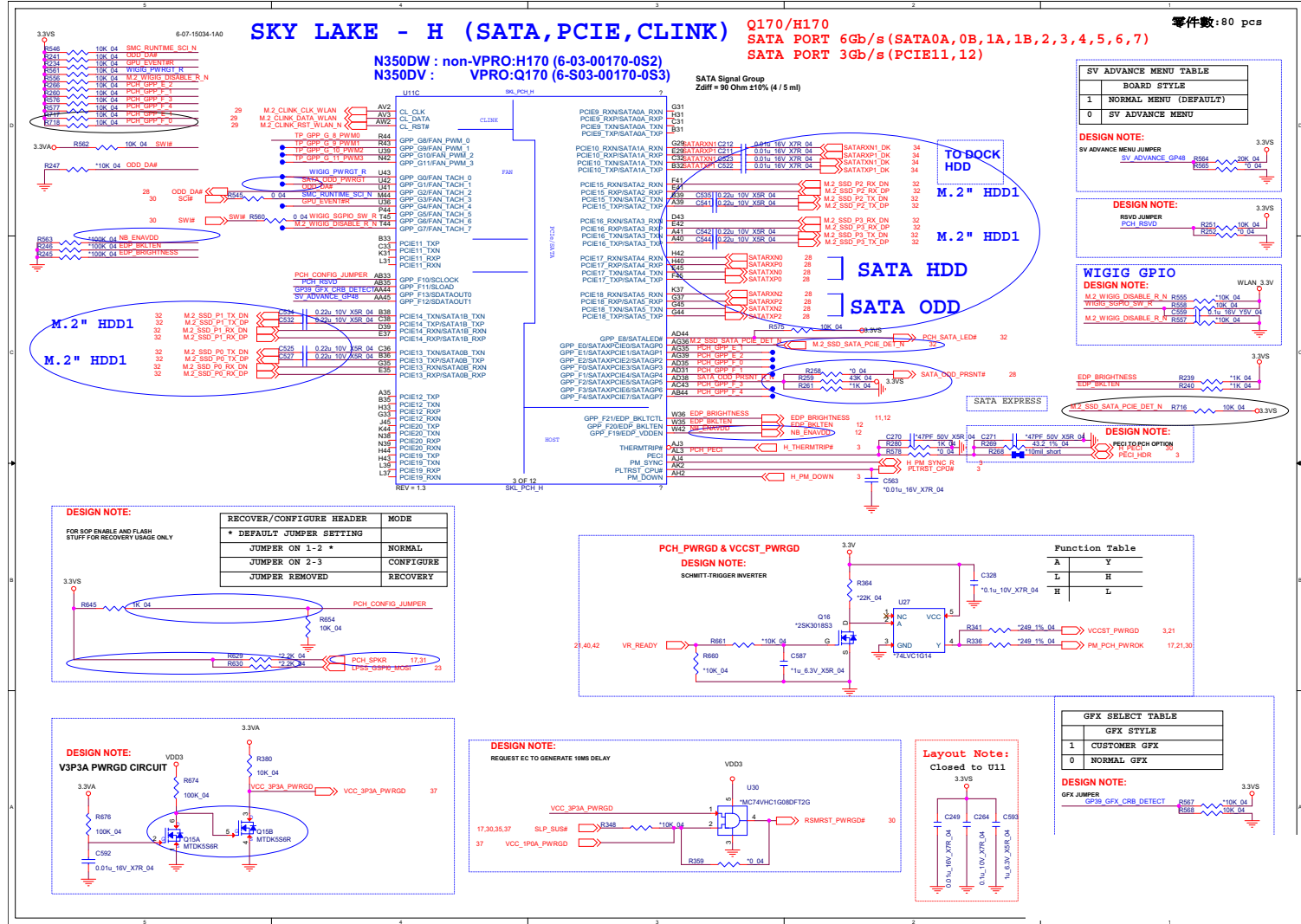
CRT



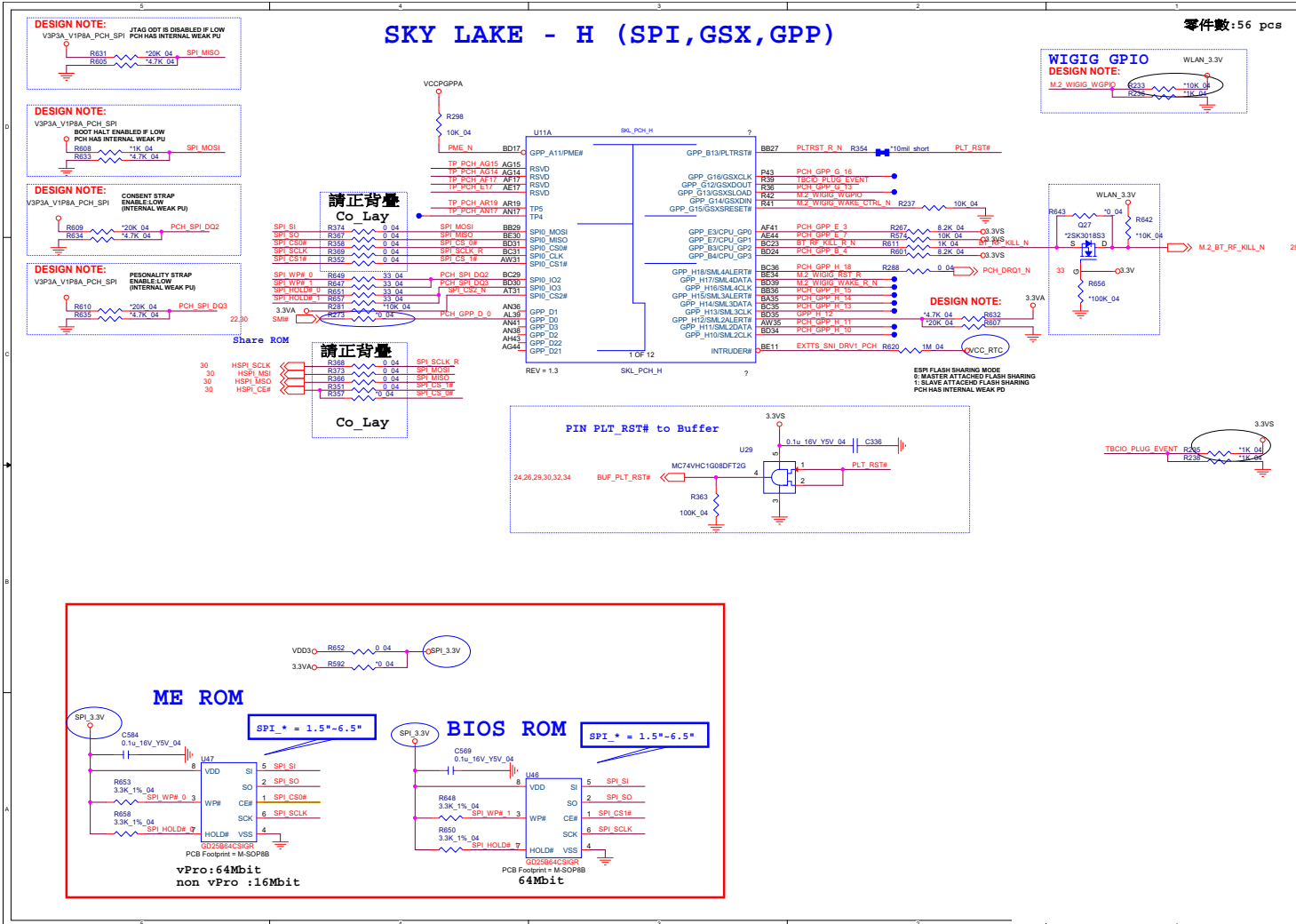
Sheet 14 of 50  
 CRT

# PCH-H 1/9

Sheet 15 of 50  
PCH-H 1/9

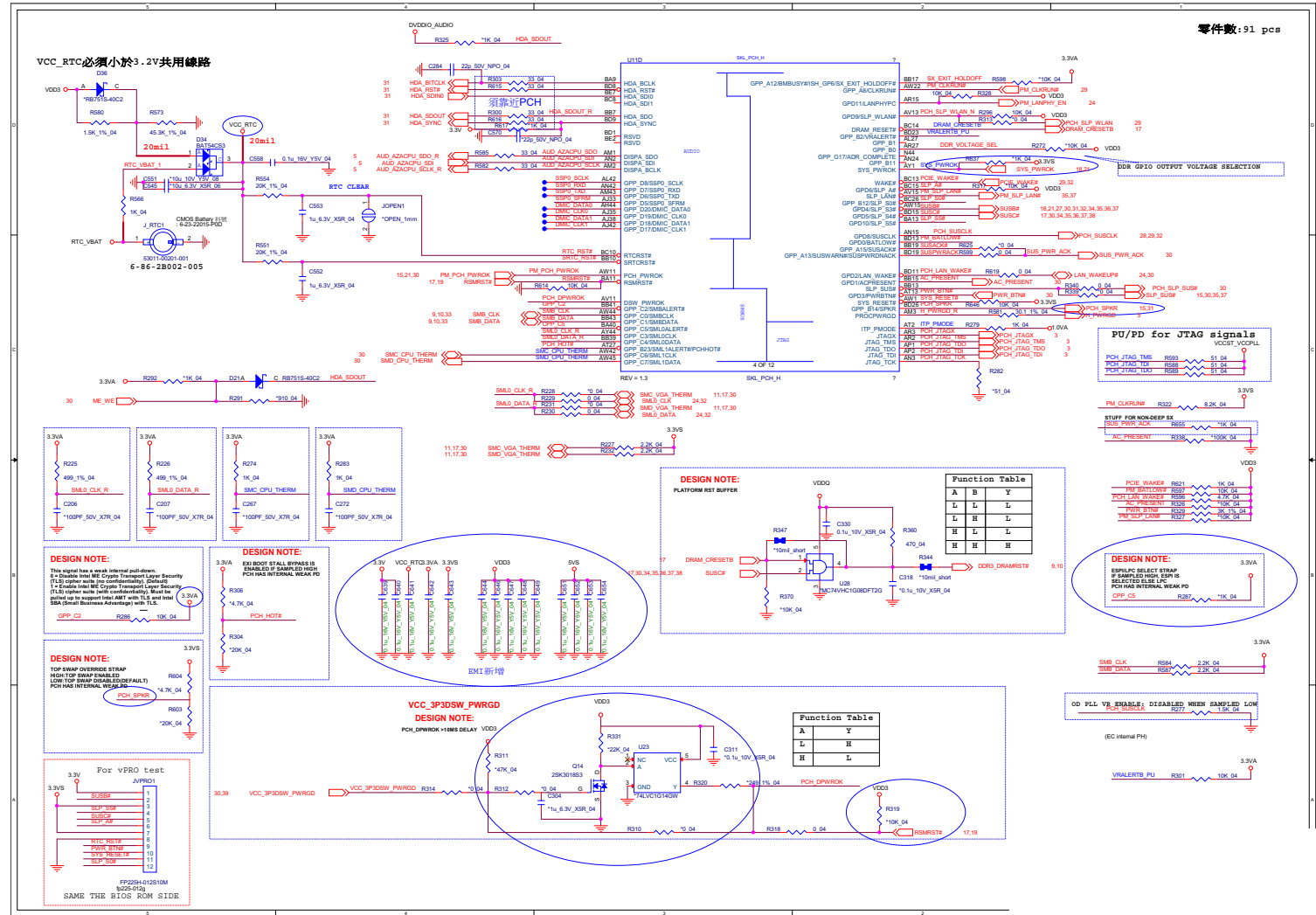


# PCH-H 2/9



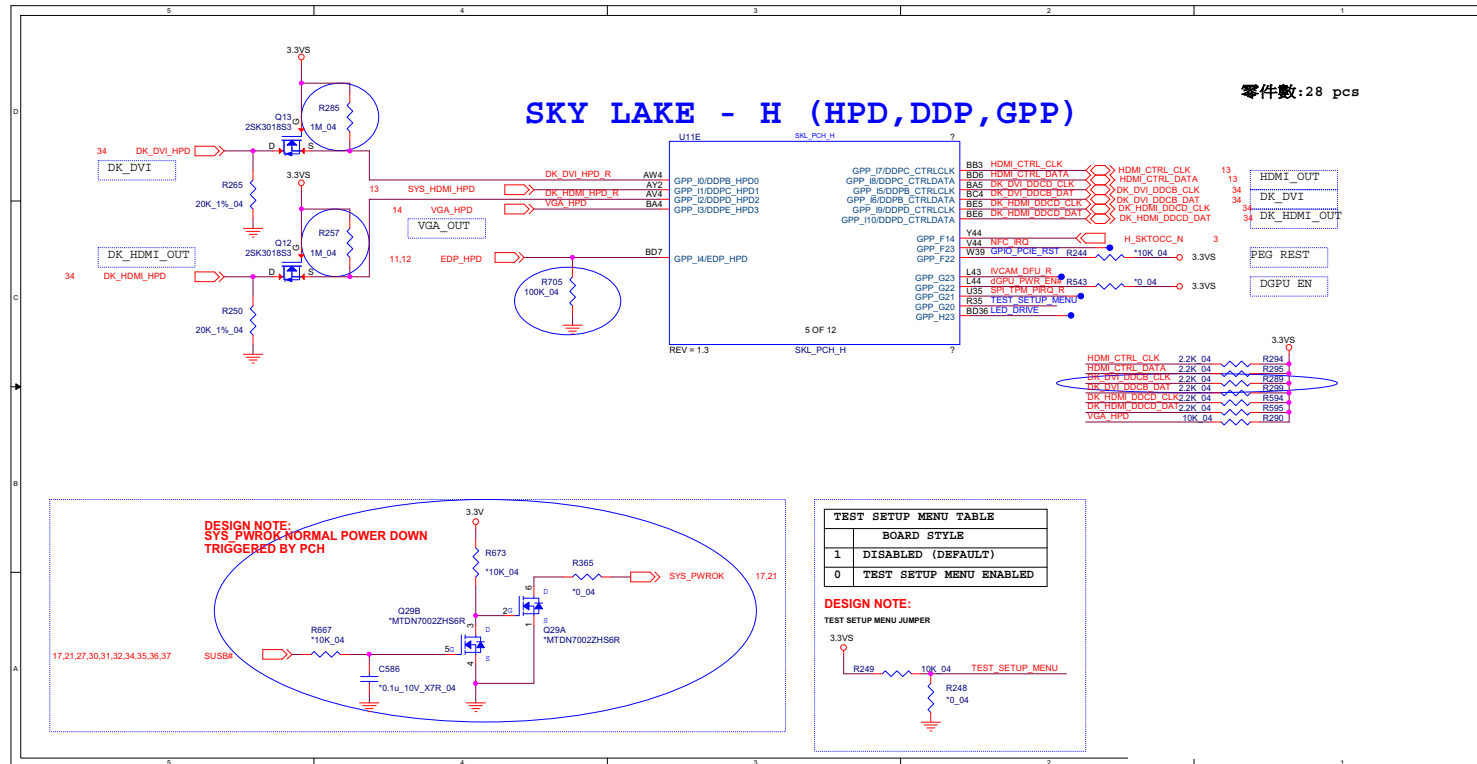
# PCH-H 3/9

Sheet 17 of 50  
PCH-H 3/9





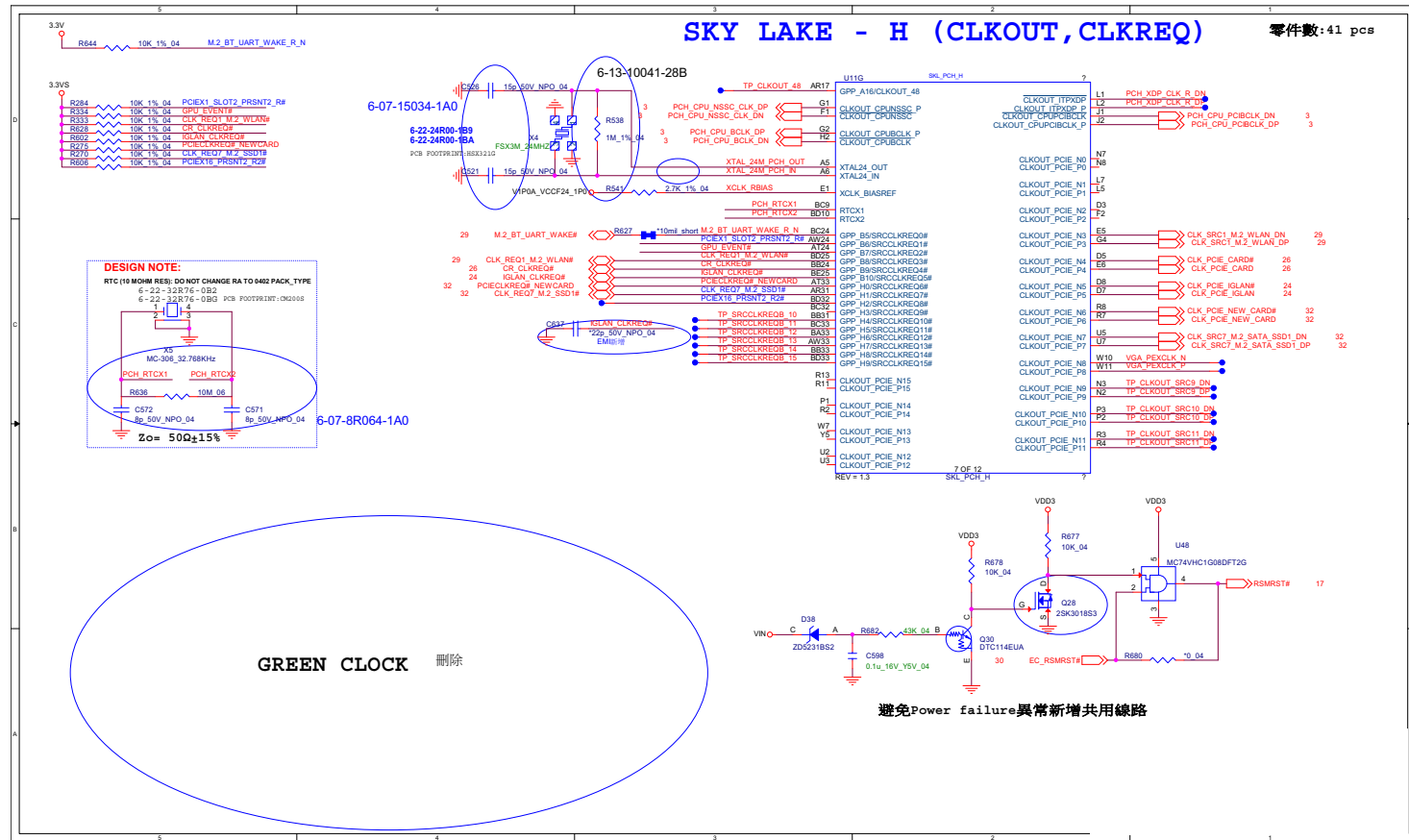
PCH-H 4/9



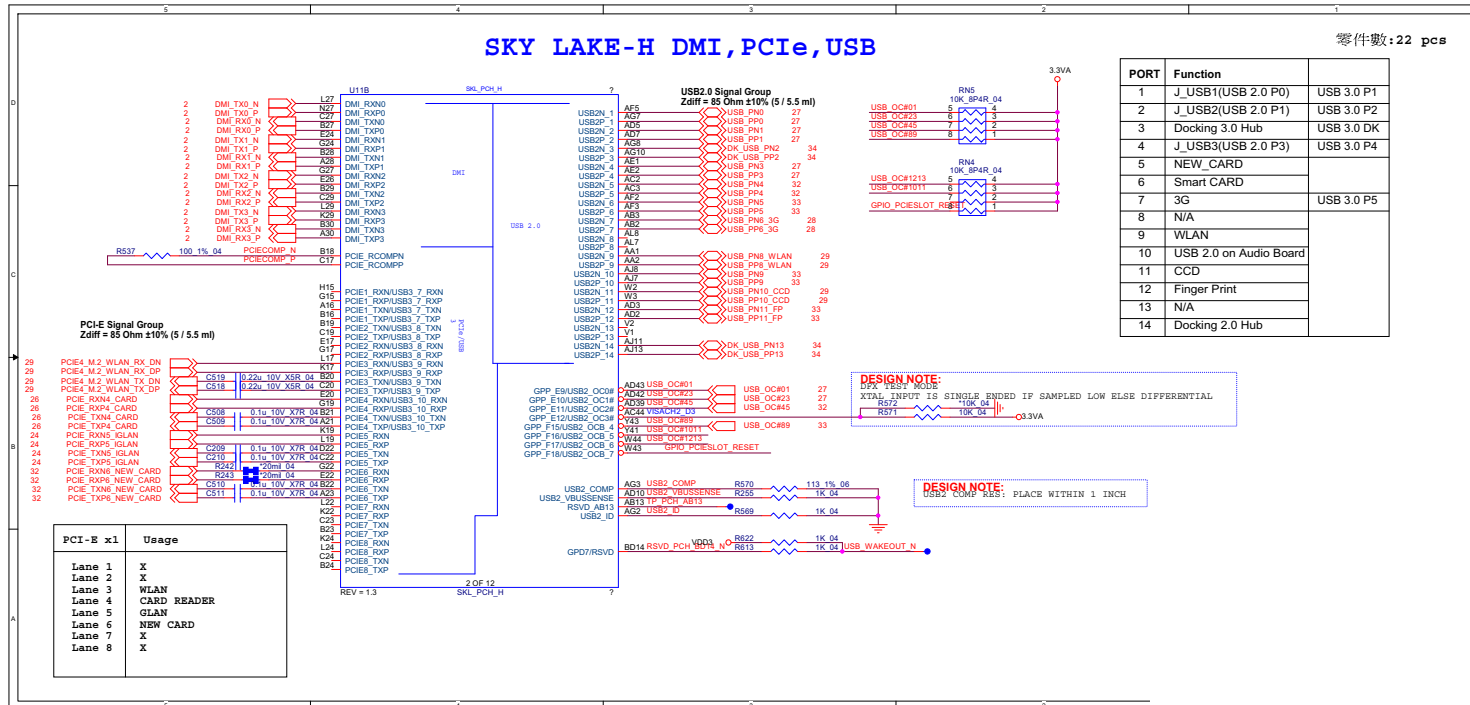
Sheet 18 of 50  
PCH-H 4/9

# PCH-H 5/9

Sheet 19 of 50  
PCH-H 5/9



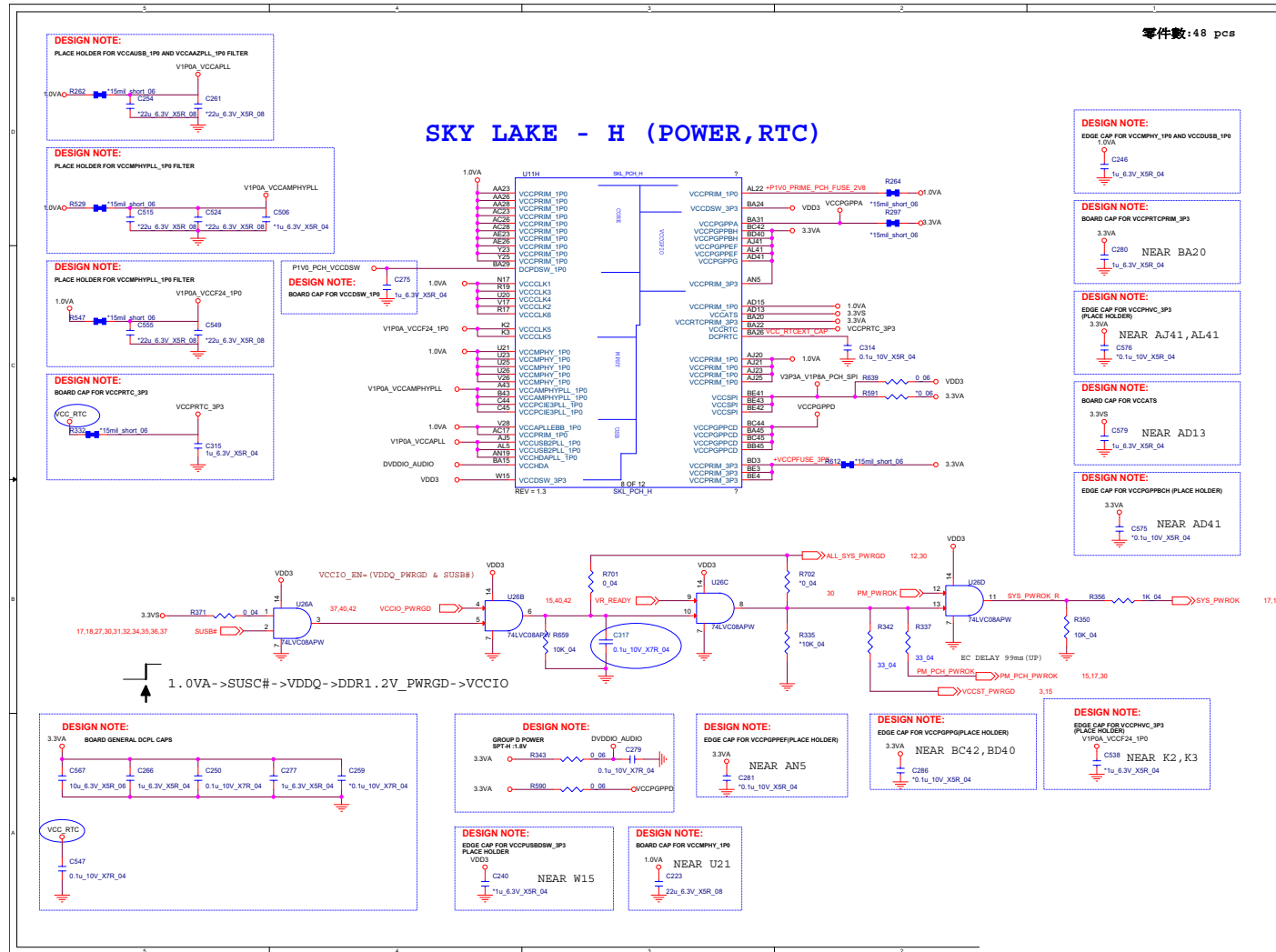
# PCH-H 6/9



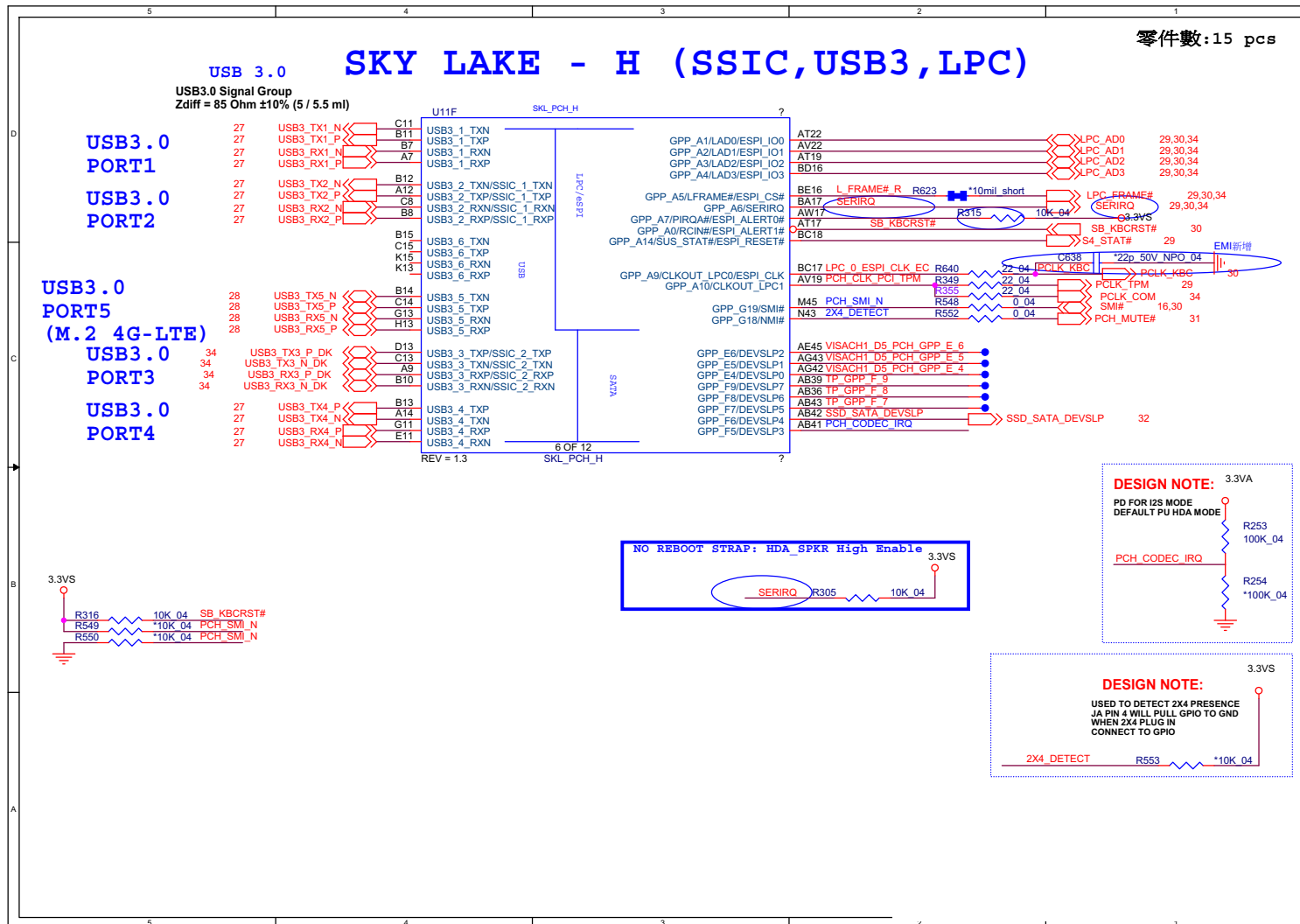
B.Schematic Diagrams

# Schematic Diagrams

## PCH-H 7/9



PCH-H 8/9

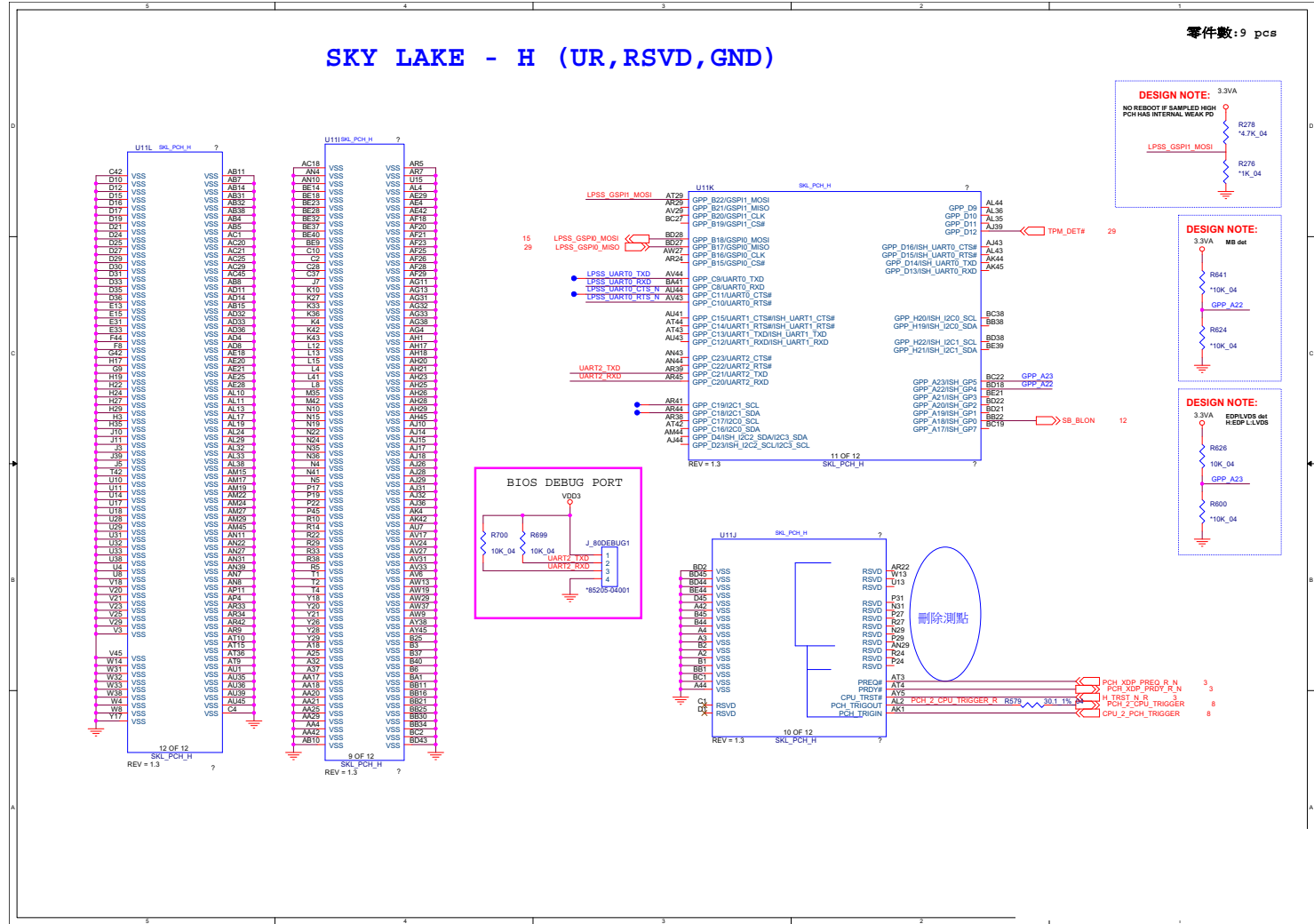


Sheet 22 of 50  
 PCH-H 8/9

B.Schematic Diagrams

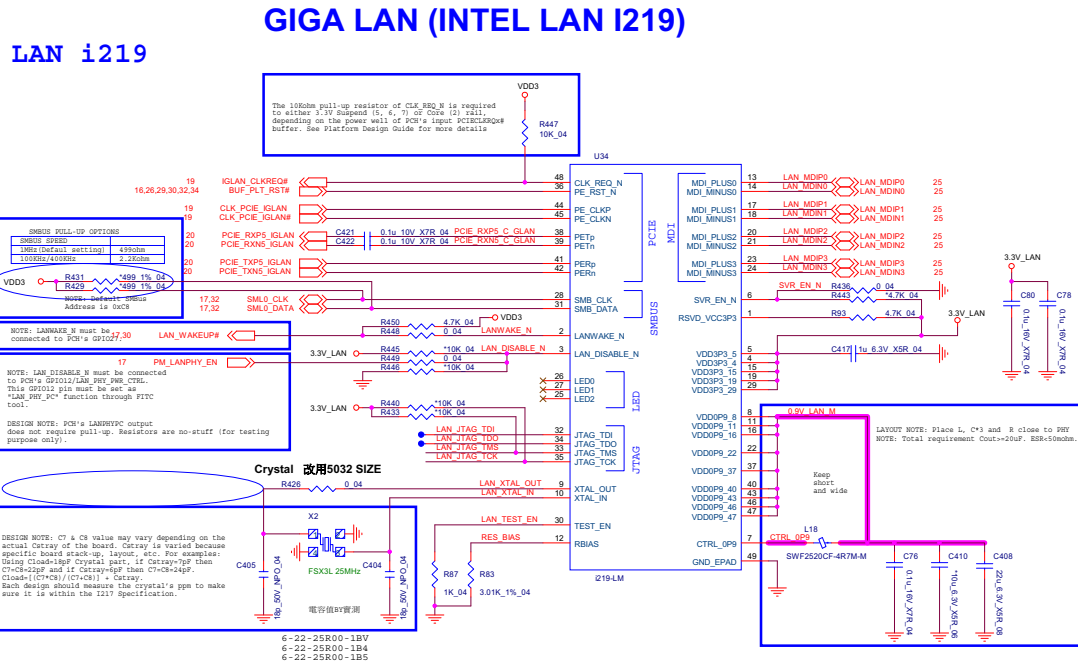
# PCH-H 9/9

Sheet 23 of 50  
PCH-H 9/9



# Intel LAN i219-LM

零件数: 30 pcs



	U27 SB	U6 LAN	U47 ME	U46 Bios+EC
N350DV VPRO	Q170 6-803-0Q170-081	i219-LM 6-803-00219-030	GD25B64CSIGR 6-04-02564-A75	GD25B64CSIGR 6-04-02564-A75
N350DW non-VPRO	H170 6-803-0H170-081	i219-V 6-803-00219-031	GD25B64CSIGR 6-04-02564-A75	GD25B64CSIGR 6-04-02564-A75

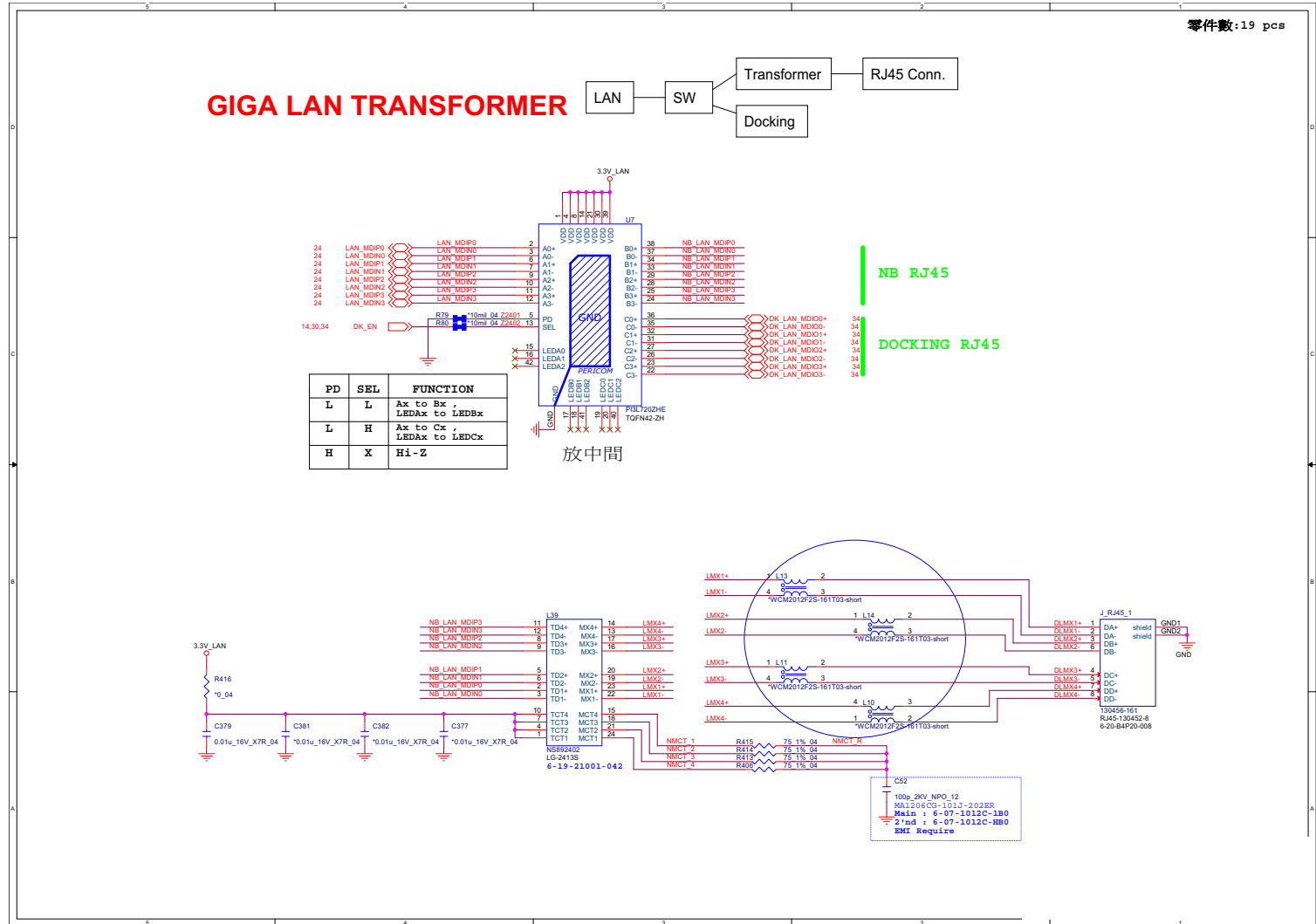
B.Schematic Diagrams

Sheet 24 of 50  
Intel LAN i219-LM

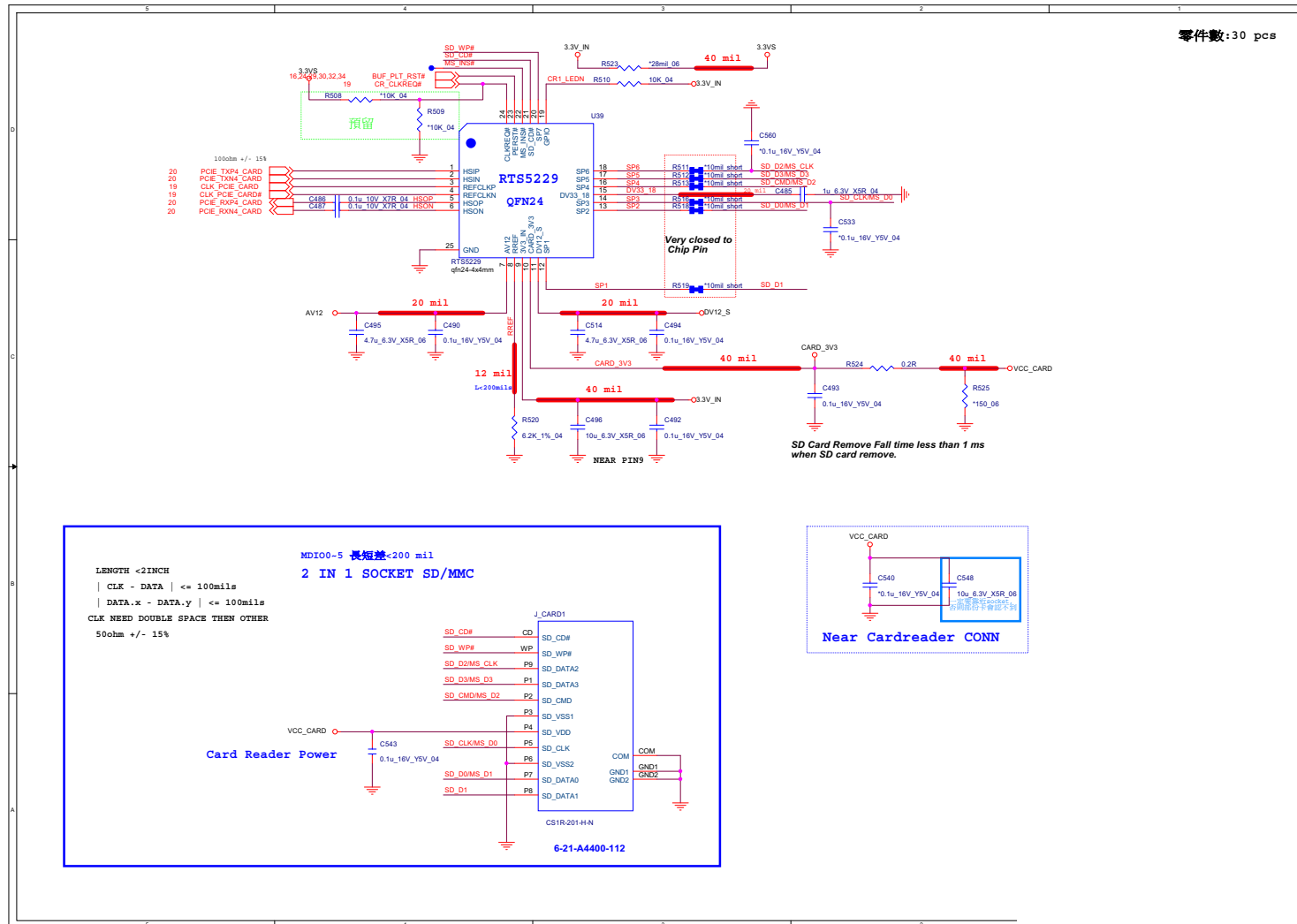


# LAN Transformer

Sheet 25 of 50  
LAN Transformer



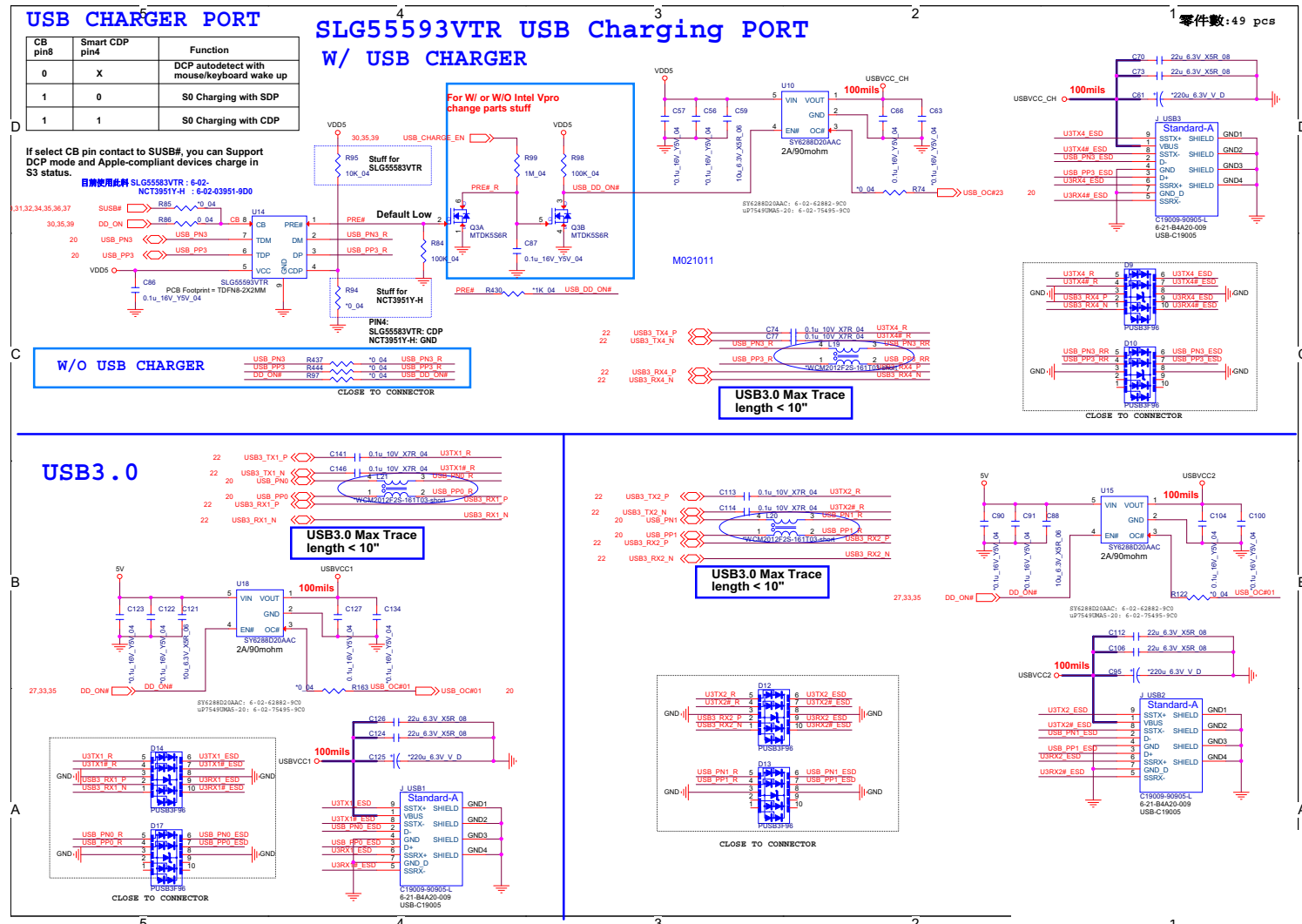
# Card Reader RTS5229



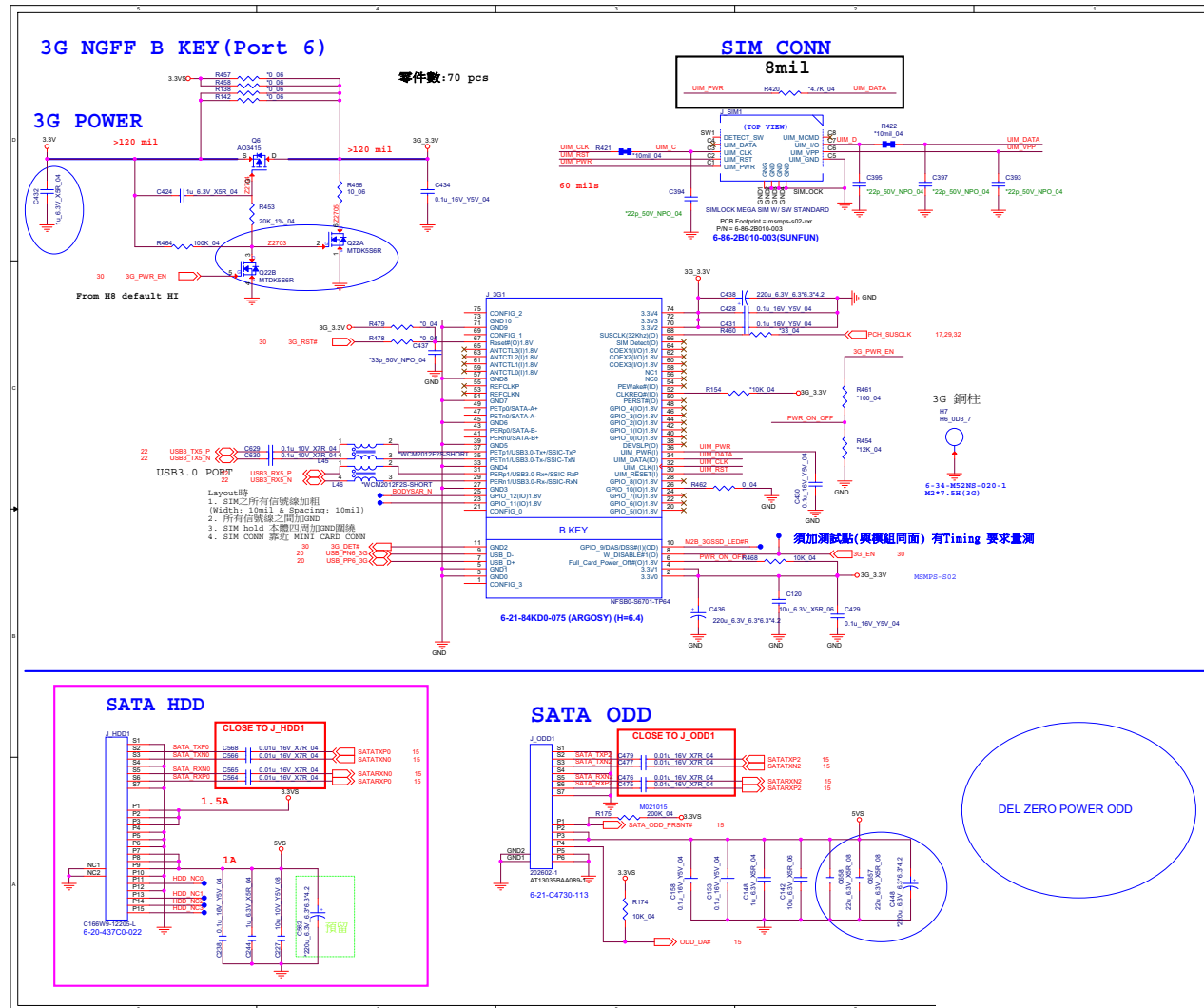
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 Card Reader  
 RTS5229

USB Port

B.Schematic Diagrams



# 3G, HDD, ODD

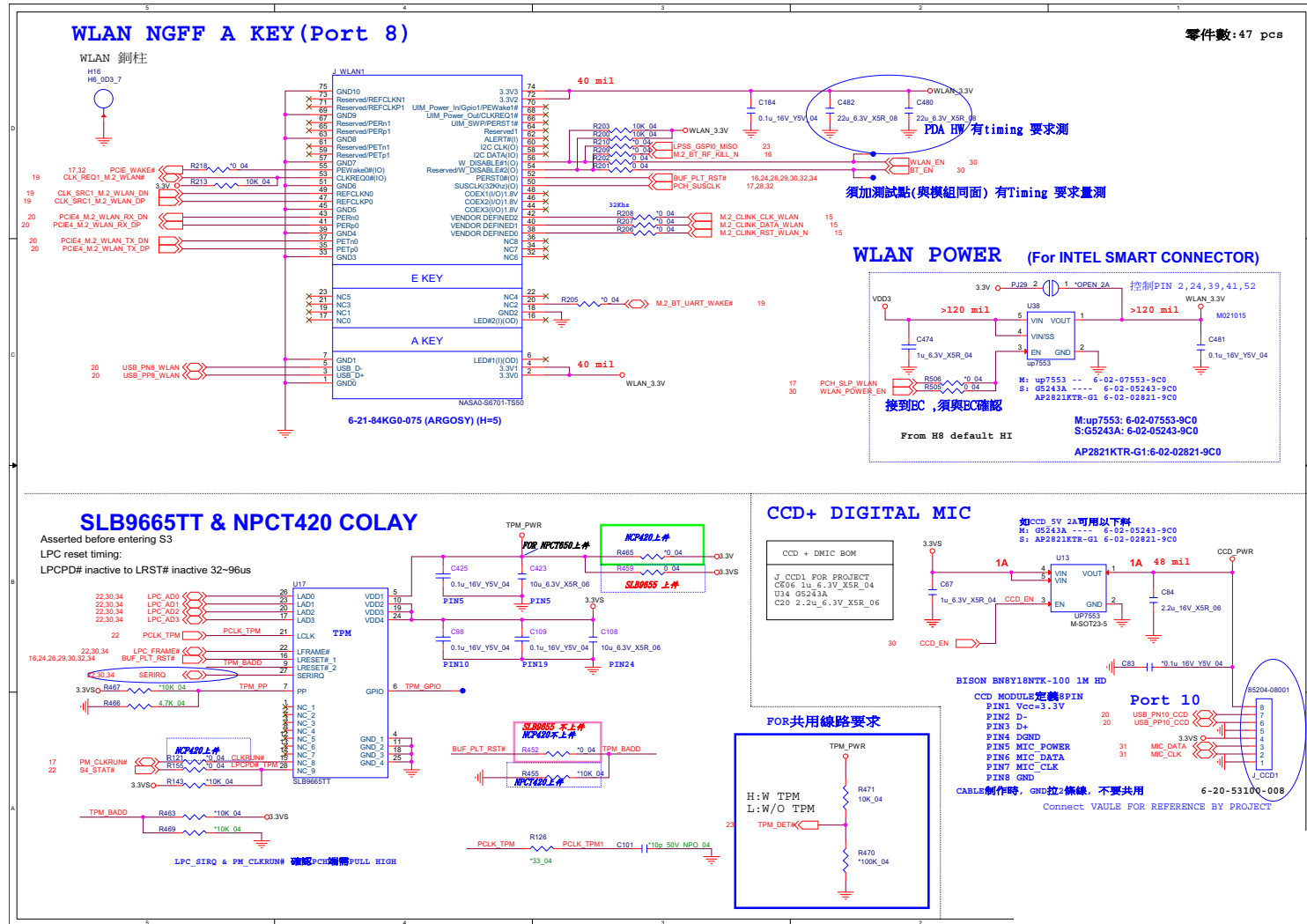


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3G, HDD, ODD

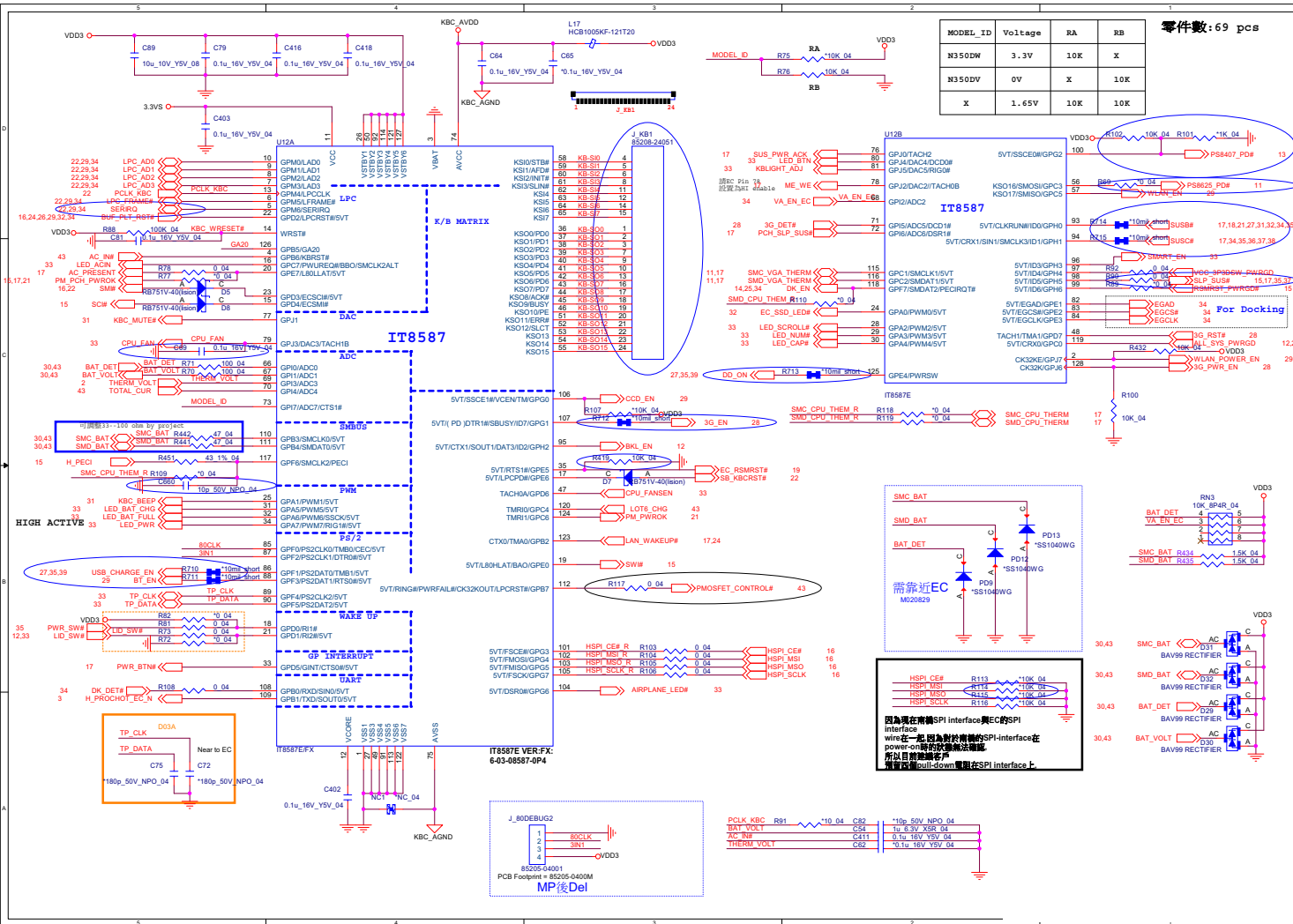
B.Schematic Diagrams

# WLAN, CCD, TPM

Sheet 29 of 50  
WLAN, CCD, TPM



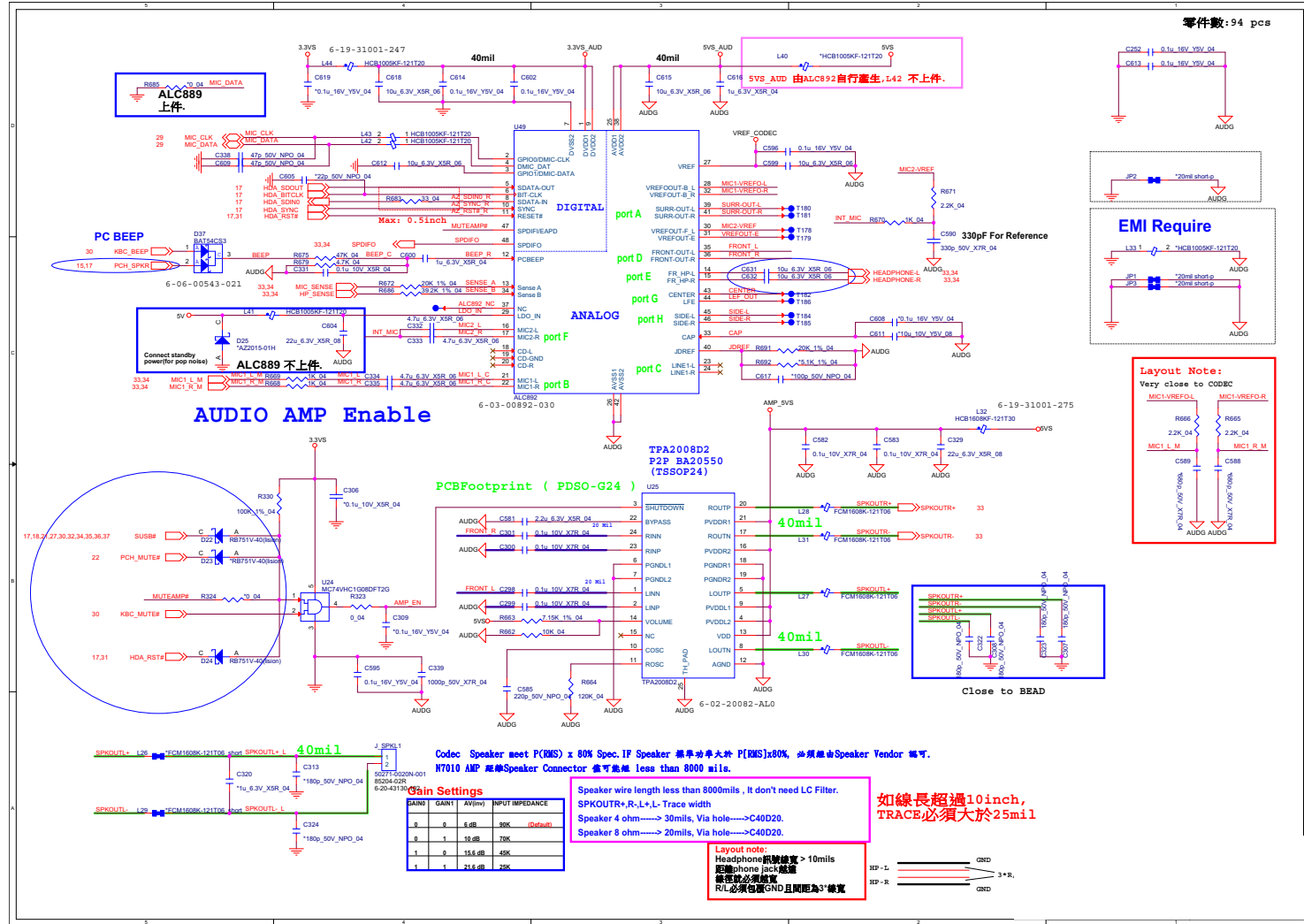
# KBC-ITE IT8587



B.Schematic Diagrams



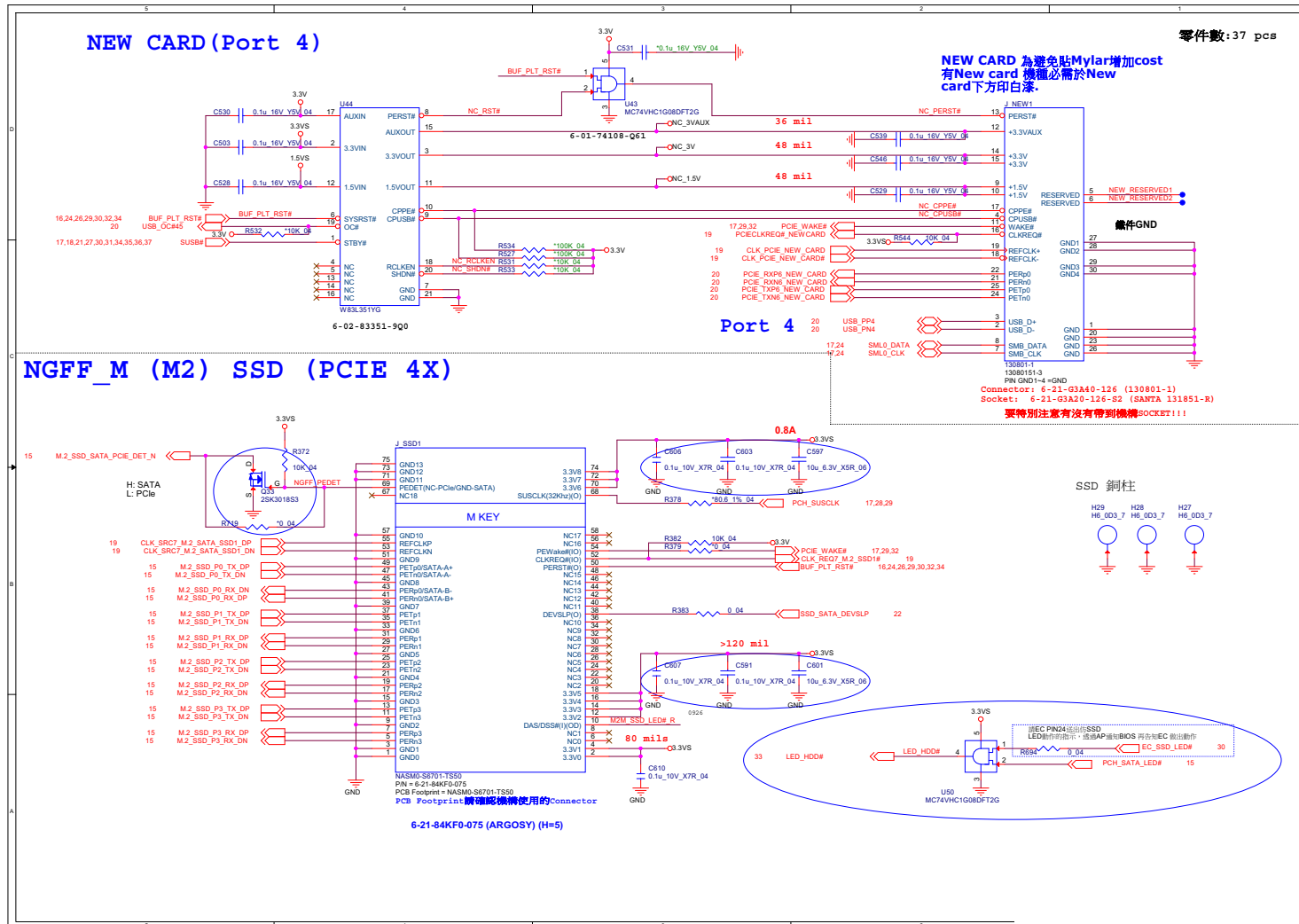
# AUDIO CODEC ALC892+TPA2008



B.Schematic Diagrams

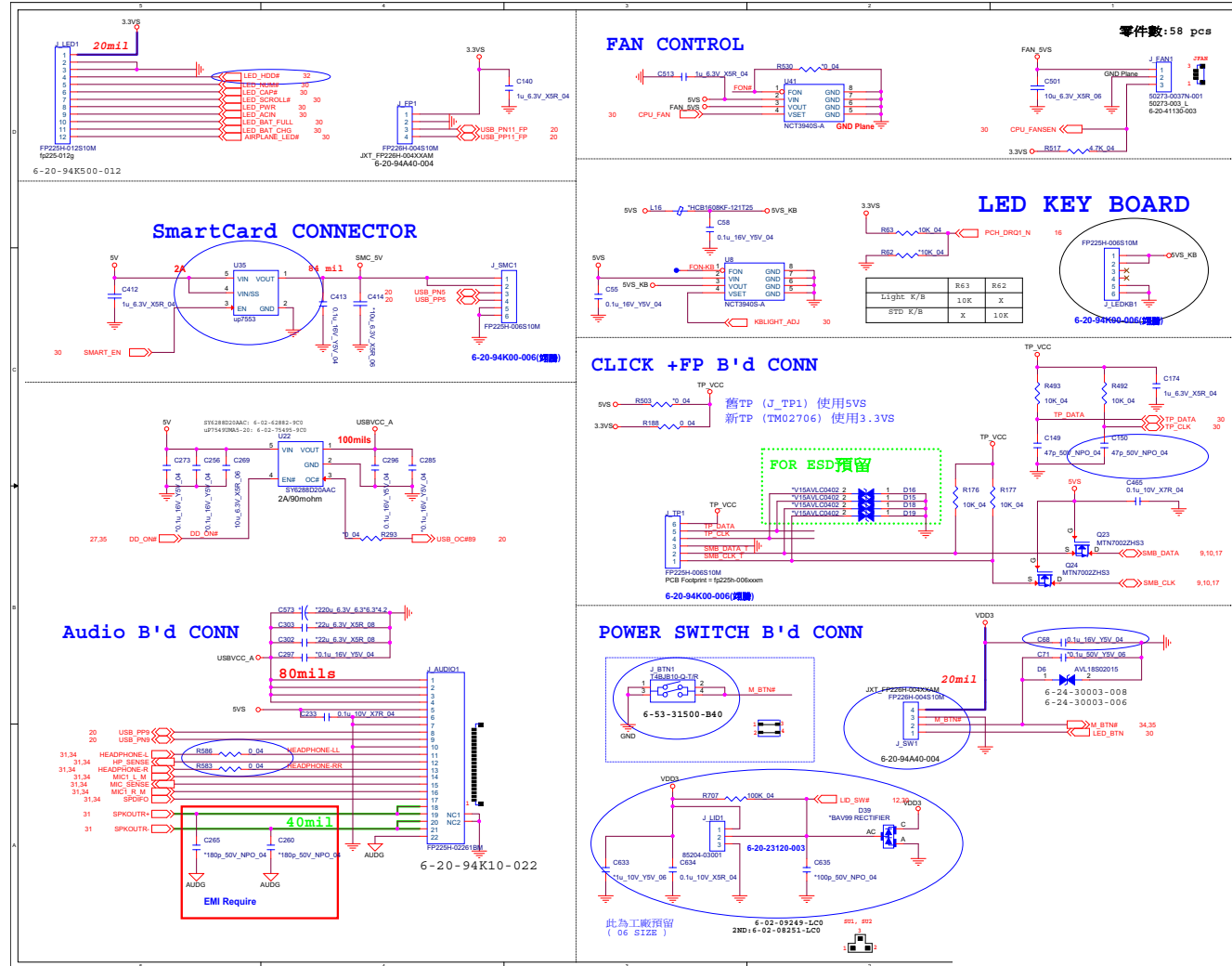
Sheet 31 of 50  
 AUDIO CODEC  
 ALC892+TPA2008

# New Card, SSD



Sheet 32 of 50  
New Card, SSD

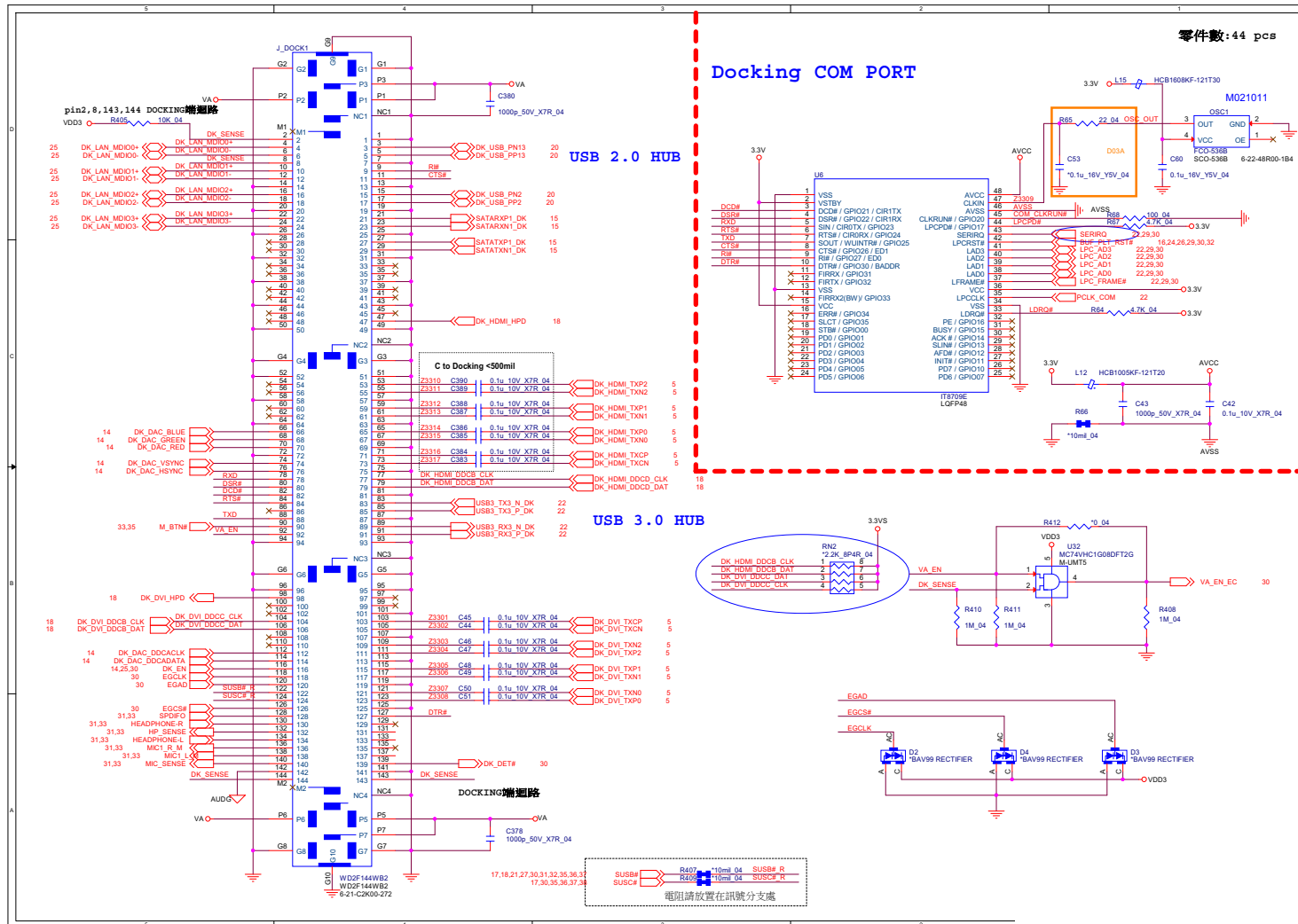
# Fan, TP, Connector



B.Schematic Diagrams

Sheet 33 of 50  
Fan, TP, Connector

# Docking Connector, COM Port

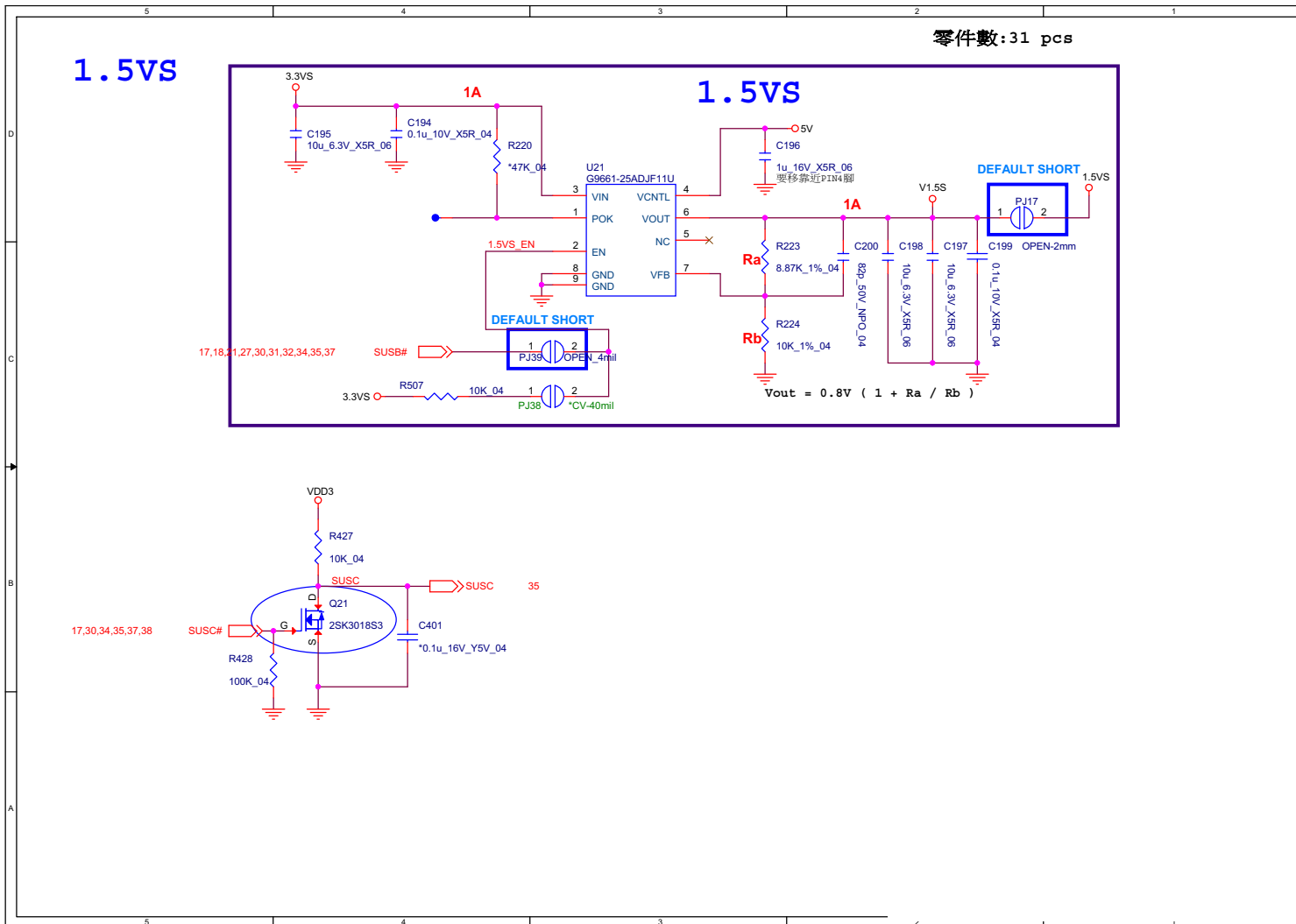


Sheet 34 of 80  
Docking  
Connector,  
COM Port

B.Schematic Diagrams



# 1.05V Series



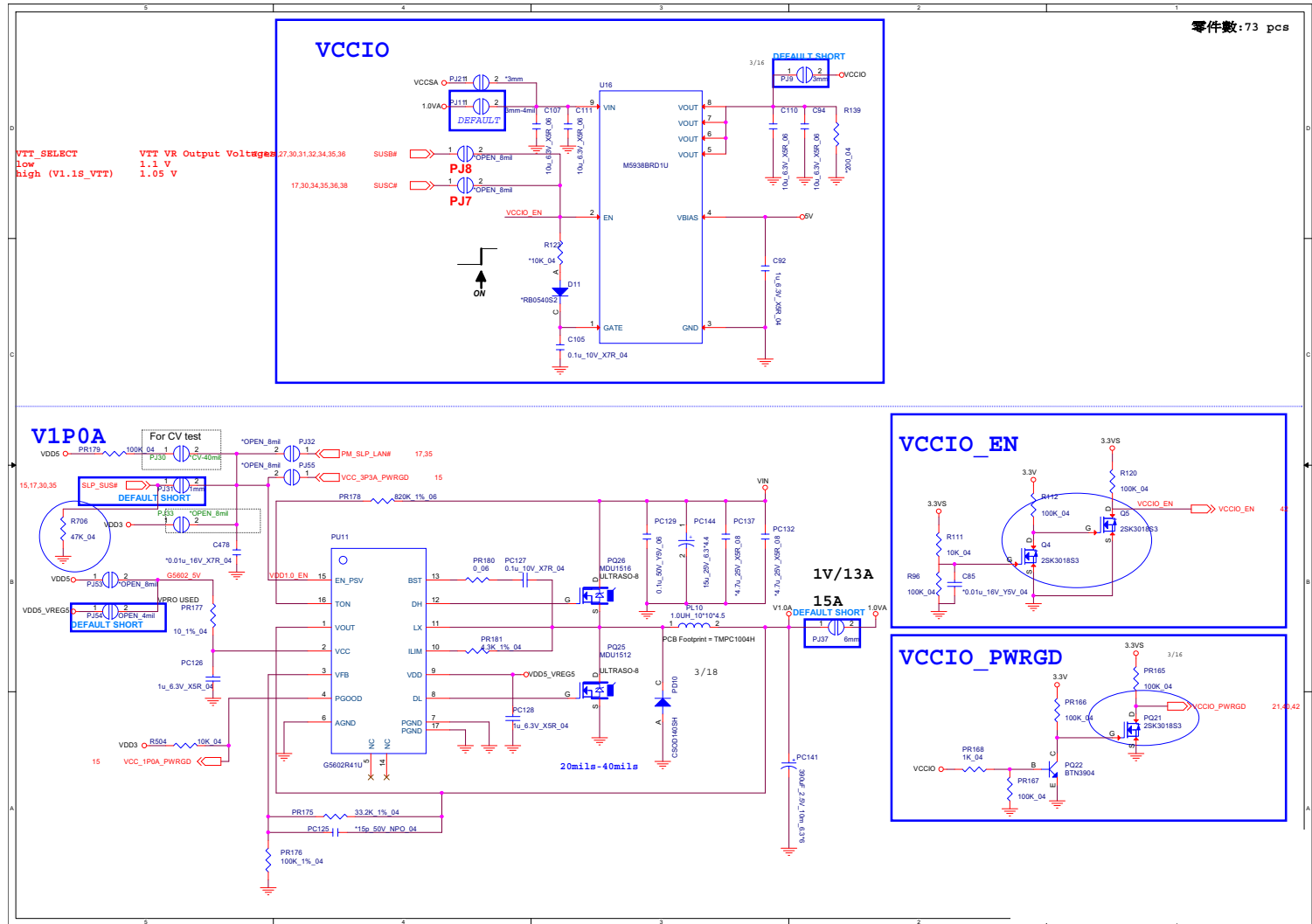
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1.05V Series

B.Schematic Diagrams



# Schematic Diagrams

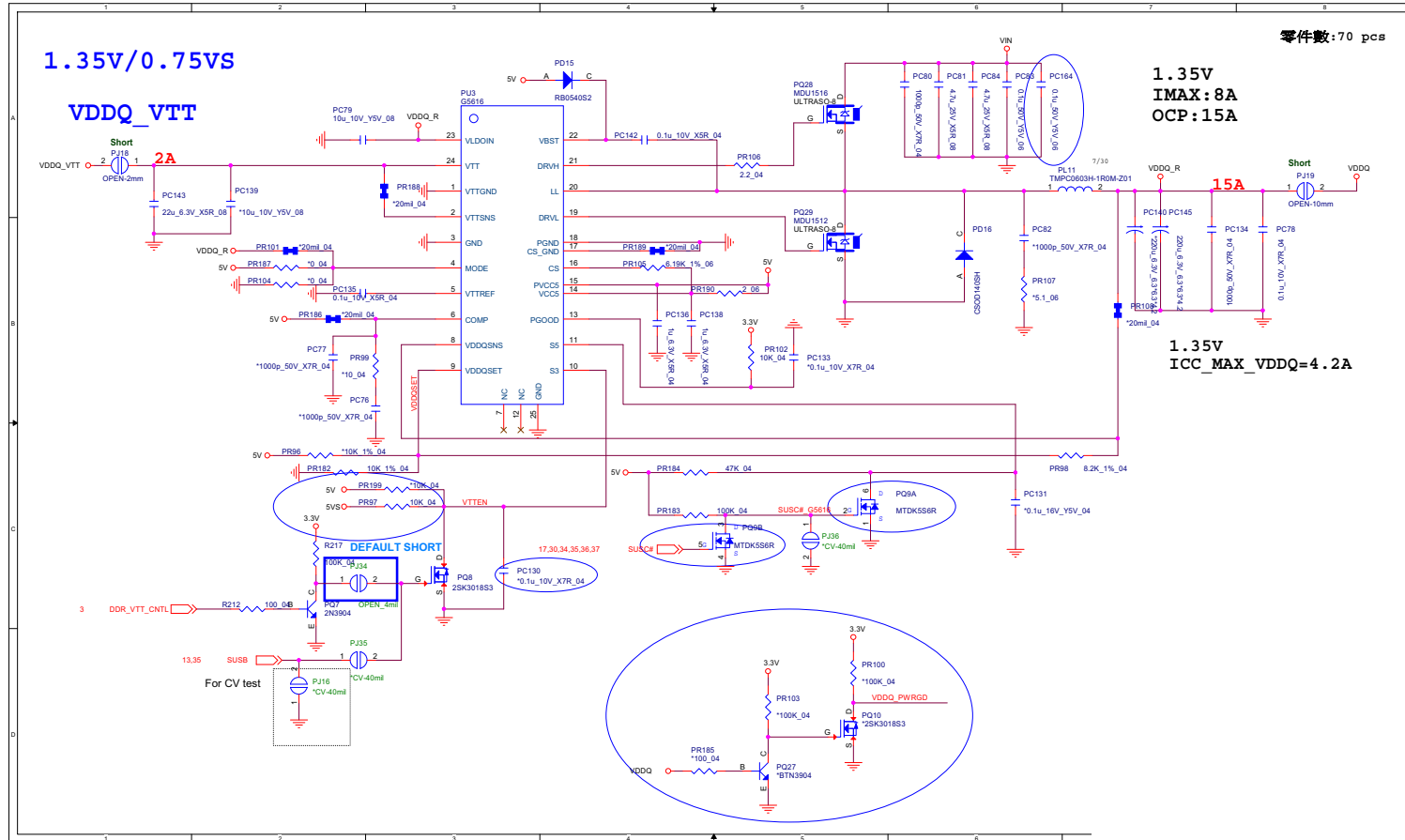
## 1.0V/VCC\_IO



B.Schematic Diagrams

Sheet 37 of 50  
1.0V/VCC\_IO

# DDR 1.35V / 0.75VS



B.Schematic Diagrams

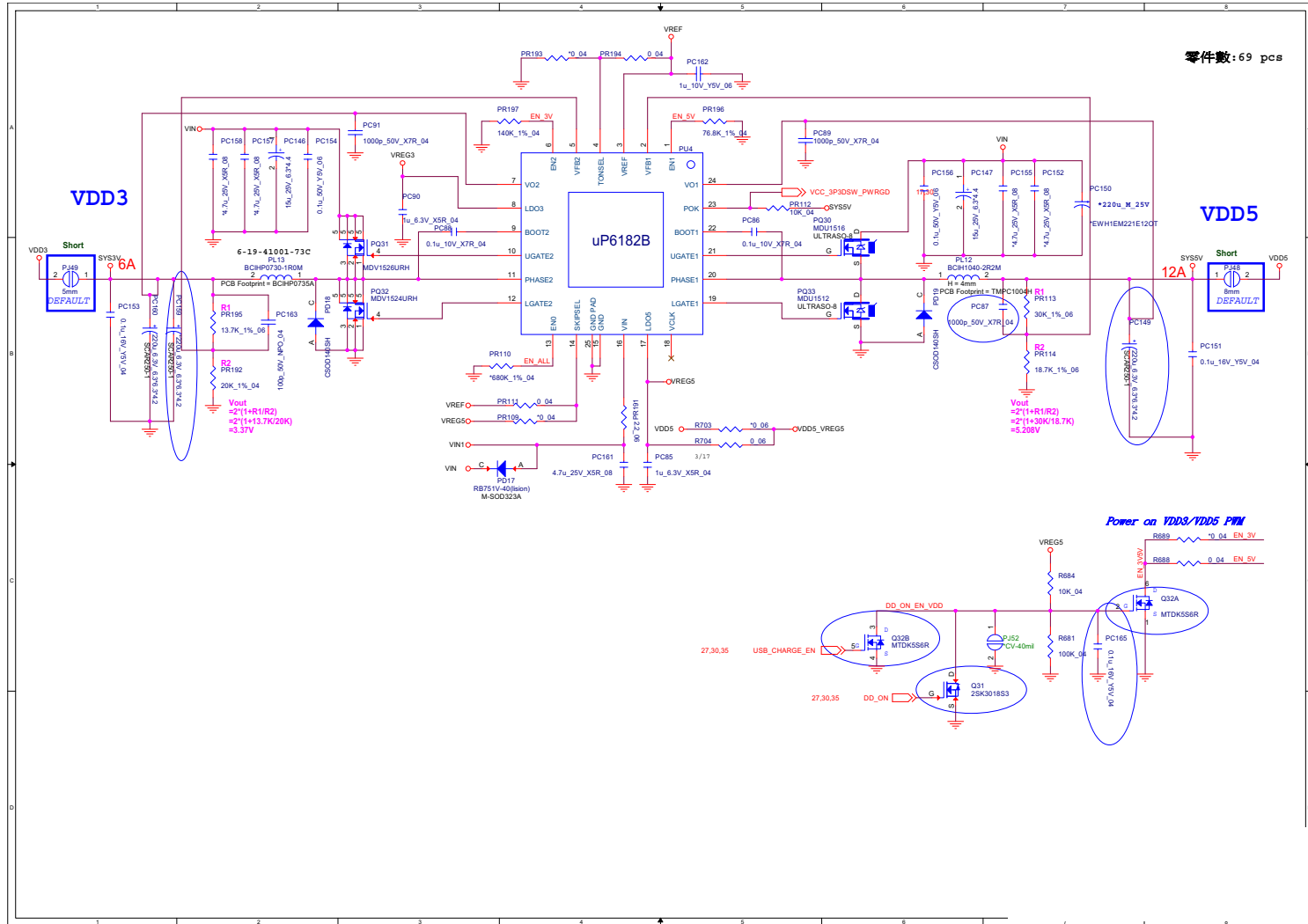
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DDR 1.35V / 0.75VS

Schematic Diagrams

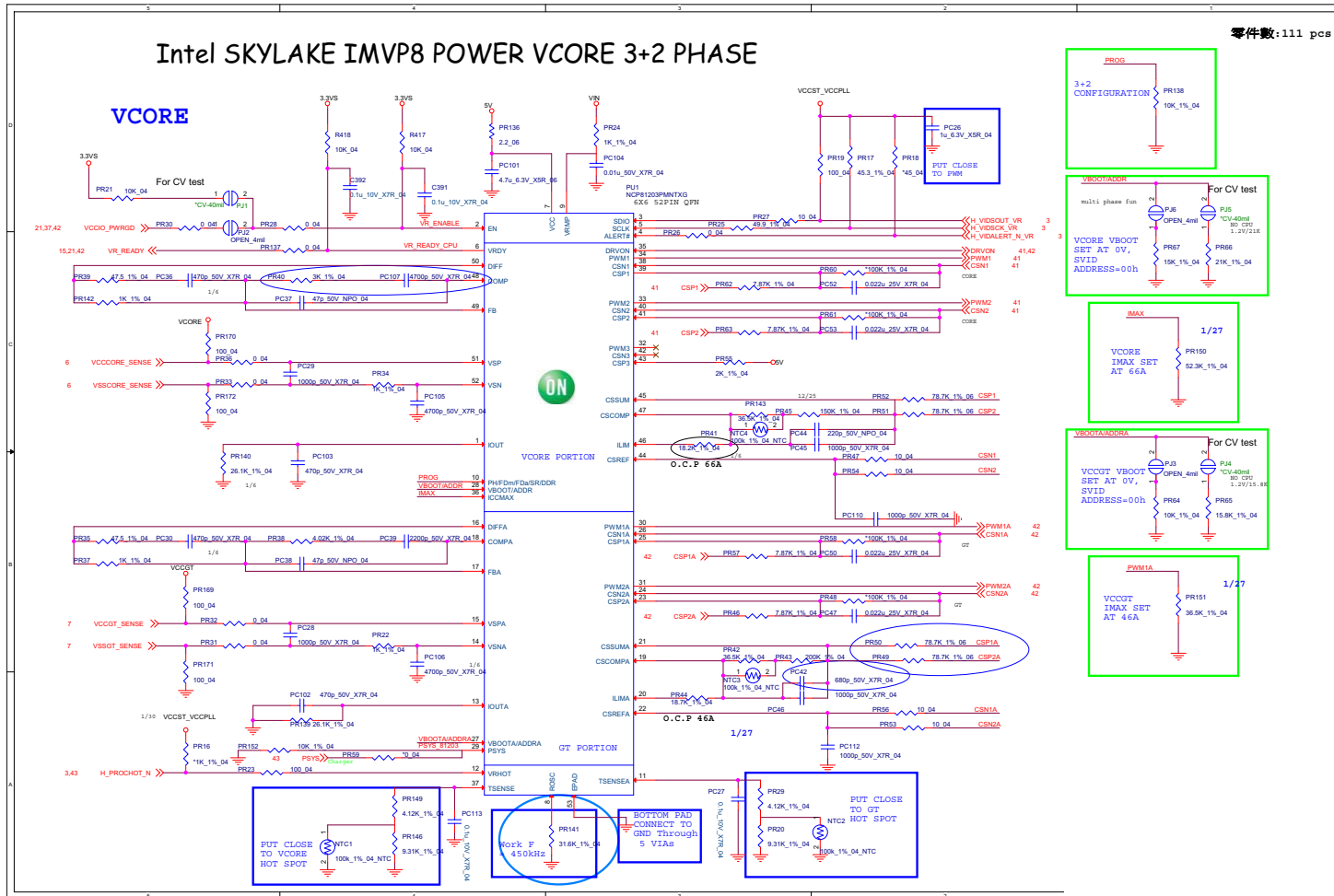
VDD3, VDD5

B.Schematic Diagrams

Sheet 39 of 50  
VDD3, VDD5



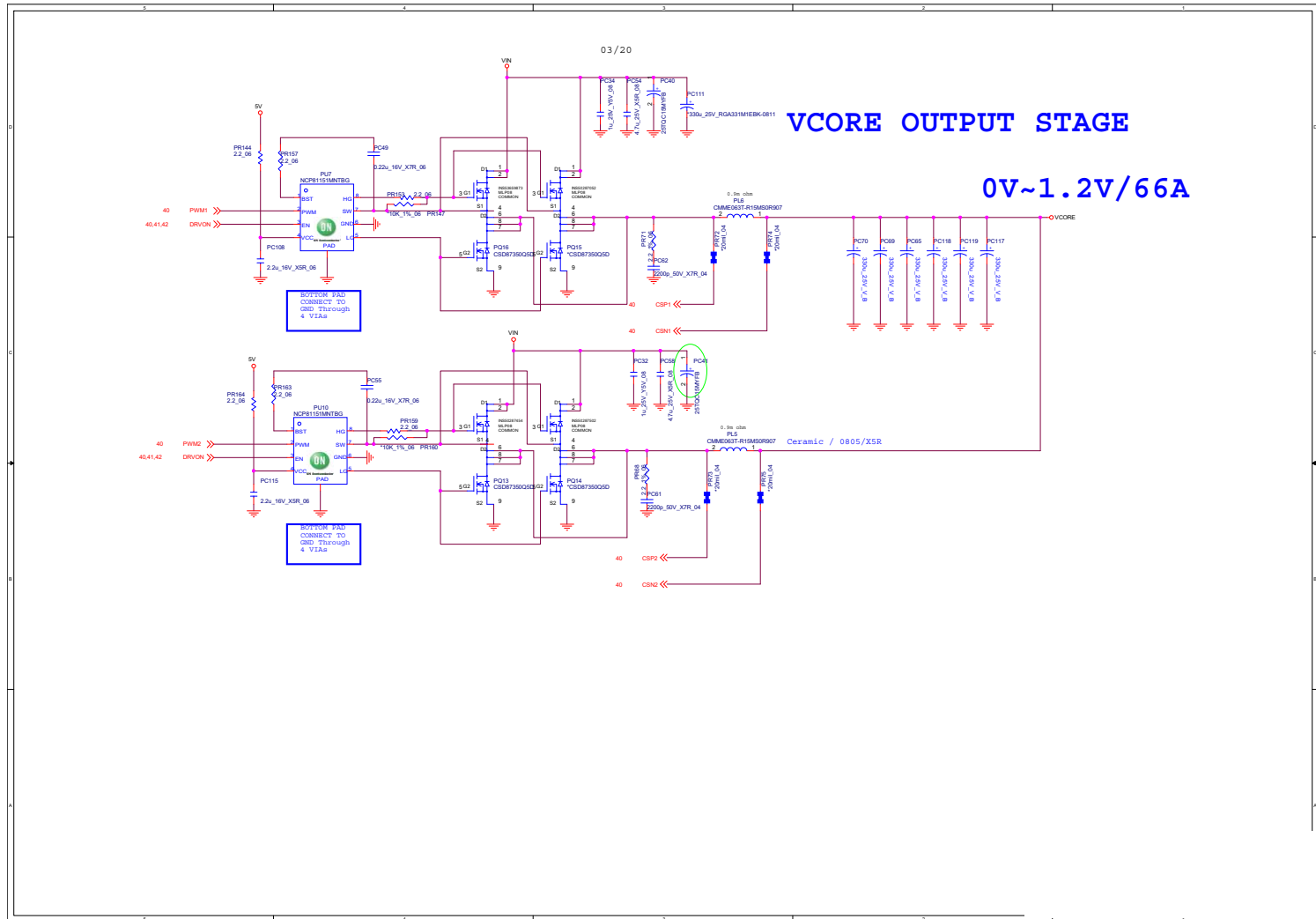
# VCore & VCCGT



Sheet 40 of 50  
VCore & VCCGT

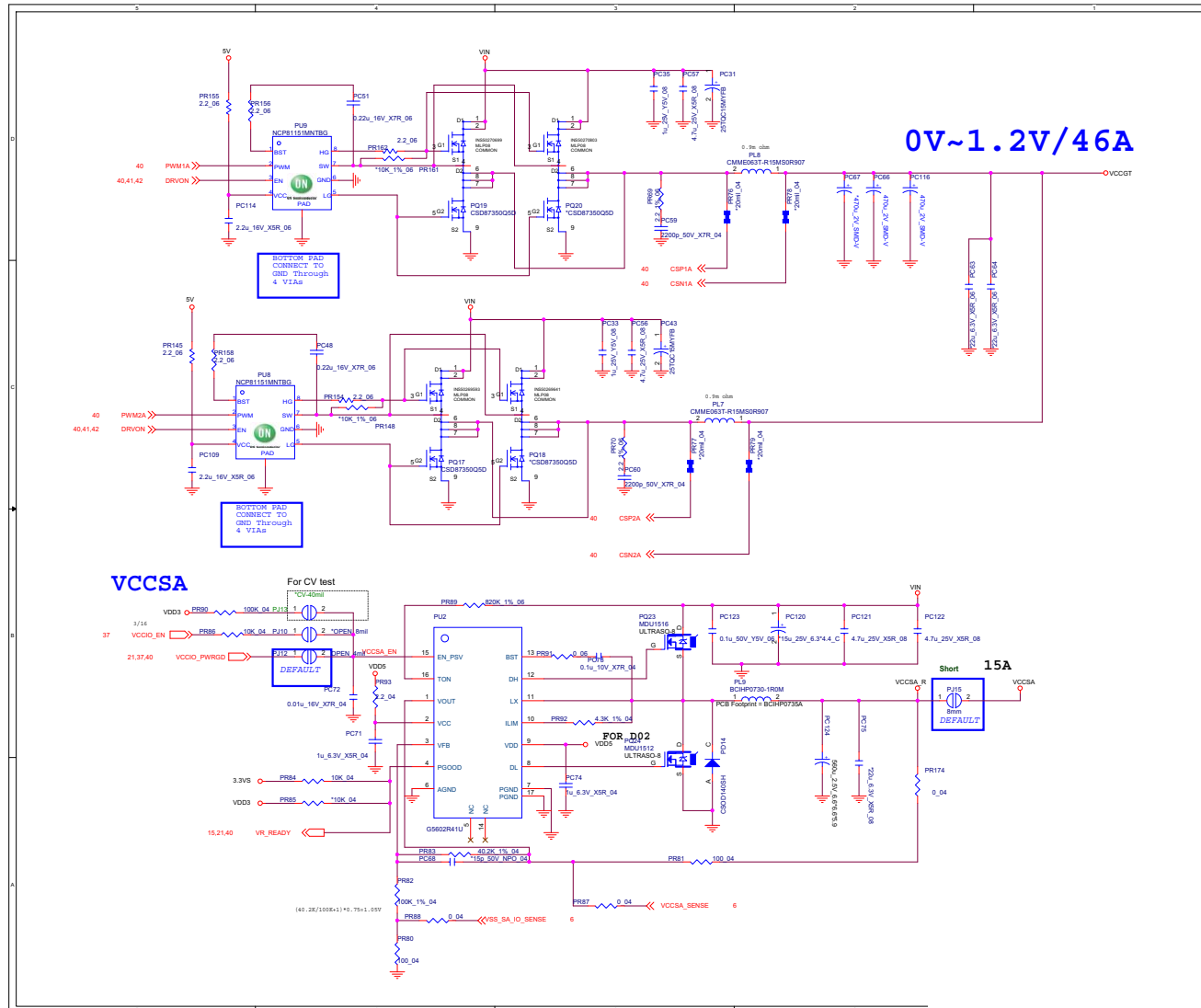
B.Schematic Diagrams

# VCore Output Stage



Sheet 41 of 50  
VCore Output Stage

# VCCGT Output Stage



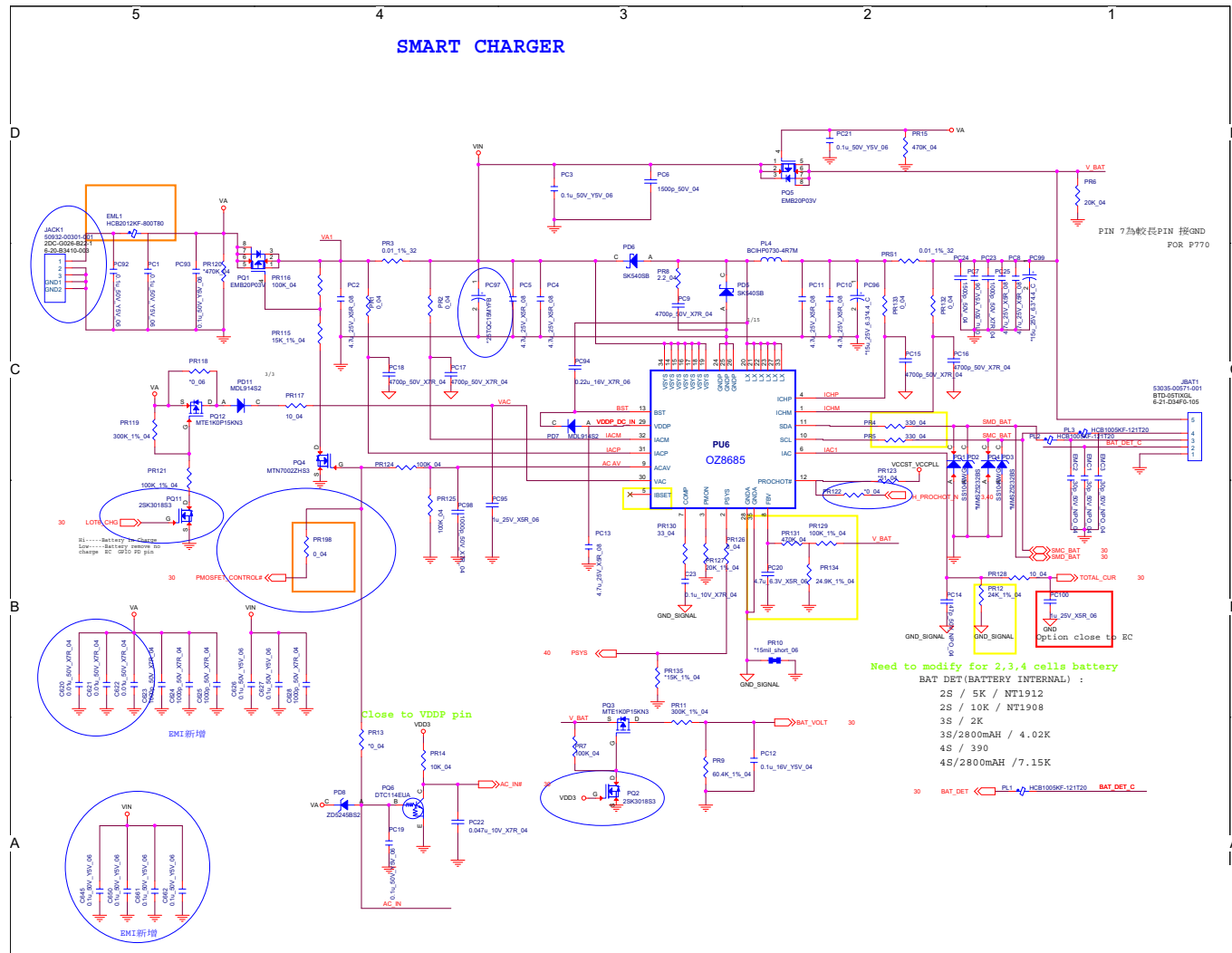
Sheet 42 of 50  
VCCGT Output Stage

B.Schematic Diagrams



# Schematic Diagrams

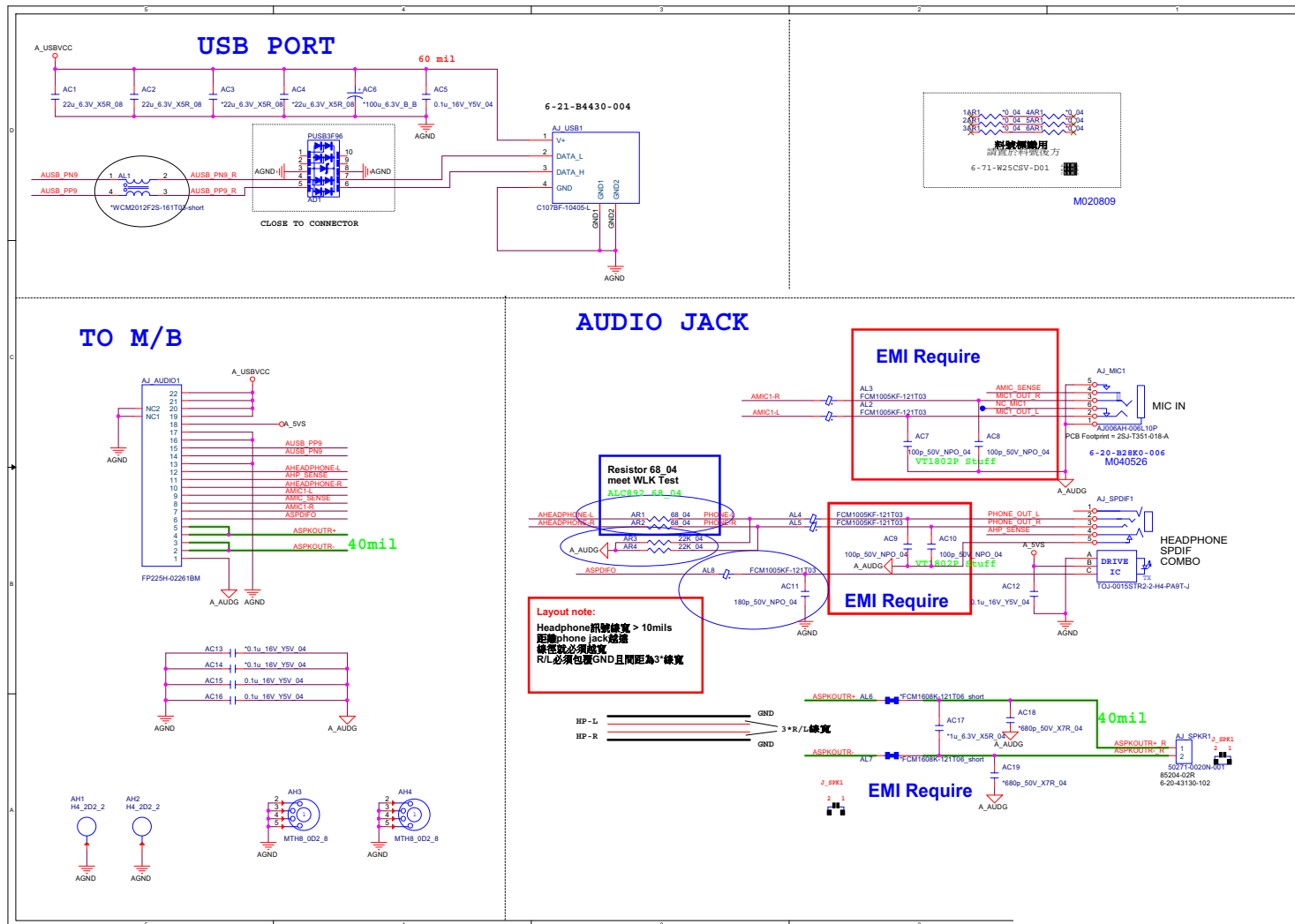
## AC-In, Charger



B.Schematic Diagrams

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AC-In, Charger

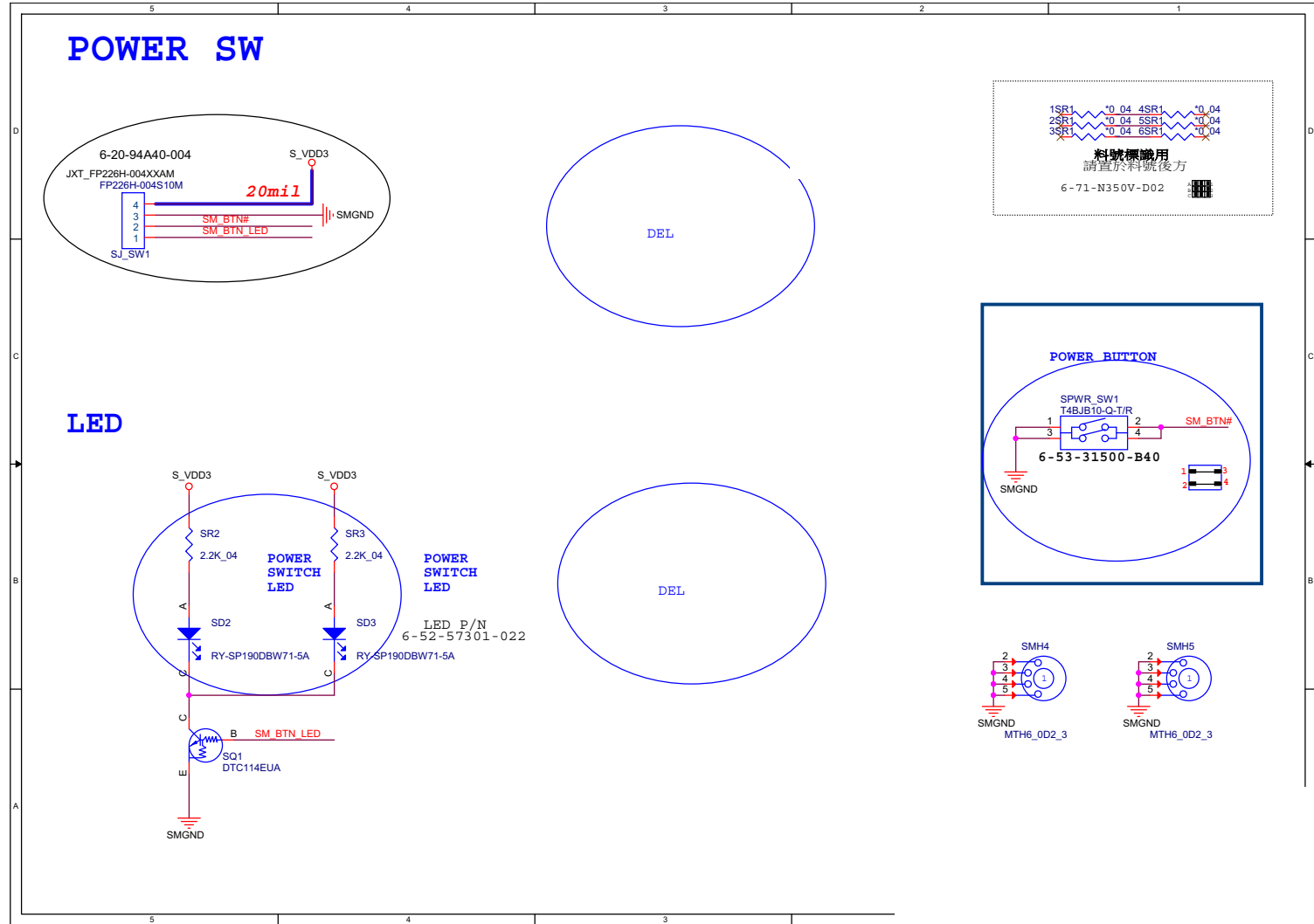
# Audio Board



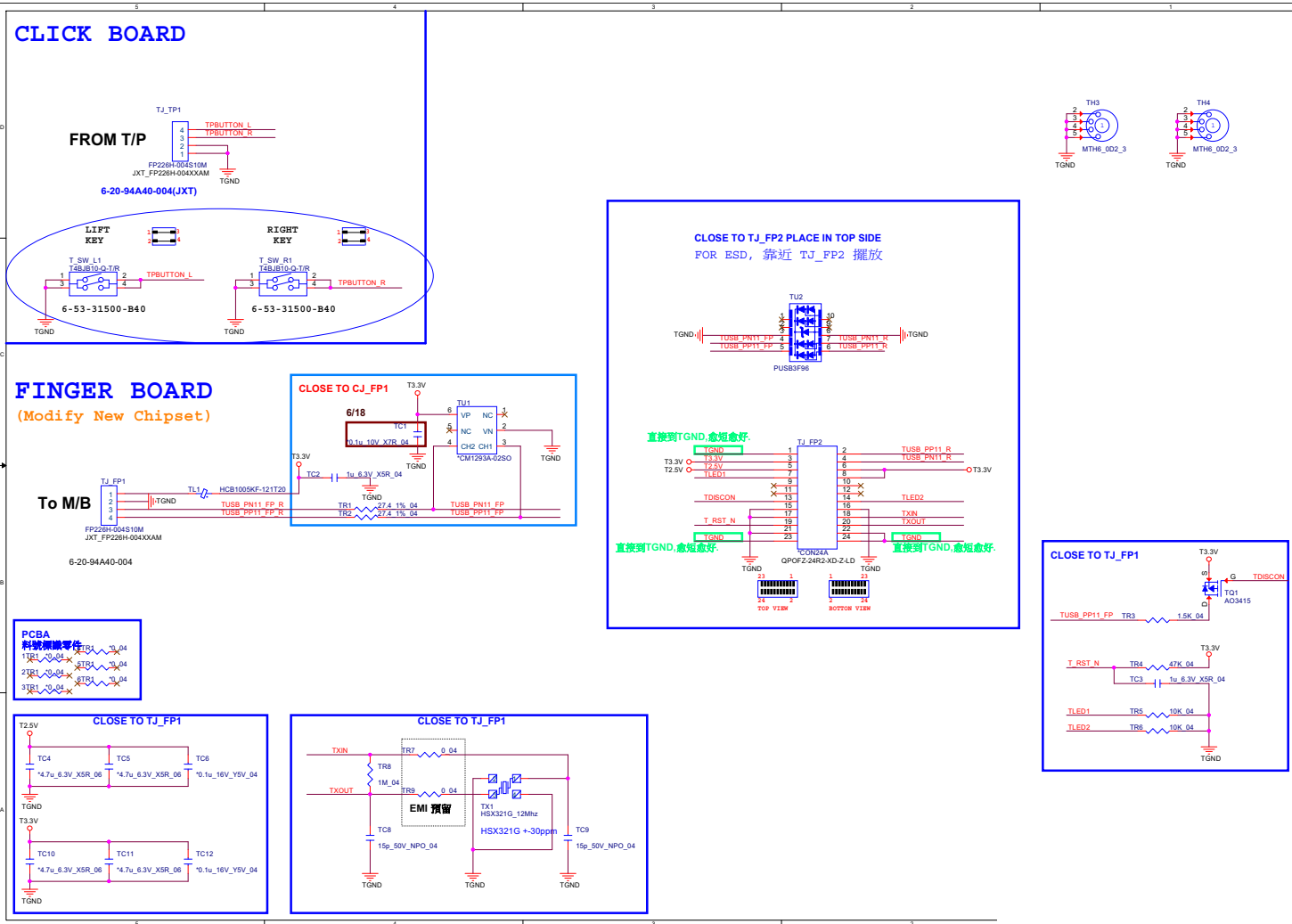
Sheet 44 of 50  
Audio Board

# Power Switch Board

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Power Switch Board



# Click & Finger Board

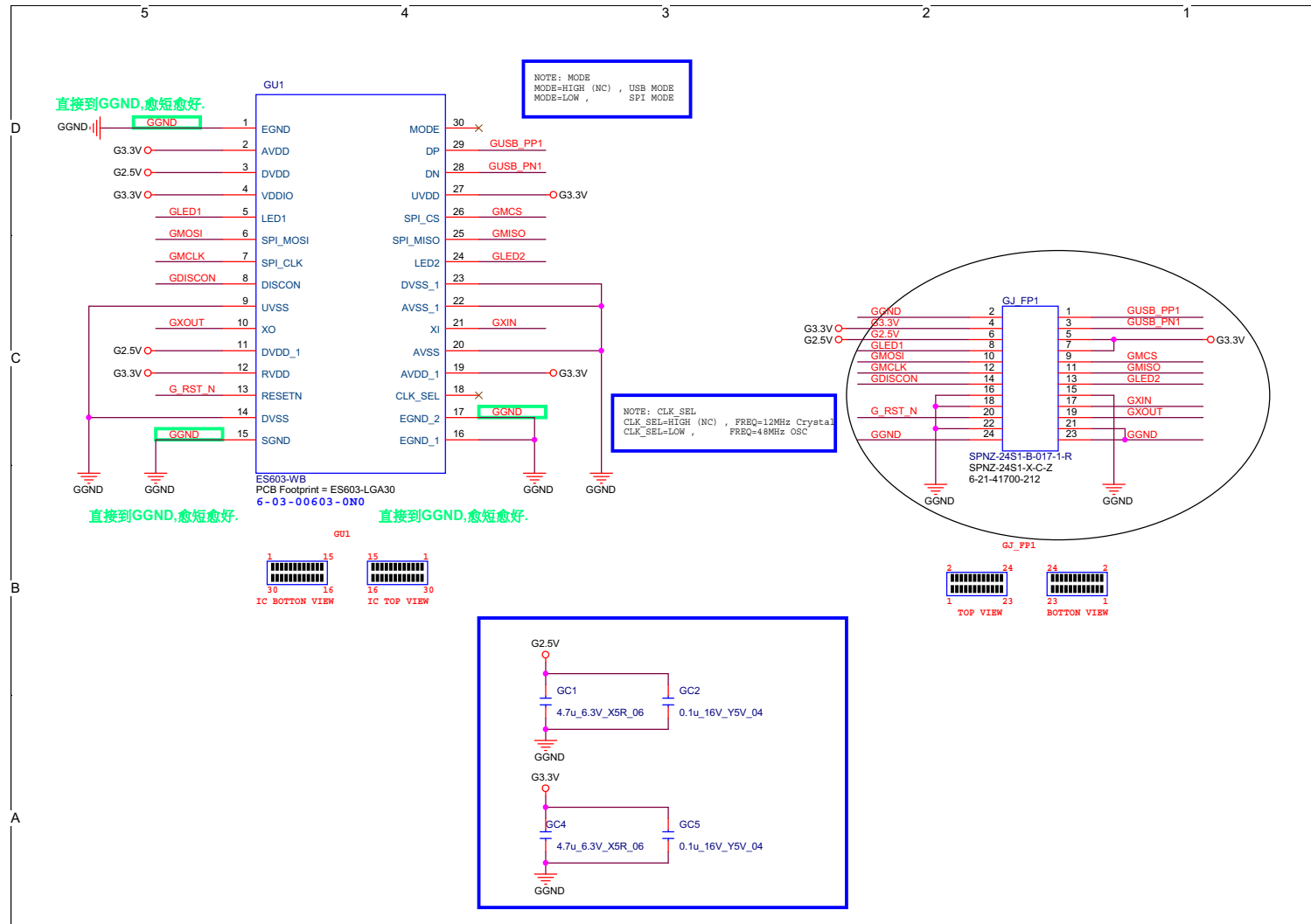


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Click & Finger Board

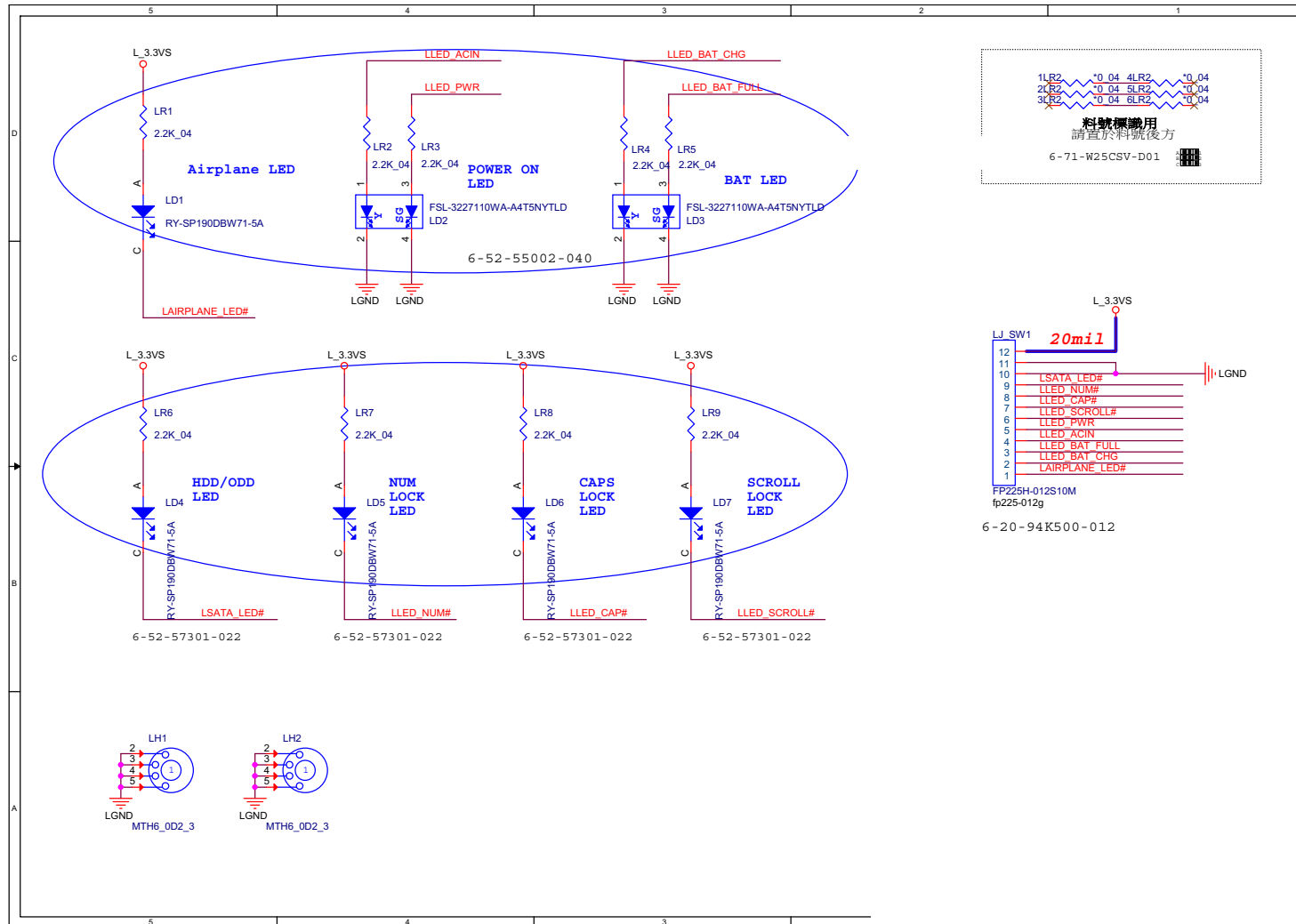
B.Schematic Diagrams

# Fingerprint Board

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Fingerprint Board



# LED Board

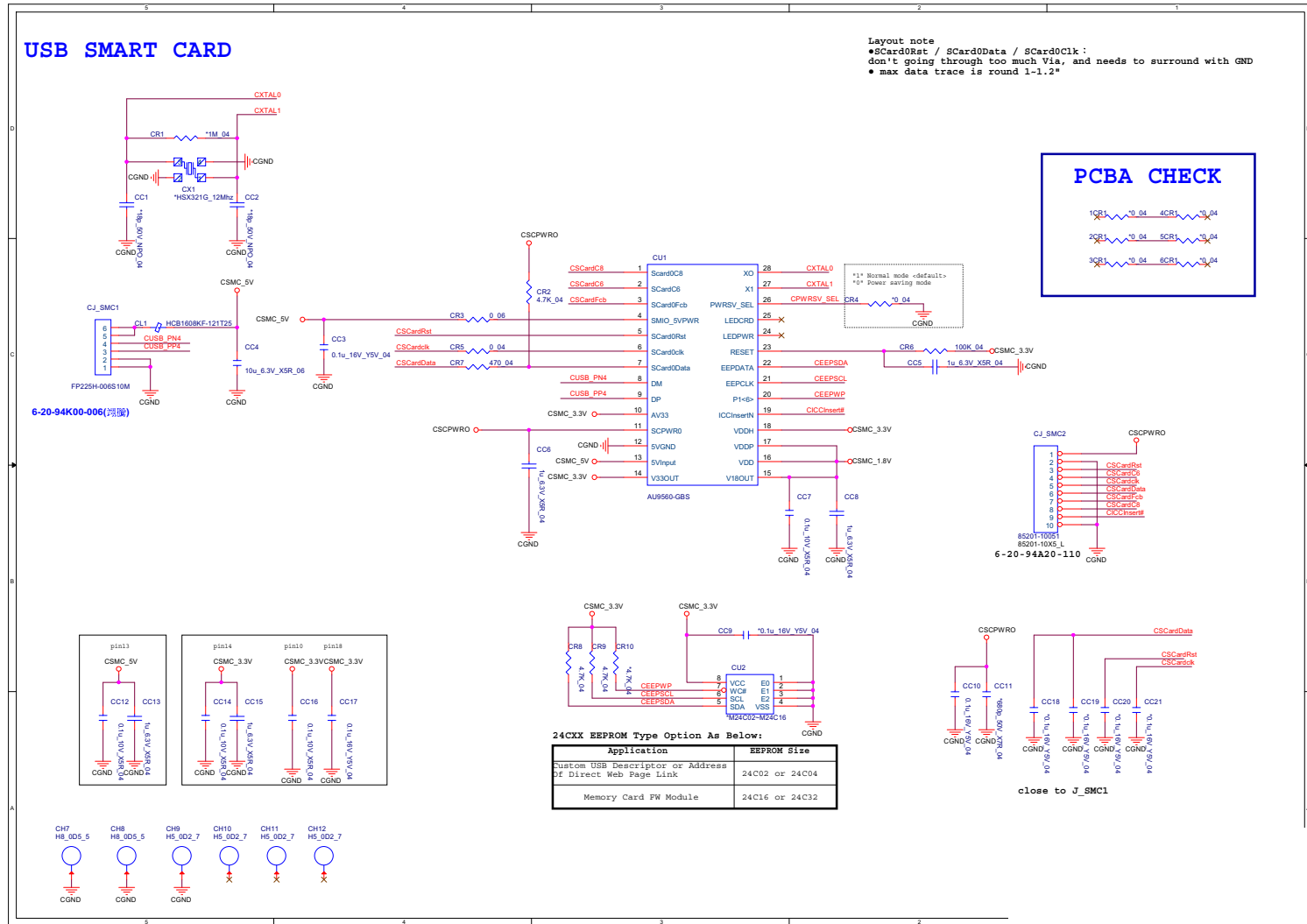


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LED Board

B.Schematic Diagrams

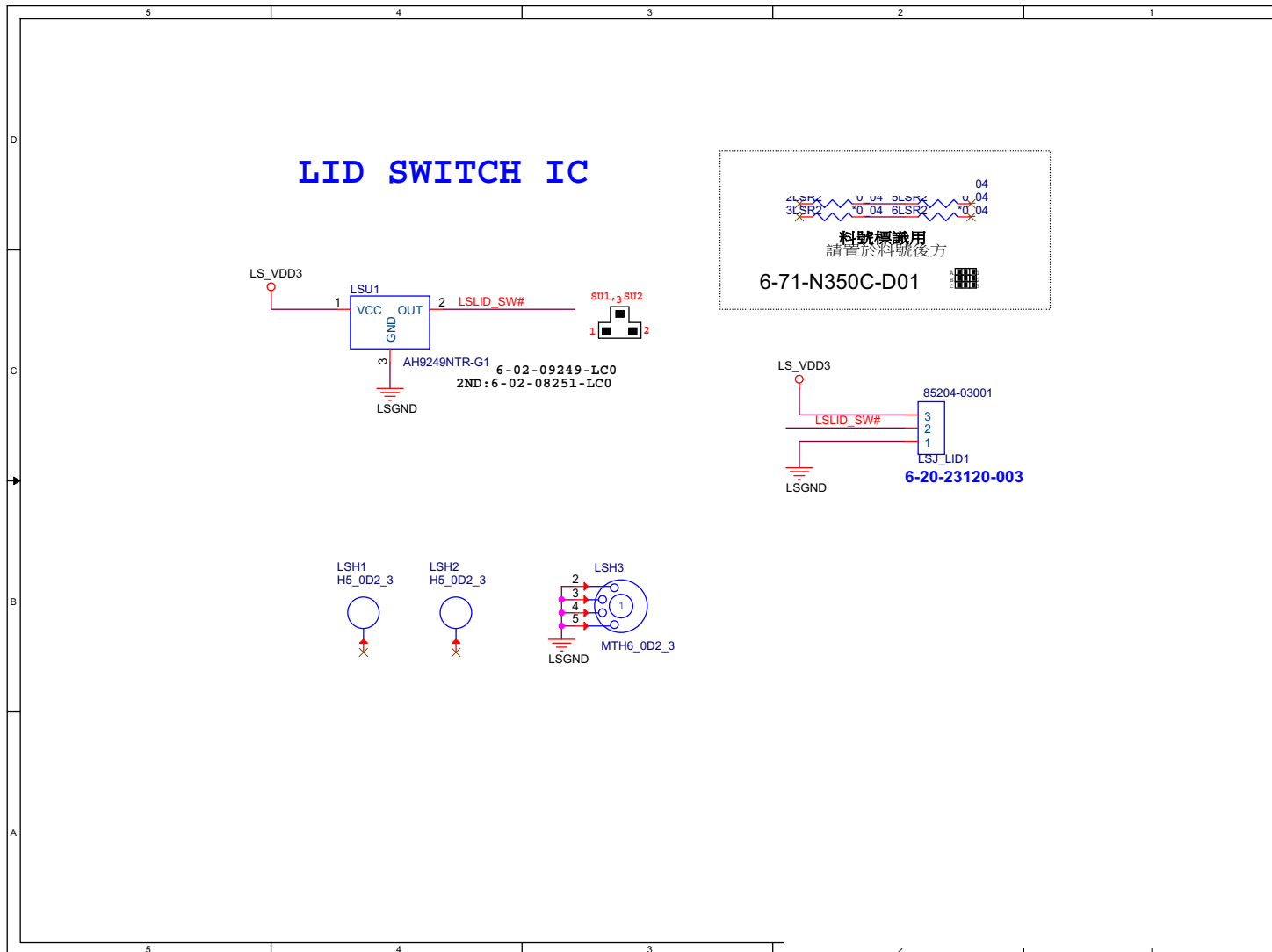
# Smart Card Board

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Smart Card Board





# LID Switch Board



Sheet 50 of 50  
LID Switch Board

B.Schematic Diagrams

**Schematic Diagrams**

# 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 **F10** 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 **V1.01.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 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

## 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 **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** 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.