

SERVICE MANUAL

notebook

NJ70PU



Notebook Computer

NJ70PU

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 *NJ70PU* 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

Preface

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, 2.37A (**45** Watts) minimum AC/DC Adapter.

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.

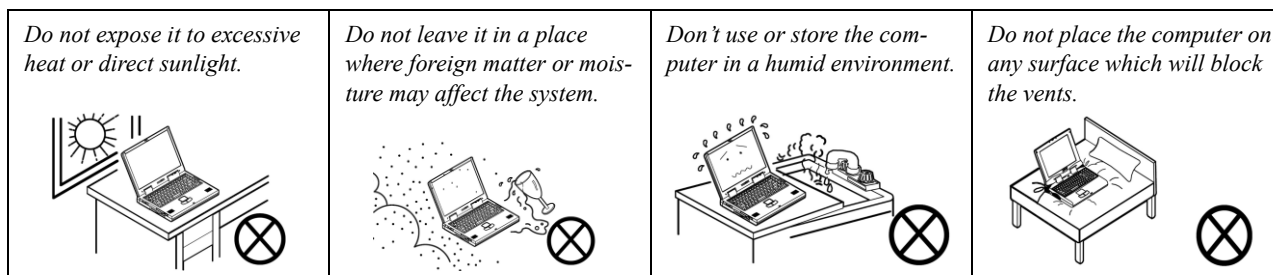
Instructions for Care and Operation

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

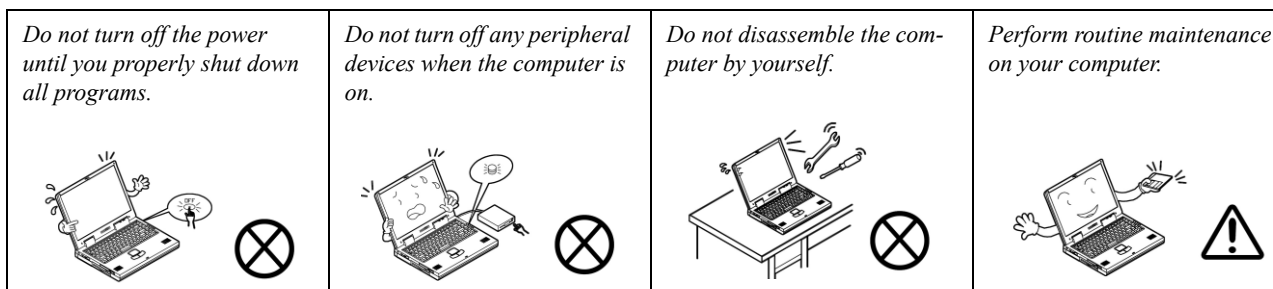
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

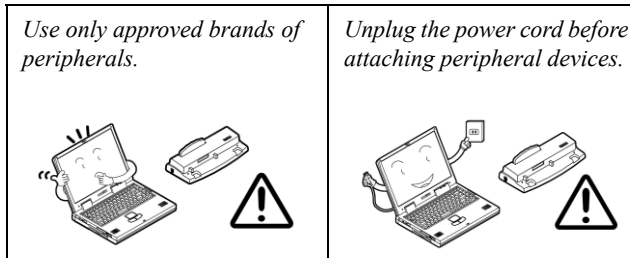


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

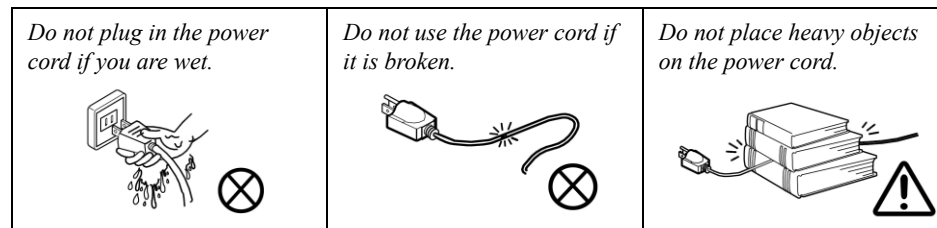
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



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 and power cord). 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. **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 on 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 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 130 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".

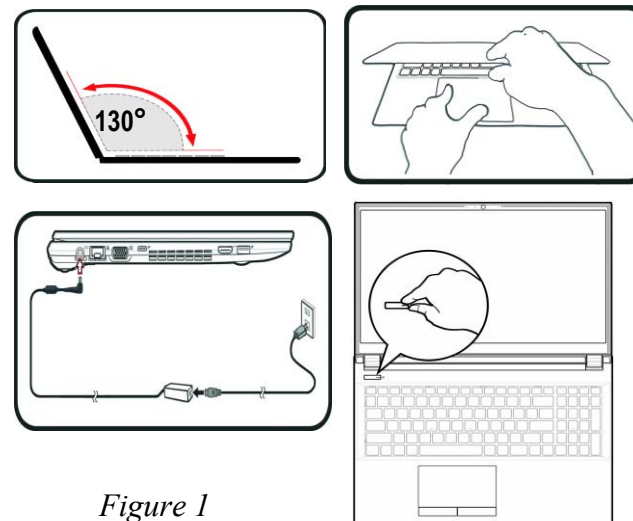


Figure 1
**Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In**

Powering the Computer On

After every disassembly, make sure that the bottom case's screws are all inserted and tightened before turning the computer on.

Shut Down

Note that you should always shut your computer down by choosing **Shut Down** from the **Start** Menu.

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 **NJ70PU** 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. *Window 10*, 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 **NJ70PU** 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.

Note that this computer model series may support a range of CPUs and/or video adapters.

To find out which CPU is installed on your system go to the **Start** menu and select **Settings**, and then select **System** and click **About**. This will also provide information on the amount of **Installed RAM** etc.

To get information on your system's **video adapter** go to the **Start** menu and select **Settings**, and then select **System** and click **Display > Advanced display settings > Display adapter properties**.



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

i7-1255U (1.70GHz)

Intel® Core™ i5 Processor

i5-1235U (1.30GHz)

Intel® Core™ i3 Processor

i3-1215U (1.20GHz)

BIOS

Insyde BIOS (256Mb SPI Flash ROM)

Memory

Dual Channel DDR4

Two 260 Pin SO-DIMM Sockets Supporting **DDR4 3200MHz** Memory

Memory Expandable up to 64GB

Compatible with 8GB, 16GB or 32GB Modules

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

LCD Options

LCD, 17.3" (43.94cm), 16:9, FHD (1920x1080)

Storage

One Changeable 2.5" 7mm (h) SATA HDD/SSD

One M.2 PCIe **Gen4 x4** Solid State Drive (SSD)

(**Factory Option**) One 9.0/9.5mm(h) Optical Device Type Drive (DVD Writer)

Or

(**Factory Option**) Dummy ODD

Or

(**Factory Option**) 7mm (h) 2nd HDD/SSD Caddy

Video Adapter

Intel Iris Xe Graphics (i7-1255U, i5-1235U)

HDR Support

Rec. 2020 (Wide Color Gamut)

Microsoft DirectX® 12 Compatible

Intel UHD Graphics (i3-1215U)

HDR Support

Rec. 2020 (Wide Color Gamut)

Microsoft DirectX® 12 Compatible

Pointing Device

Built-in Touchpad (with Microsoft PTP Multi Gesture & Scrolling Functionality)

Keyboard

Full-size Keyboard (with Numeric Keypad)

Or

(**Option**) Full-size **Multi-Color** LED Keyboard (with Numeric Keypad)

Audio

High Definition Audio Compliant Interface

2 * Built-In Speakers

Built-In Array Microphone

Sound Blaster Cinema 6+

Security

Security (Kensington® Type) Lock Slot

BIOS Password

Intel PTT for Systems Without TPM Hardware

(**Factory Option**) TPM 2.0

M.2 Slots

Slot 1 for **Combo WLAN and Bluetooth** Module

Slot 2 for **PCIe Gen4 x4 SSD**

(**Factory Option**) Slot 3 for **4G** Module

Card Reader

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

Interface

One USB 2.0 Port
One USB 3.2 Gen 1 Type-A Port
One USB 3.2 Gen 2 Type-C Port with DisplayPort and Power Delivery (DC-In)
One USB 3.2 Gen 1 Type-A Port
Or
(**Factory Option**) One Powered USB 3.2 Gen 1 Type-A Port
One HDMI-Out Port
One External Monitor (VGA) Port
One Microphone-In Jack
One 2-In-1 Audio Jack (Headphone / Microphone)
One RJ-45 LAN Jack
One DC-in Jack

Communication

Built-In 10/100/1000Mb Base-TX Ethernet LAN
1.0M HD Webcam
Or
(**Factory Option**) 2.0M FHD Webcam
(**Factory Option**) 4G M.2 Module

WLAN/ Bluetooth M.2 Modules:

(**Factory Option**) Intel® Dual Band Wi-Fi 6E AX211, 2x2 AX Wireless LAN + Bluetooth
(**Factory Option**) Intel® Dual Band Wi-Fi 6E AX210, 2x2 AX Wireless LAN + Bluetooth
(**Factory Option**) Intel® Dual Band Wi-Fi 6 AX201, 2x2 AX Wireless LAN + Bluetooth
(**Factory Option**) Intel® Dual Band Wi-Fi 5 Wireless-AC 9462, 1x1 AC Wireless LAN + Bluetooth

Power

Full Range AC/DC Adapter
AC Input: 100 - 240V, 50 - 60Hz
DC Output: 19V, 2.37A (**45W**)

Removable 4 Cell Smart Lithium-Ion Battery Pack, 32WH
(**Factory Option**) Removable 4 Cell Smart Lithium-Ion Battery Pack, 47WH

Environmental Spec**Temperature**

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

Relative Humidity

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

Dimensions & Weight

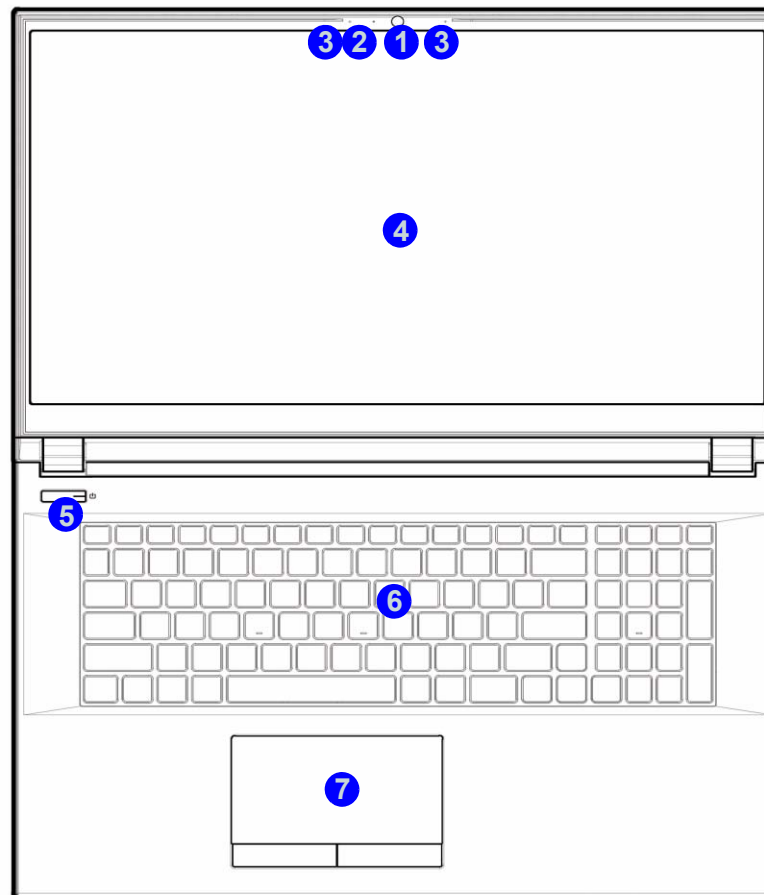
399.9mm (w) * 268mm (d) * 24.8mm (h)
(Height Excluding Battery Area)
2.4kg (Barebone with ODD and 32WH Battery)

Introduction

Figure 1
Top View

External Locator - Top View with LCD Panel Open

1. Webcam
2. *Camera LED
**When the PC camera is in use, the LED will be illuminated in white.*
3. Built-In Array Microphone
4. Display
5. Power Button
6. Keyboard
7. Touchpad & Buttons



External Locator - Front & Right Side Views

FRONT VIEW



Figure 2
Front View

1. LED Indicators
2. Multi-in-1 Card Reader

RIGHT SIDE VIEW

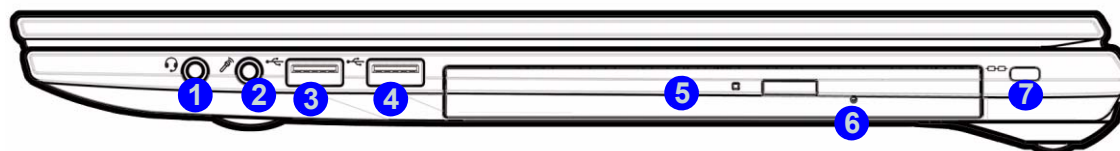


Figure 3
Right Side View

1. 2-In-1 Audio Jack (Headphone and Microphone)
2. Microphone-In Jack
3. USB 3.2 Gen 1 Type-A Port
4. USB 2.0 Port
5. **(Factory Option)** Dummy ODD/DVD Writer/2nd HDD/SSD Caddy
6. Emergency Eject Hole
7. Security Lock Slot

Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. DC-In Jack
2. RJ-45 LAN Jack
3. External Monitor Port
4. USB 3.2 Gen 2 Type-C Port with DisplayPort and Power Delivery
5. Vent
6. HDMI-Out Port
7. USB 3.2 Gen 1 Type-A Port
Or
(**Factory Option**)
Powered USB 3.2 Gen 1 Type-A Port

LEFT SIDE VIEW

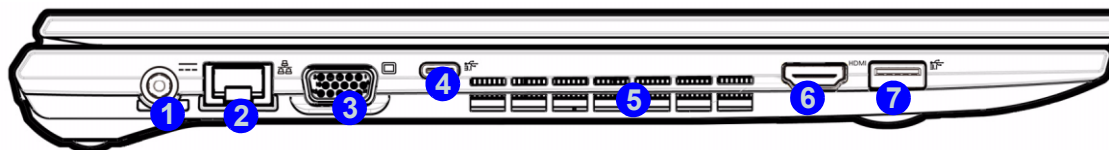
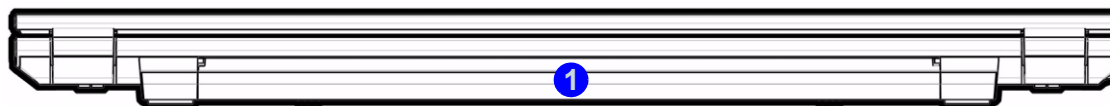


Figure 5
Rear View

1. Battery

REAR VIEW



External Locator - Bottom View

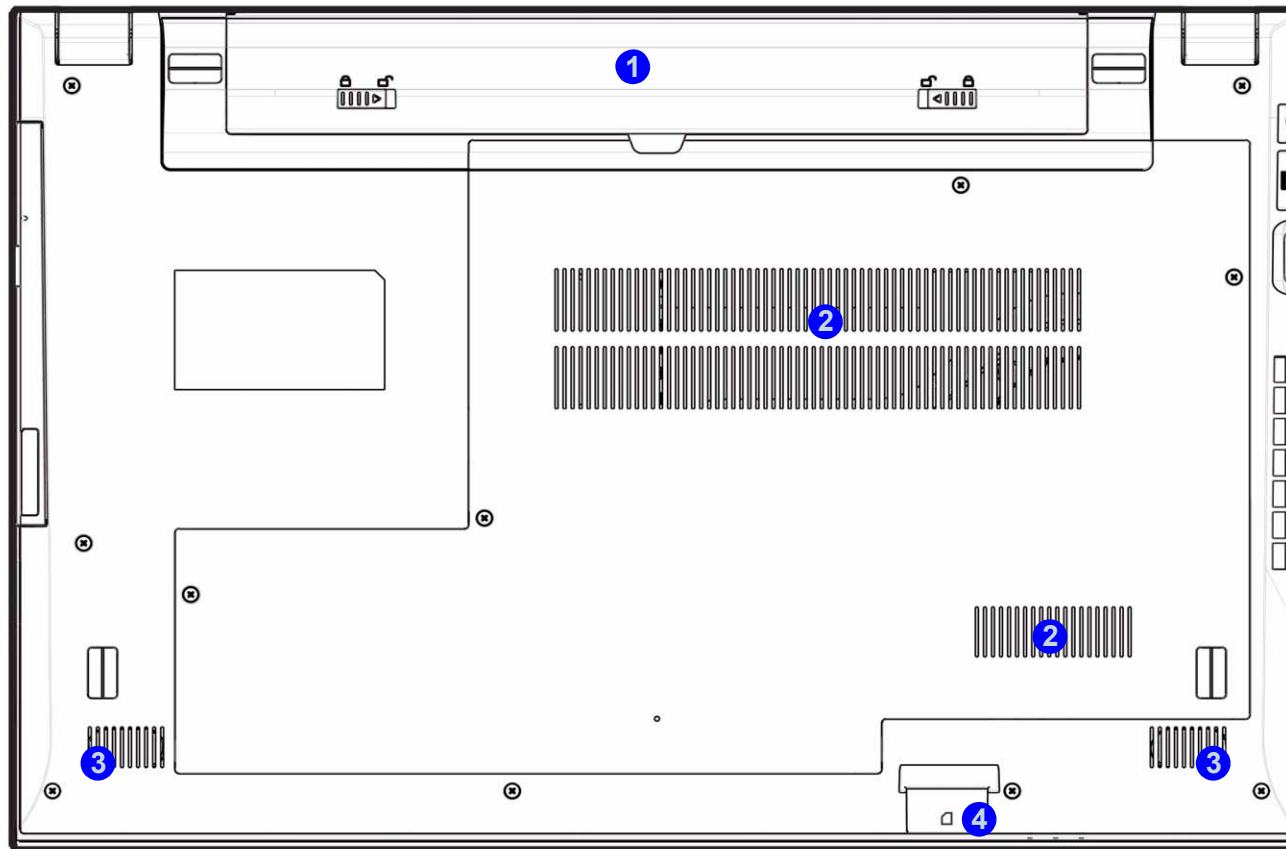


Figure 6
Bottom View

1. Battery
2. Vent
3. Speakers
4. Multi-in-1 Card Reader

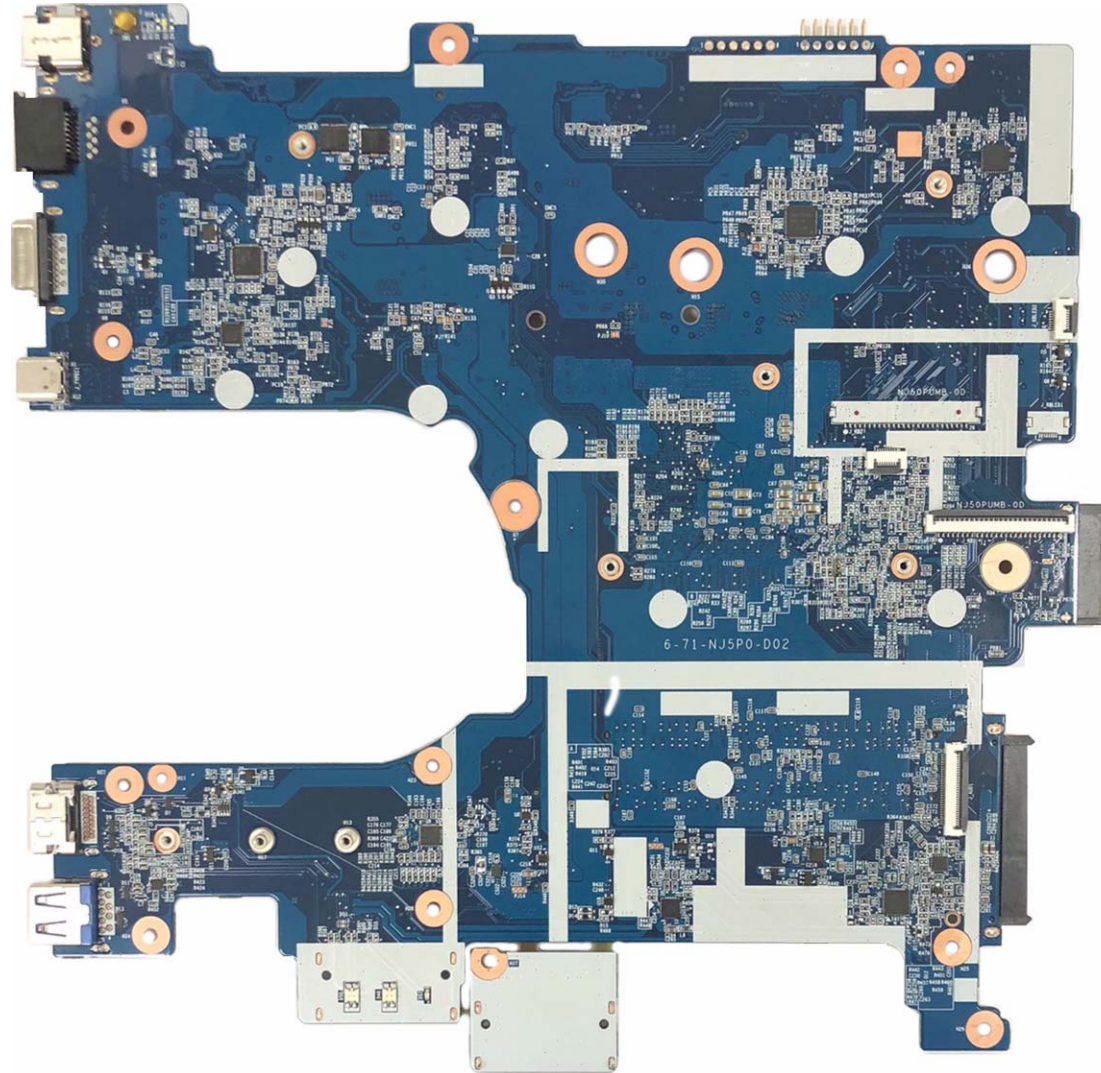


Overheating

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

Figure 7
Mainboard Top
Key Parts

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

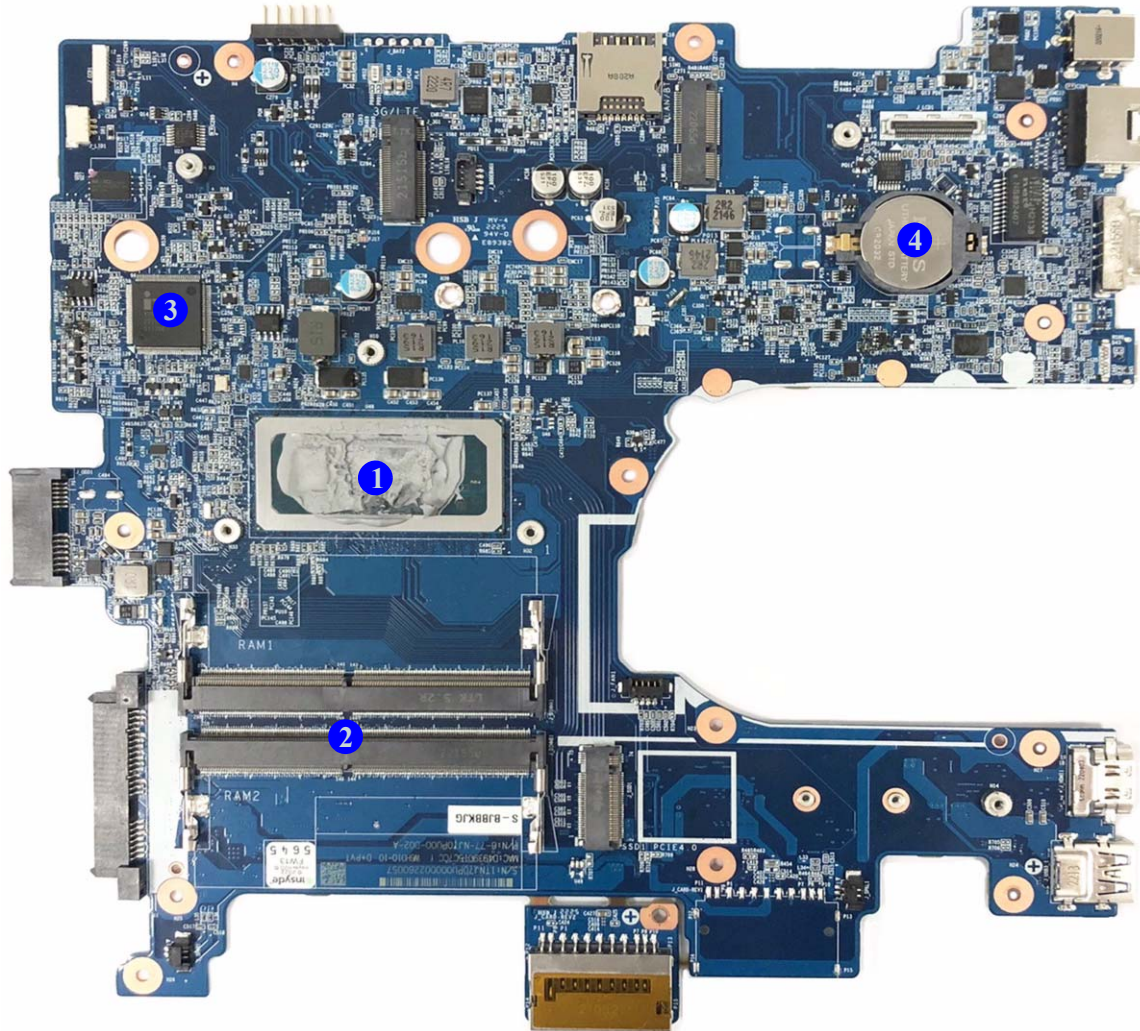


Figure 8
**Mainboard Bottom
Key Parts**

1. CPU
2. Memory Slots
DDR4 SO-DIMM
3. KBC-ITE IT5570
4. CMOS Battery

Introduction

Figure 9
**Mainboard Top
Connectors**

1. DC-In Jack
2. RJ-45 LAN Jack
3. External Monitor Port
4. USB 3.2 Gen 2 Type-C Port with Power Delivery
5. HDMI-Out Port
6. USB 3.2 Gen 1 Type-A Port Or
(Factory Option)
Powered USB 3.2 Gen 1 Type-A Port
7. Audio Board to Board Connector
8. Keyboard Cable Connector
9. LED Keyboard Connector
10. Touchpad Connector

Mainboard Overview - Top (Connectors)

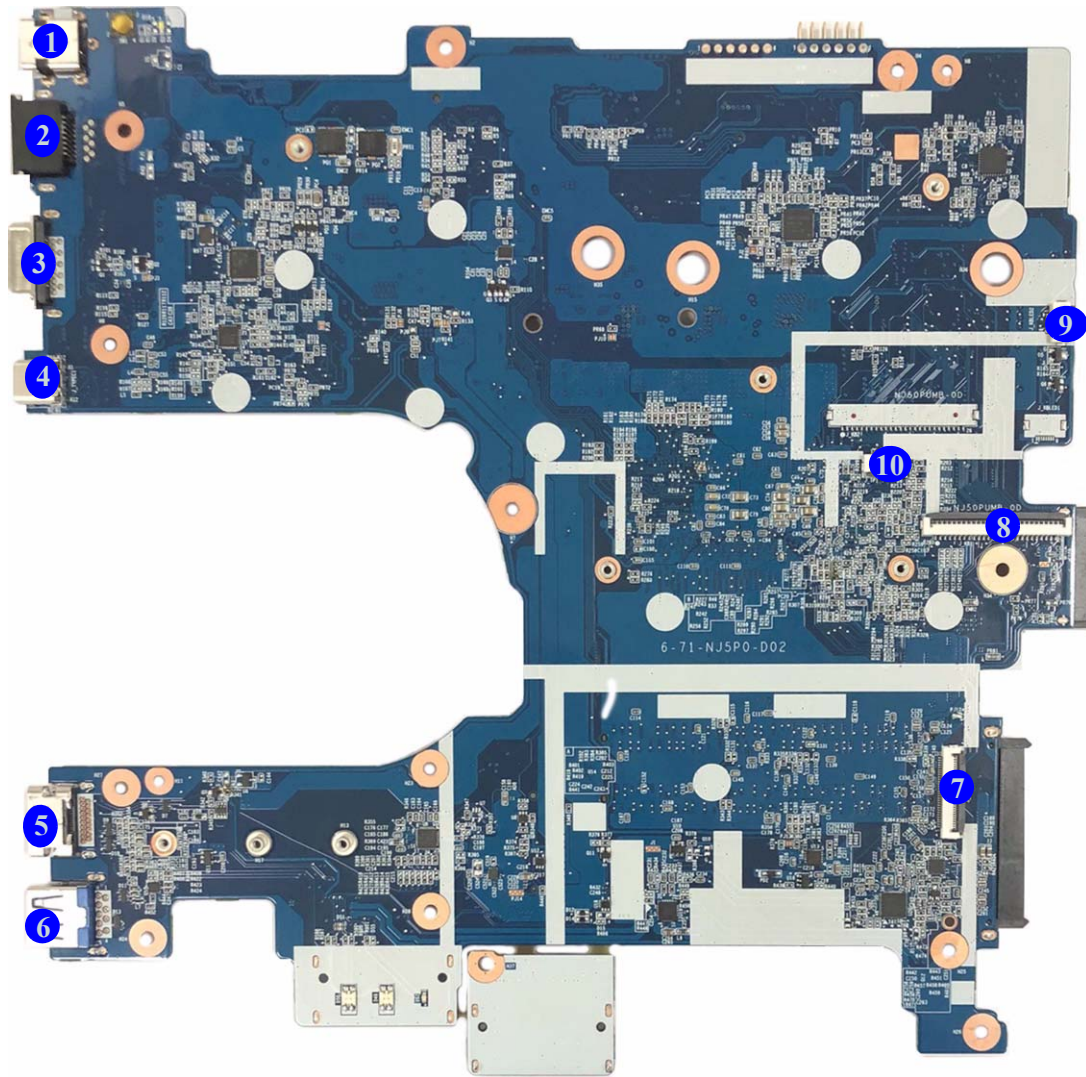
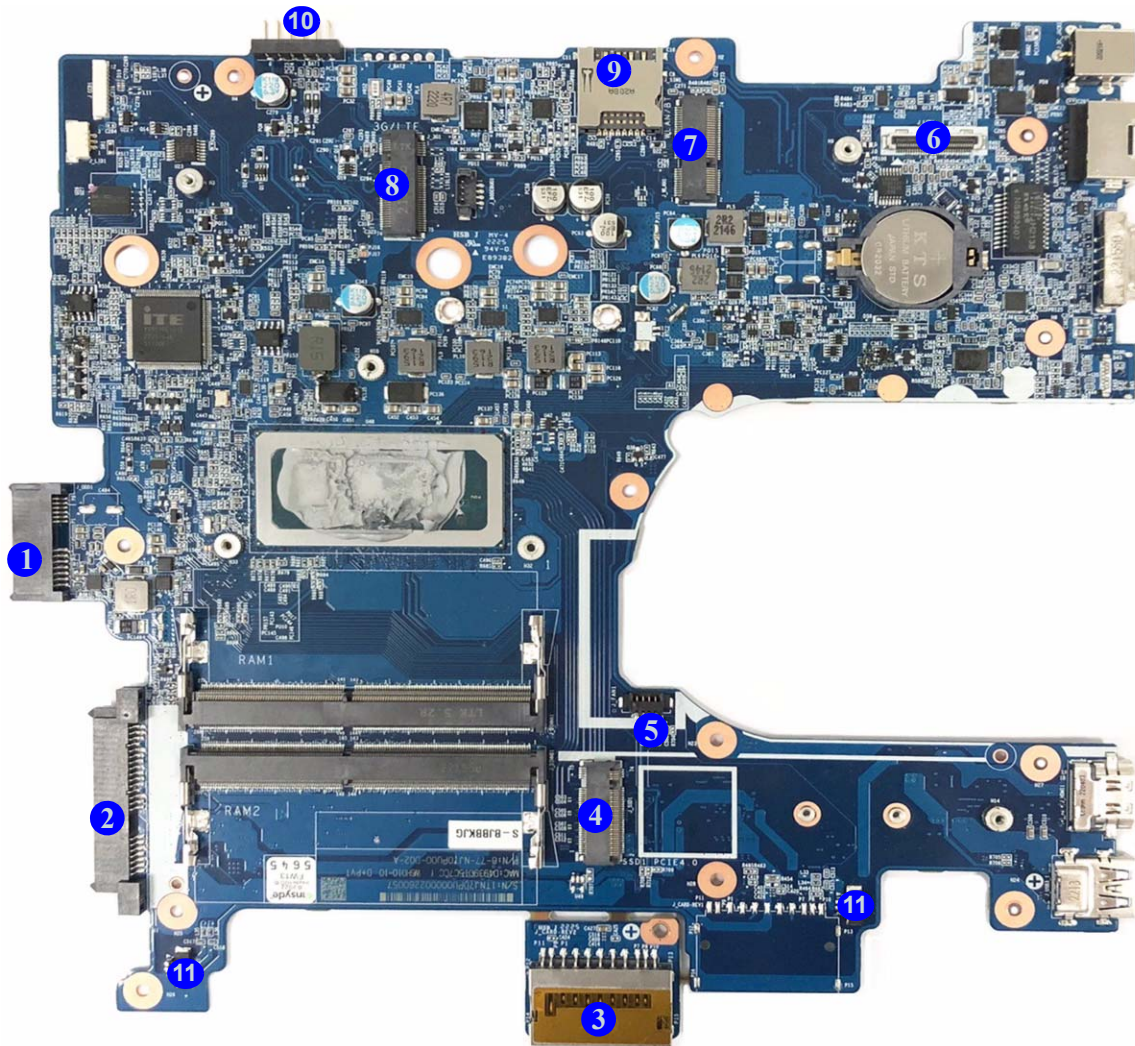


Figure 10
**Mainboard Bottom
Connectors**

1. ODD Connector
2. HDD Connector
3. Multi-in-1 Card Reader
4. M.2 Card Connector
5. Fan Connector
6. LCD Cable Connector
7. WLAN Connector
8. LTE Connector
9. SIM Card Reader
10. Battery Connector
11. Speaker Connector

Mainboard Overview - Bottom (Connectors)



Chapter 2: Disassembly

Overview

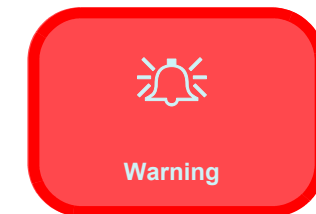
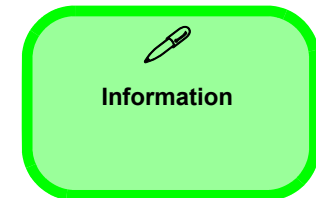
This chapter provides step-by-step instructions for disassembling the *NJ70PU* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

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

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 System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the system memory [page 2 - 8](#)

To remove the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the keyboard [page 2 - 10](#)

To remove the Optical Device:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the Optical Device [page 2 - 8](#)

To remove the Wireless LAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the WLAN [page 2 - 12](#)

To remove the 4G Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the 4G [page 2 - 14](#)

To remove the M.2 SSD Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the SSD module [page 2 - 15](#)

To remove the CCD Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the CCD module [page 2 - 16](#)

Removing the Battery

1. Turn **off** the computer, 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. Turn the battery **3** in the direction of the arrow **4** and lift it out (**Figure 1b**).
5. Insert a new battery **3** by aligning the battery to the pins **5** & **6** (**Figure 1c**).
6. Turn the battery **3** in the direction of the arrow **7** (**Figure 1d**).
7. Slide the latch **8** in the direction of the arrow to lock it in place (**Figure 1e**).

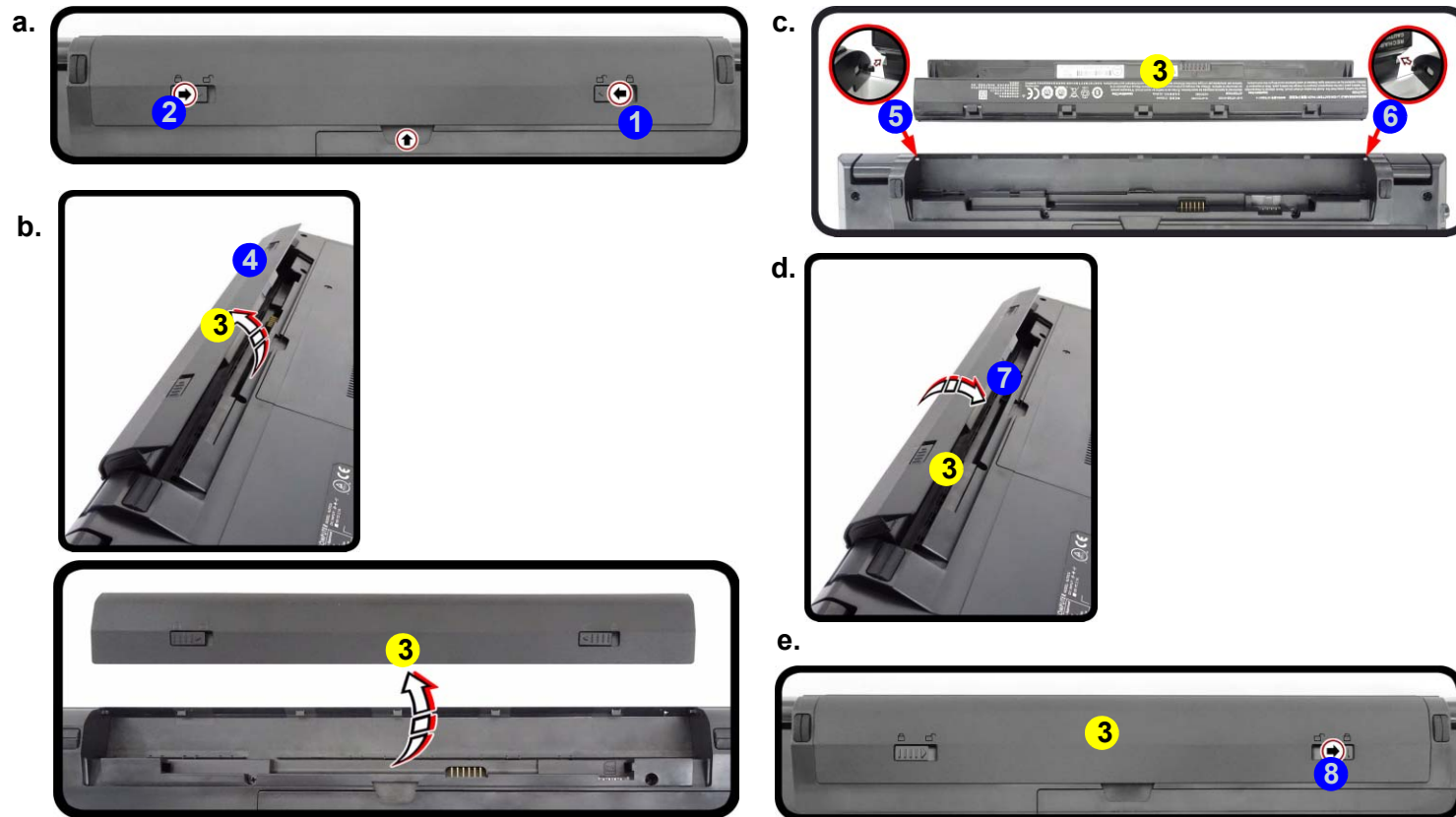


Figure 1
Battery Removal

- a. Slide the latch and hold it in place.
- b. Turn the battery in the direction of the arrow and lift the battery out.
- c. Insert a new battery by aligning it to the pins.
- d. Turn the battery in the direction of the arrow.
- e. Lock the latch in place.

3. Battery

Disassembly

Figure 2
**HDD Assembly
Removal**

- Remove the screws.
- Remove the bottom case.
- Locate the HDD.

Powering the Computer On

After every disassembly, make sure that the bottom case's screws are all inserted and tightened before opening the Lid/LCD and turning the computer on.

5. Component Bay Cover

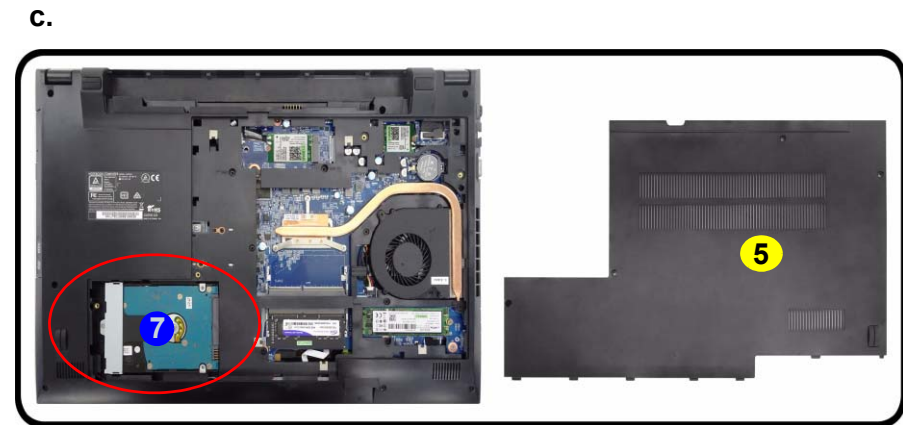
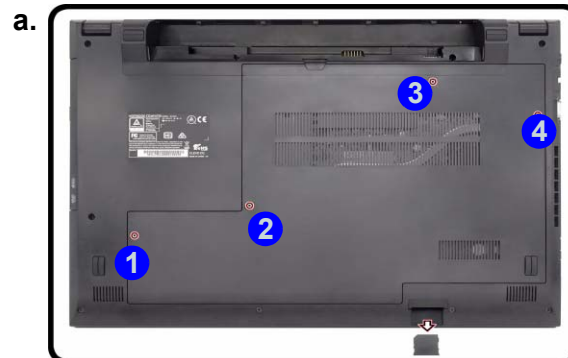
- 4 Screws

Removing the Hard Disk Drive

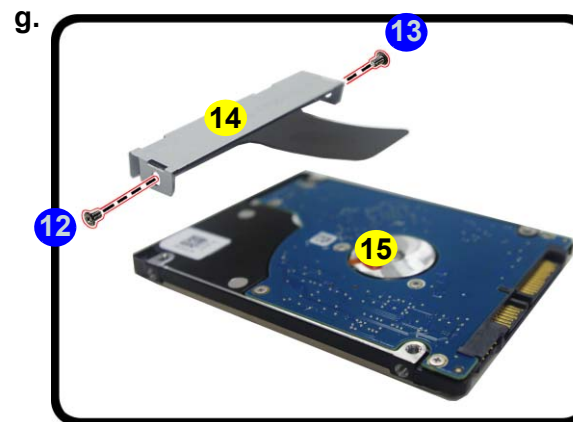
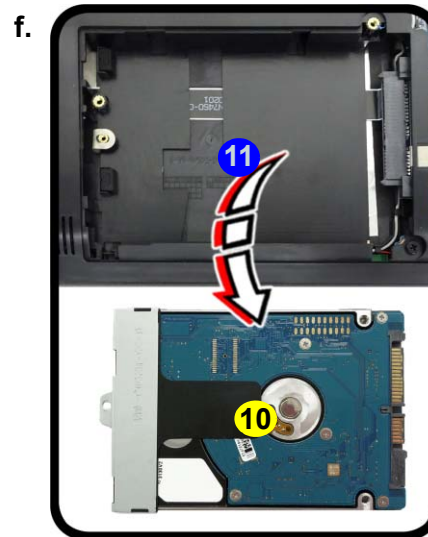
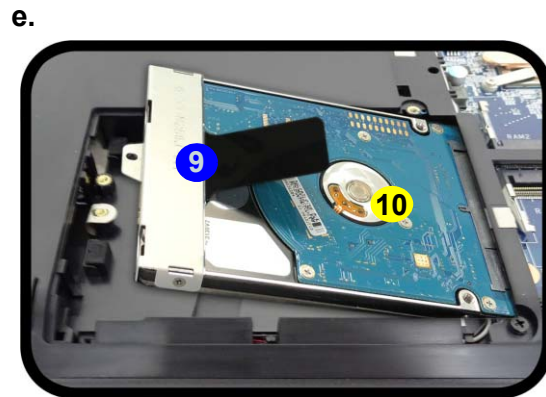
The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 7.0mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Upgrade Process

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- Locate the component bay cover and remove screws ① - ④ ([Figure 2a](#)).
- Lift the component bay cover ⑤ as shown by the arrow ⑥ ([Figure 2b](#)).
- The HDD will be visible at point ⑦ on the mainboard ([Figure 2c](#)).



5. Remove screws **8** from the HDD assembly (**Figure 3d**).
6. Slightly lift and pull the hard disk assembly up using the tab **9** (**Figure 3e**).
7. Lift the hard disk assembly **10** out of the bay **11** (**Figure 3f**).
8. Remove screws **12** - **13** and bracket **14** from the hard disk **15** (**Figure 3g**).
9. Reverse the process to install a new hard disk (do not forget to replace the screws).



HDD System Warning

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

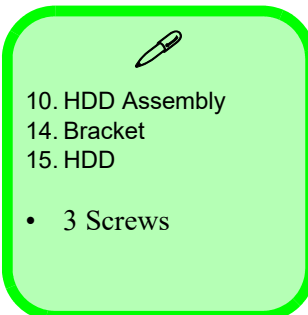
You have backed up any data you want to keep from your old HDD.

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.

Figure 3
HDD Assembly Removal (cont'd.)

- d. Remove the screws.
- e. Slightly lift and pull the HDD in the direction of the arrow.
- f. Lift the HDD assembly out of the bay.
- g. Remove the screws and bracket from the HDD.



Disassembly

Figure 4
RAM Module Removal

- The RAM modules will be visible at point ① on the mainboard.
- Pull the release latches.
- Remove the module.

Removing the System Memory (RAM)

The computer has two memory sockets for 260 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR4 3200MHz. The main memory can be expanded up to 64GB. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

- Turn **off** the computer, turn it over to remove the battery ([page 2 - 5](#)) and component cover ([page 2 - 6](#)).
- The RAM modules will be visible at point ① on the mainboard ([Figure 4b](#)).
- Gently pull the two release latches (② & ③) on the sides of the memory socket in the direction indicated by the arrows ([Figure 4b](#)).
- The RAM module ④ will pop-up ([Figure 4c](#)), and you can then remove it.



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.



4. RAM Module



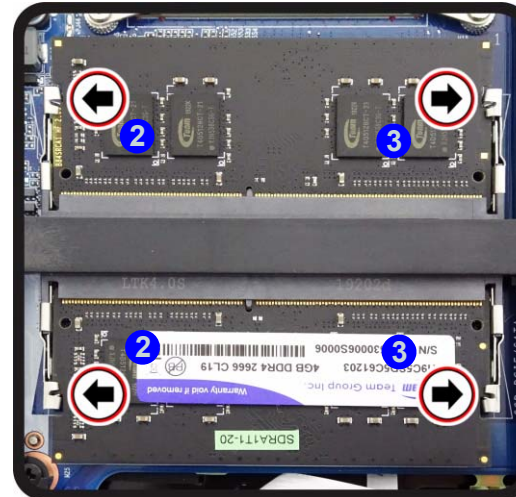
Single Memory Module Installation

If your computer has a single memory module, then insert the module into the **Channel 0 (JDIMM1 / RAM1)** socket.

a.



b.



c.



5. Pull the latches to release the second module if necessary.
6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. 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.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
9. Replace the bottom case and the screws (see [page 2 - 5](#)).
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Disassembly

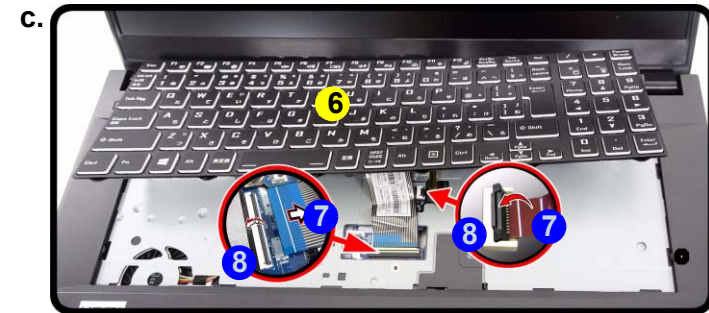
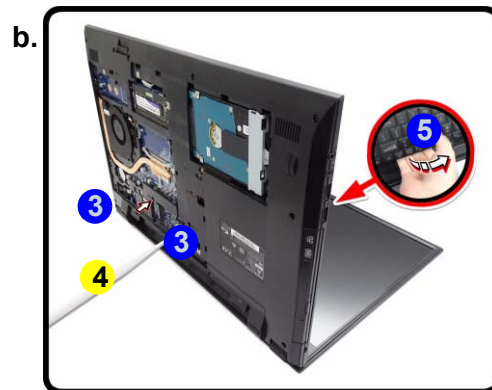
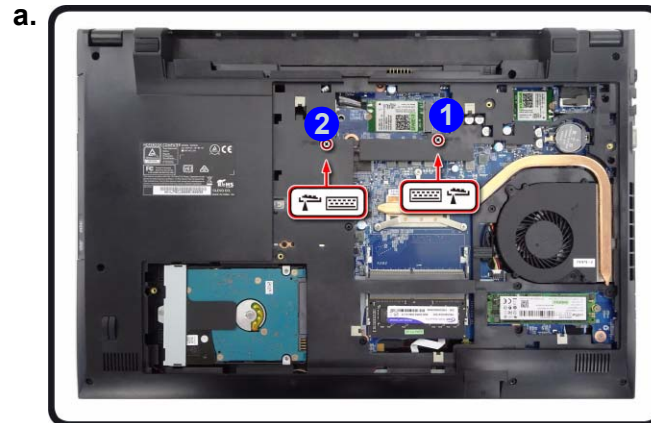
Figure 5

Keyboard Removal

- Locate the release points.
- Release the keyboard by pressing at point ③.
- Disconnect the keyboard ribbon cable from the locking collar socket.
- Remove the keyboard.

Removing the Keyboard

- Turn **off** the computer, turn it over to remove the battery ([page 2 - 10](#)) and component cover ([page 2 - 6](#)).
- Locate the release points ① - ② from the open bottom case ([Figure 5a](#)).
- Open it up with the LCD on a flat surface before pressing at point ③ to release the keyboard module (use the specific eject stick ④ to do this) while releasing the keyboard in the direction of the arrow ⑤ as shown ([Figure 5b](#)).
- Carefully lift the keyboard ⑥ up, being careful not to bend the keyboard ribbon cable ⑦. Disconnect the keyboard ribbon cable from the locking collar socket ⑧ ([Figure 5c](#)).
- Carefully lift up the keyboard ⑥ off the computer ([Figure 5d](#)).
- Reverse the process to install the keyboard (be careful not to bend the keyboard ribbon cable).



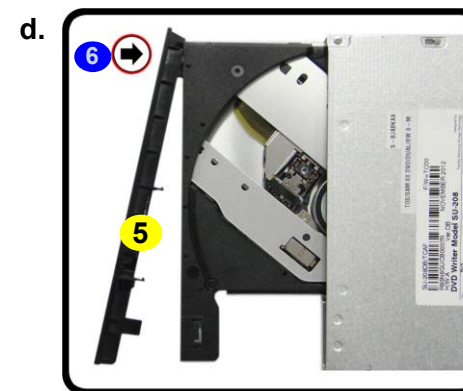
- Eject Stick
- Keyboard

Removing the Optical (CD/DVD) Device

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)), and bottom case ([page 2 - 6](#)).
2. Remove the screw **1** and push the optical device **2** out of the bay in the direction of the arrow **3** ([Figure 6a](#)).
3. Carefully pry the bezel **5** off the optical device at point **4** ([Figure 6b](#)).
4. Separate the bezel **5** and the optical device ([Figure 6d](#)).
5. Reverse the process to attach the front bezel **5** with the new optical device at point **6** ([Figure 6d](#)).
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 6
Optical Device Removal

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



- 2. Optical Device
- 5. Bezel Cover

- 1 Screw

Disassembly

Figure 7
Wireless LAN
Module Removal

- Locate the WLAN.
- Disconnect the cable and remove the screw.
- The WLAN module will pop up and lift it out of the computer.

Note: Make sure you reconnect the antenna cable to the “1 + 2” socket (Figure 7b).



5. Wireless LAN Module

- 1 Screw

Removing the Wireless LAN Module

- Turn **off** the computer, turn it over to remove the keyboard (page 2 - 10) and battery (page 2 - 5).
- The Wireless LAN module will be visible at point ① on the mainboard (Figure 7a).
- Carefully disconnect the cables ② & ③, and then remove the screw ④ (Figure 7b)
- The Wireless LAN module ⑤ (Figure 7c) will pop-up, and you can remove it from the computer.
- Reverse the process to install a new module (do not forget to replace all the screws and bottom cover).

a.



b.



c.



Wireless LAN, and Combo Module Cables

Note that the cables for connecting to the antennae on WLAN, WLAN & Bluetooth Combo 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
LTE Broadband	LTE 1	Black	Black
	LTE 2	Gray	Black

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

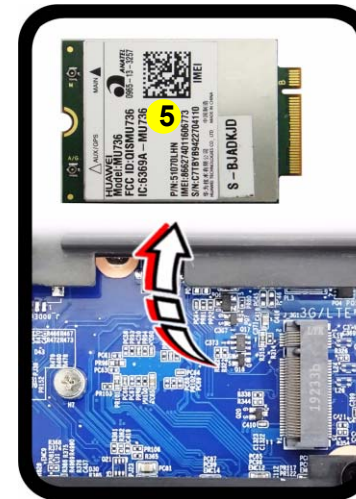
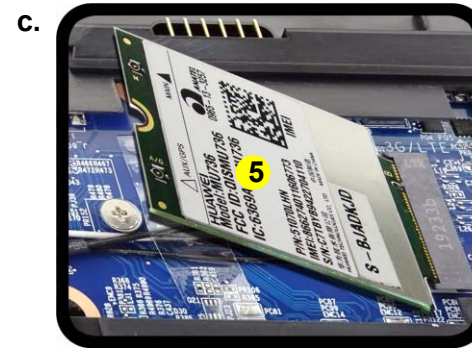
Disassembly

Figure 8
4G Module Removal

- Locate the WLAN.
- Disconnect the cable and remove the screw.
- The WLAN module will pop up and lift it out of the computer.

Removing the 4G Module

- Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 10](#)) and battery ([page 2 - 5](#)).
- The module will be visible at point **1** on the mainboard ([Figure 7a](#)).
- Carefully disconnect the cables **2** & **3**, and then remove the screw **4** ([Figure 7b](#)).
- The module **5** ([Figure 7c](#)) will pop-up, and you can remove it from the computer.
- Reverse the process to install a new module (do not forget to replace all the screws and bottom cover).

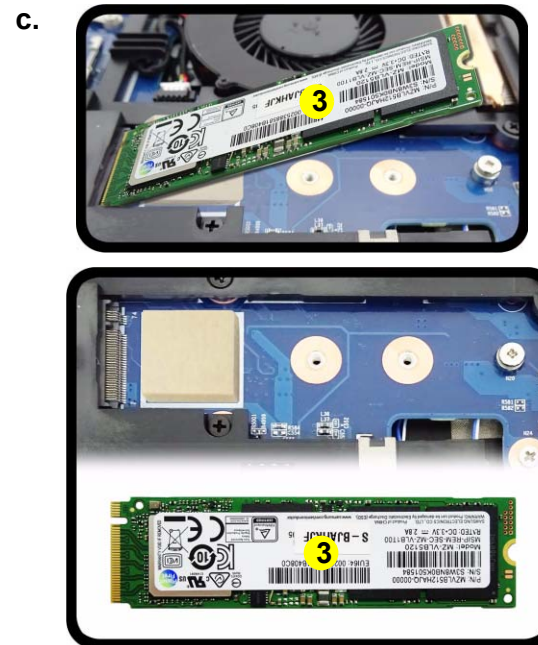
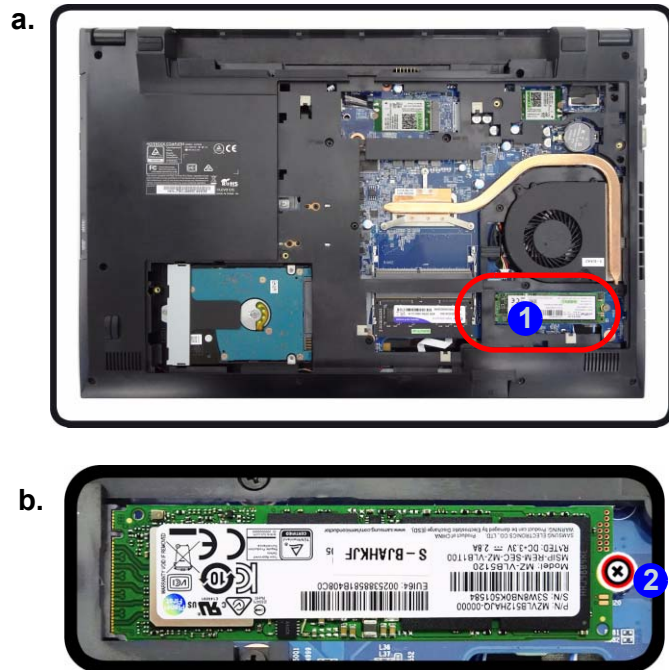


5.4G Module

- 1 Screw

Removing the M.2 SSD Module

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 10](#)) and battery ([page 2 - 5](#)).
2. The M.2 SSD module will be visible at point **1** on the mainboard ([Figure 9a](#)).
3. Remove the screw **2** ([Figure 9b](#)).
4. The M.2 SSD module **3** ([Figure 9c](#)) will pop-up, and you can remove it from the computer.
5. Reverse the process to install a new module (do not forget to replace all the screws and bottom cover).



Thermal Pad

Be sure to place the thermal pad's adhesive side down onto the mainboard surface.



3.M.2 SATA Module

- 1 Screw

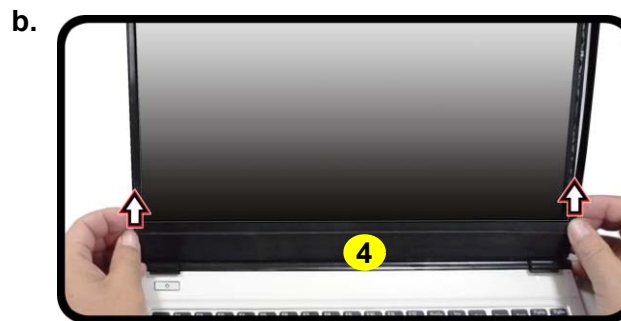
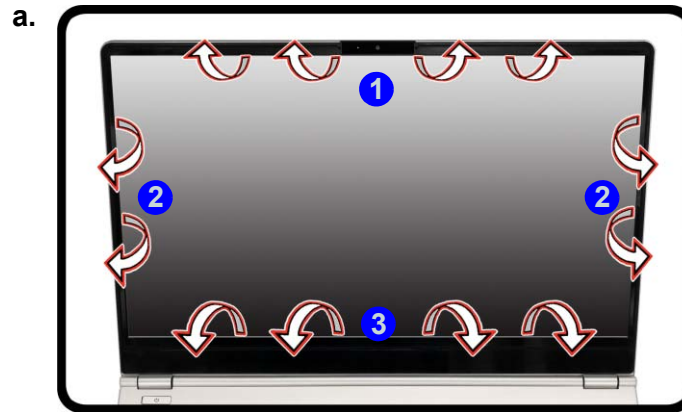
Figure 9
M.2 SSD Module Removal

- a. Locate the M.2 SSD.
- b. Remove the screw.
- c. The M.2 SSD module will pop up.

Disassembly

Figure 10
CCD Removal

- a. Run your fingers around the inner frame of the LCD panel at the points indicated by the arrows.
 - b. Lay the computer down on a flat surface with the top case up forming a 90 degree angle. Lift the LCD front panel upwards.
1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 10](#)) and battery ([page 2 - 5](#)).
 2. Run your fingers around the inner frame of the LCD panel at the points as indicated by the arrows **1** - **3** ([Figure 10a](#)).
 3. Lay the computer down on a flat surface with the top case up forming a 90 degree angle. Carefully lift and remove the LCD front cover **4** upwards ([Figure 10b](#)).



4. Disconnect the cable **5** (*Figure 11f*).
5. Remove the CCD module **6** (*Figure 11g*).
6. Reverse the process to install a new CCD module.



Figure 11
CCD Removal
(cont'd.)

- c. Disconnect the cable.
- d. Remove the CCD module.



6. CCD Module

Appendix A: Part Lists

This appendix breaks down the *NJ70PU* 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 List Illustration Location

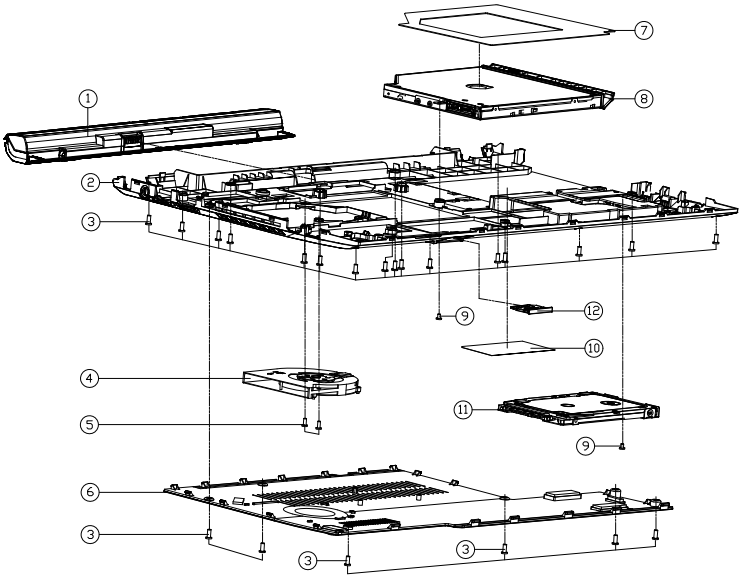
The following table indicates where to find the appropriate part list illustration.

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

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

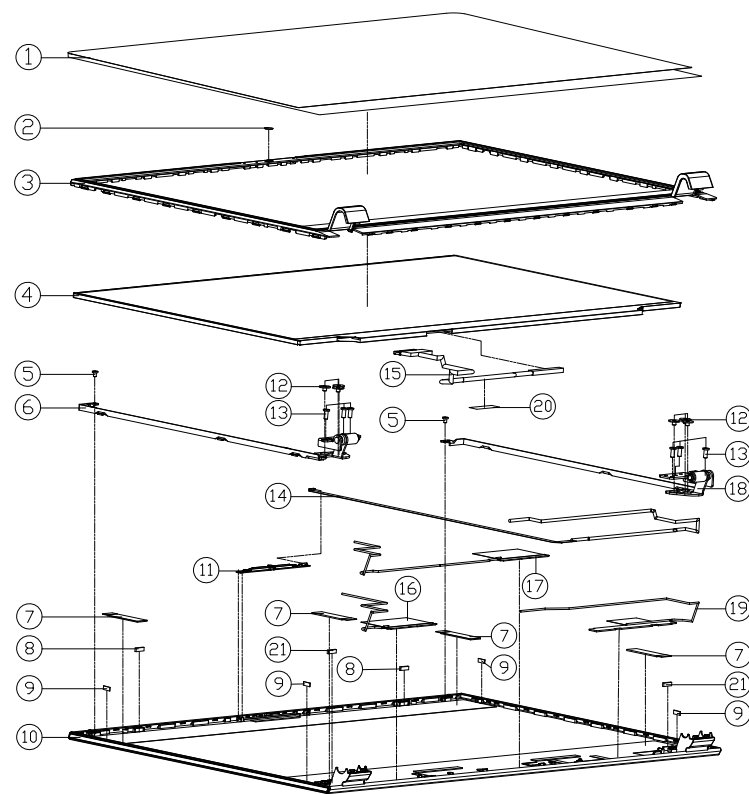
Bottom

Figure A - 2
Bottom



ITEM	PART NAME	PART NO	REMARK
1	BAT 1850 14.4V/2200MAH/24H KSP (E1MC PAKING) (Q46250) (C200MAH) (TEXTURE)	6-87-NJ5MS-32H01	
1	BAT 1850 14.4V/2200MAH/24H KSP (E1MC PAKING) (Q46250) (C200MAH) (TEXTURE)	6-87-NJ5MS-44D02	
1	BAT 1850 14.4V/2200MAH/24H KSP (E1MC PAKING) (Q46250) (C200MAH) (TEXTURE)	6-87-NJ50S-31C00	
2	BOTTOM CASE MODULE (CUT) NJ70CU	6-39-NJ703-014	
3	.SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
4	CPU FAN MODULE (YINGFANG) PWM CONTROL (D+P2) NJ50PU	6-31-NJ5PS-101	
5	.SCREW M2*8L K1 BK/Z ICT NY	6-35-B6120-8R0	
6	CPU COVER MODULE NJ70PU	6-42-NJ7P3-101	
7	ODD 9H MYLAR 0.5T NJ70CU	6-40-NJ70Z-010	ONLY FOR 9.0 MM ODD
8	SATA DVD SUPER MULTI 8X ASS'Y	6-79-NJ70CU0Q-001	
8	W/O ODD ASS'Y NJ70CU	6-79-NJ70CU0Z-000	
8	DUMMY ODD ASS'Y NJ70CU	6-79-NJ70CU0Z-001	
8	2ND HDD CADDY ASS'Y W/O HDD NJ70CU	6-79-NJ70CU0J-030	
8	2ND HDD CADDY ASS'Y W/HDD NJ70CU	6-79-NJ70CU0J-040	
9	.SCREW M2*3L KI NI ICT NY (DD=04.0,DT=0.8)	6-35-B1120-3RD	
10	PRODUCT LABEL FOR NJ70PU	6-45-NJ70PU03-010	
11	W/O HDD ASS'Y NJ50CU	6-79-NJ50CU0J-010	
11	W/HDD ASS'Y NJ50CU	6-79-NJ50CU0J-020	
12	DUMMY 3IN1 NON PUSH TYPE PC+ABS (C723RP-701DE) W970SUW	6-42-W9708-030	

LCD

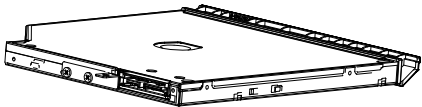
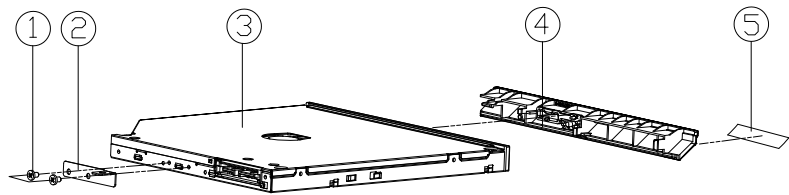


ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP NB70TJ1	6-40-NB708-010	
2	CCD LENS PMMA (DIAMETER 3.6MM) (MPI) P970EN	6-42-P97N1-011-1	
3	LCD FRONT COVER MODULE NJ70CU	6-39-NJ701-012	
4	LCD N17.3" FHD/VA/N7/NEN GT/EEP AU B173HND42 0U/VA00 LED 35MM	6-50-NBB35-G020	
4	LCD N17.3" FHD/VA/N4/NEN GT/EEP BDE NV173F1M-N49 LED 35MM	6-50-NBB35-Z010	
4	LCD N17.3" FHD/VA/N7/NEN GT/ EEP LG LP173WTS-SPB3 LED 35MM	6-50-NBB35-L020	
4	LCD N17.3" FHD/VA/N4/NEN GT/EEP AU B173HND48 LED 35MM	6-50-NBB35-G010	
4	LCD N17.3" FHD/VA/144HZ/N4/NEN GT/EEP BDE NV173F1M-N04 35MM	6-50-NBB35-Z171	
5	.SCREW M2*3L KI NI ICT NY (DD=Ø4.0,DT=0.8)	6-35-B1120-3RD	
6	HINGE L MODULE NJ70CU	6-33-NJ701-L01	
7	LCD LALA SPONG (35*10*0.75T) FMS0822K+CR4832 NH58EDQ	6-47-0019A-35R-1	
8	LCD RUBBER (8*2.5*1.2T) SILICON BLACK NH58EDQ	6-47-NH581-051	
9	RUBBER (6.4*2.6*0.5T)(WHITE)NH50ED	6-47-NH501-021	
10	LCD BACK COVER MODULE NJ70CU	6-39-NJ701-023	
11	ARC COVER FRONT FINGER STRUTTER2000000110 010 VHS-HE 4002 01050 00000 01050 WHITE-LED	6-88-N15ZC-5102	OPTION
11	ARC COVER BACK FINGER 0000000000 010 010 VHS-HE 4002 01050 00000 01050 WHITE-LED	6-88-N15ZC-4900	OPTION
11	ARC COVER BACK FINGER 0000000000 010 010 VHS-HE 4002 01050 00000 01050 WHITE-LED	6-88-X17JC-4900	OPTION
12	SCREW M2.5*2.5L KI BK/Z ICT NY(Ø8,T=0.6)	6-35-B6125-2R5	
13	.SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
14	WIRE+FC CABLE FOR CCD D-MIC 600MM 3.3V 8P TO 12P(010) NB70TJ1	6-43-NB70T-012	
15	WIRE CABLE FOR EEP FHD 200MM Ø 15V 30P(W CON)ALW CON(LV)300-220 NLS000	6-43-NJ501-011-1N	
15	CORONA CABLE FOR EEP 200MM Ø100T 30V 30P TO 40P 001ALW CON(LV)300-224-H0 NLS000	6-43-NJ7P1-010-1N	
16	ANTENNA PEBA W/LN WGT M2 PCB DRAP(PLASTIC) 240/55 W/2-50MM NLS000	6-23-7NJ50-021	
17	ANTENNA PEBA W/LN WGT M1 PCB DRAP(PLASTIC) 240/55 W/1-50MM NLS000	6-23-7NJ50-010	
18	HINGE R MODULE NJ70CU	6-33-NJ701-R01	
19	ANTENNA PEBA W/LN WGT L10 PCB DRAP(PLASTIC) 240/55 W/2-50MM NLS000	6-23-7NJ50-030	
20	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
21	LCD RUBBER (6*3.5*0.8T) NH55EDQ	6-47-NH551-020	

Figure A - 3
LCD

DVD

Figure A - 4
DVD



ITEM	PART NAME	PART NO	REMARK
1	.SCREW M2*3L KI NI ICT NY (DD=#4.0,DT=0.8)	6-35-B1120-3RD	
2	ODD BRACKET SECC W547BL (XIESHOU)	6-33-W547Z-011-1	
3	SATA DVD WRITER 5.1/4" 8X 9.5MM GUDIN HLDS	6-85-A088X-506	FOR HLDS
4	ODD BEZEL MODULE NJ70CU	6-42-NJ70Z-102	
5	SUPER MULTI ODD BEZEL LABEL N650DU	6-45-N650Q-020	

HDD

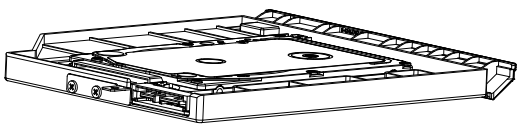
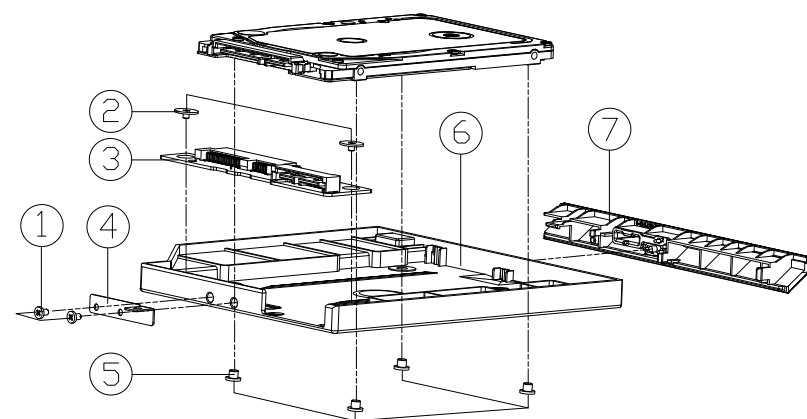
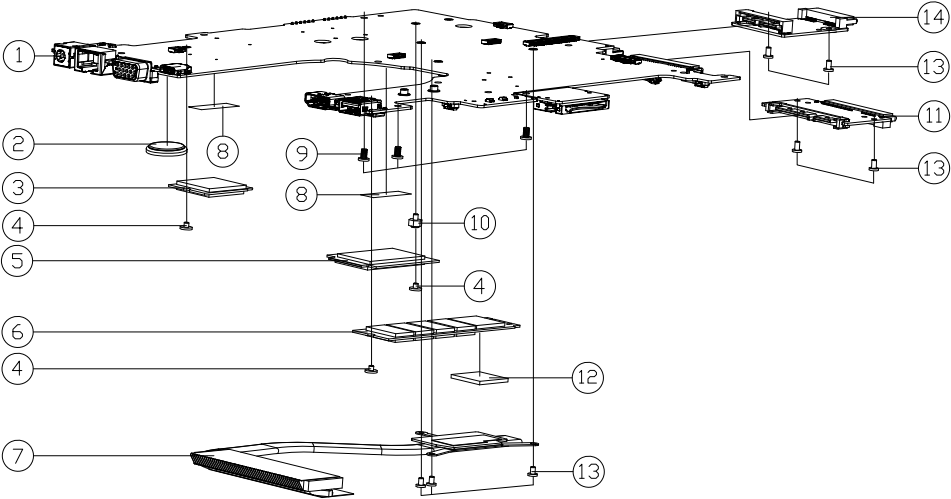


Figure A - 5
HDD

ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L KI NI ICT NY (DD=04.0,DT=0.8)	6-35-B1120-3RD	
2	SCREW M2*2L KI BK/Z ICT NY(0.8,T=0.6)	6-35-B6120-2RE	
3	DDD TO HDD BOARD V2.0 NJ50PU	6-77-NJ5PN-D02	
4	DDD BRACKET SECC W547BL (XIESHOU)	6-33-W547Z-011-1	W/O HDD
4	DDD BRACKET SECC W547BL	6-33-W547Z-011	W/ HDD
5	SCREW M3*3.0L KI NI ICT NY	6-35-B1130-3R5	
6	DUMMY DDD MODULE N750BU	6-42-N750Z-102	
7	DDD BEZEL MODULE NJ70CU	6-42-NJ70Z-102	

MB

Figure A - 6
MB



ITEM	PART NAME	PART NO	REMARK
1	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-77-NJ70PU00-D02-A	
1	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-77-NJ70PU00-D02-B	
1	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-77-NJ70PU00-D02-CD	
1	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-77-NJ70PU00-D02-3C	
2	BATTERY 3V 220MA B00C2032B (KTS)	6-23-6A2B2-030	
3	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-88-X270F-4210	OPTION
3	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-88-X17KF-4210	OPTION
3	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-88-NV40F-4210	OPTION
3	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-88-NI5CF-4210	OPTION
3	MAIN BOARD/PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-88-N24GF-4200	OPTION
4	SCREW M2X2L KI NI ICT NY (D0=4S, T=8.8)	6-35-B1120-2RA	
5	1/4 4 MILLI THICK (D0=3.5) KI NI ICT NY (D0=4S, T=8.8)	6-88-NJ506-0C00	
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D511T-H01	OPTION
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D512T-W00	OPTION
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D515B-S0C	OPTION
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D511T-S04	OPTION
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D511T-W01	OPTION
6	CPU PCB/1250/130 V20 CPU/PA/TP/LED CHARGE ALUMINUM	6-85-D515B-S0A	OPTION
7	CPU HEATSINK MODULE NJ50PU (MP)	6-31-NJ5PN-101	
8	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
9	SCREW M2.5X4L (D=4.6,T=8.8) KI NI ICT NY	6-35-B1125-4RA	
10	SCREW M2.5X4L (D=4.6,T=8.8) KI NI ICT NY	6-35-2A120-2R5-2	
11	SATA HDD BOARD V1.0 NJ70MU	6-77-NJ7MJ-D01	
12	THERMAL PAD 20X20X2.75MM (HMS00) NUT05D	6-48-NI708-010	
13	SCREW M2X2L KI NI ICT NY (D0=4.0,T=8.8)	6-35-B1120-3RD	
14	DDD BRIDGE BOARD V1.0 NJ70MU	6-77-NJ7M7-D01	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *NJ70PU* 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>DP to VGA IT6516 - Page B - 20</i>	<i>MP2964 Controller - Page B - 38</i>
<i>Processor 1/13 - Page B - 3</i>	<i>RGB KB - Page B - 21</i>	<i>VCore - Page B - 39</i>
<i>Processor 2/13 - Page B - 4</i>	<i>TPM, PW Button, LID SW, LED - Page B - 22</i>	<i>VCCGT - Page B - 40</i>
<i>Processor 3/13 - Page B - 5</i>	<i>Type-C - Page B - 23</i>	<i>VCCIN - Page B - 41</i>
<i>Processor 4/13 - Page B - 6</i>	<i>PD Controller IT8851 - Page B - 24</i>	<i>Charger - Page B - 42</i>
<i>Processor 5/13 - Page B - 7</i>	<i>M Key PCIE SSD - Page B - 25</i>	<i>AC IN - Page B - 43</i>
<i>Processor 6/13 - Page B - 8</i>	<i>USB, HDD, ODD - Page B - 26</i>	<i>Audio Board - Page B - 44</i>
<i>Processor 7/13 - Page B - 9</i>	<i>LAN I219V - Page B - 27</i>	<i>Audio Board - Page B - 45</i>
<i>Processor 8/13 - Page B - 10</i>	<i>Card Reader OZ711 - Page B - 28</i>	<i>Click Board - Page B - 46</i>
<i>Processor 9/13 - Page B - 11</i>	<i>M.2 Card (3G/LTE) - Page B - 29</i>	<i>ODD to HDD Caddy - Page B - 47</i>
<i>Processor 10/13 - Page B - 12</i>	<i>M.2 Card (BT/WLAN) - Page B - 30</i>	<i>LID SW Board - Page B - 48</i>
<i>Processor 11/13 - Page B - 13</i>	<i>Audio Codec - Page B - 31</i>	<i>Power Seq. - Page B - 49</i>
<i>Processor 12/13 - Page B - 14</i>	<i>CONN FAN, TP, CCD, LED - Page B - 32</i>	
<i>Processor 13/13 - Page B - 15</i>	<i>KBC ITE IT5570 - Page B - 33</i>	
<i>DDR4 SO_DIMM_A - Page B - 16</i>	<i>VDD3 / VDD5 - Page B - 34</i>	
<i>DDR4 SO_DIMM_B - Page B - 17</i>	<i>3.3V, 5V, 3VS, 5VS, CTL - Page B - 35</i>	
<i>Panel, Inverter - Page B - 18</i>	<i>2.5V, VCCST, VCCSTG - Page B - 36</i>	
<i>HDMI - Page B - 19</i>	<i>VDDQ, VDDQ_VTT, 1.8VA - Page B - 37</i>	

Table B - 1
**SCHEMATIC
DIAGRAMS**

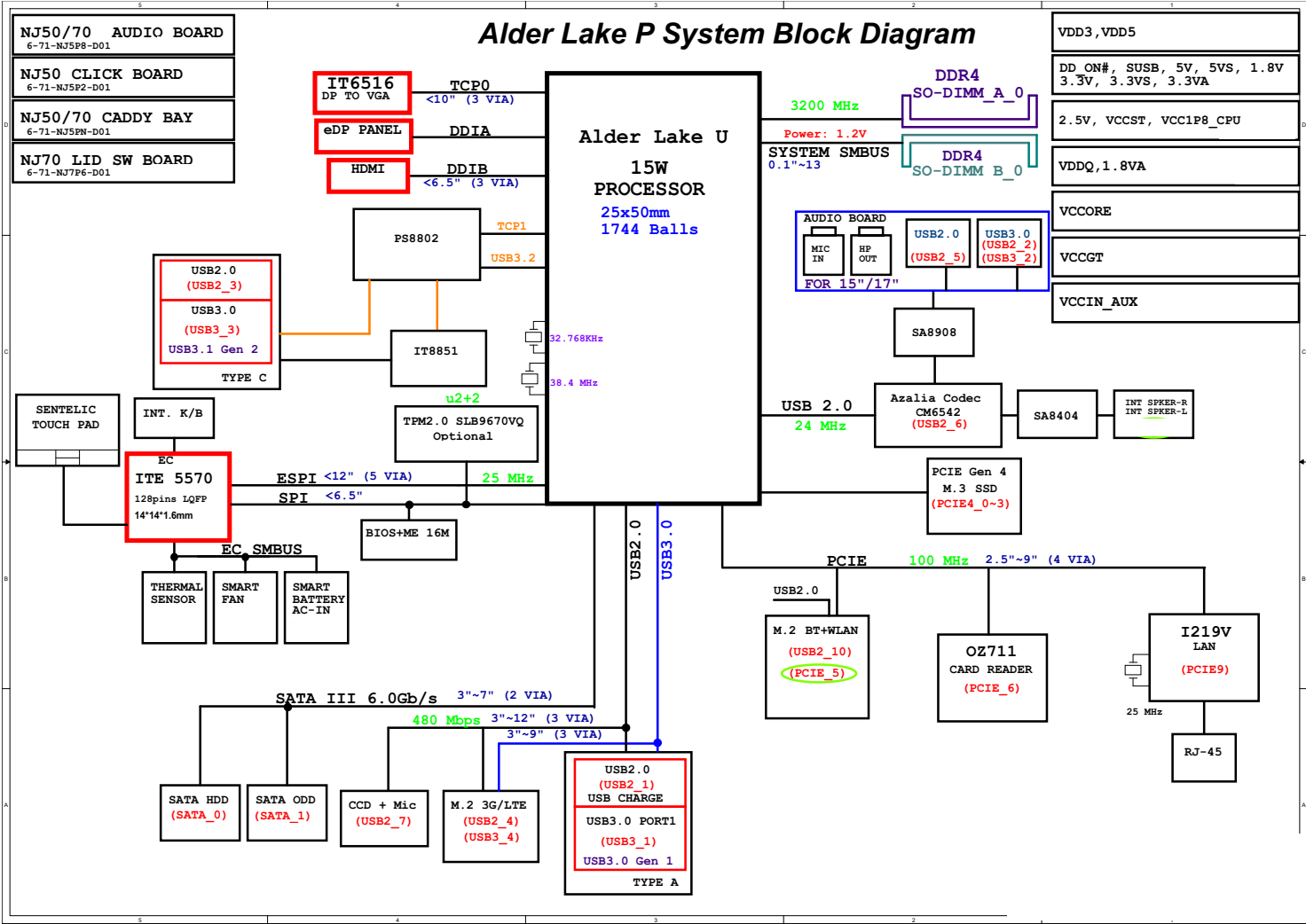


Version Note

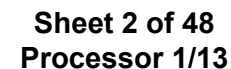
The schematic diagrams in this chapter are based upon version 6--7P-NJ5P5-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 48
System Block
Diagram



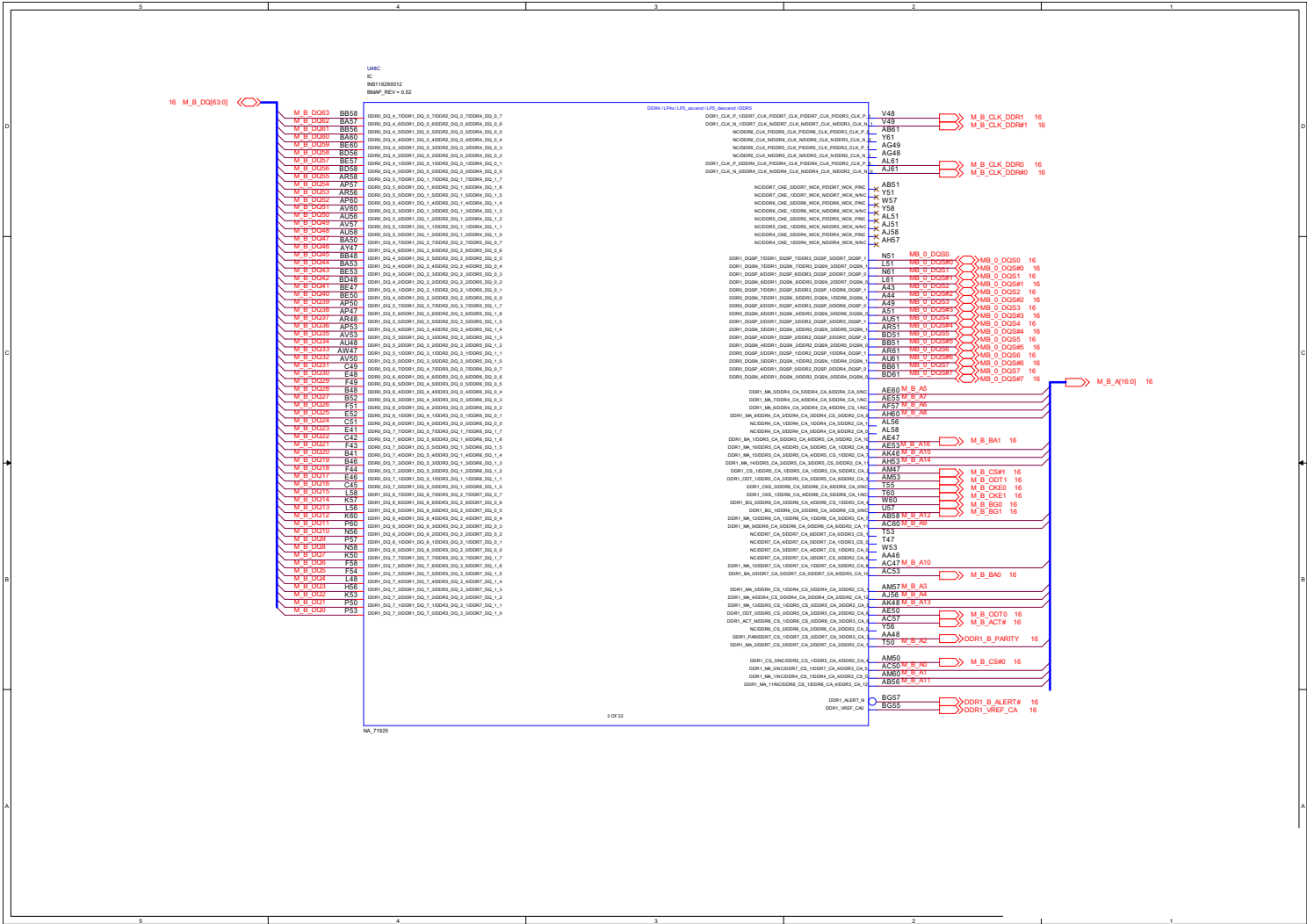
B.Schematic Diagrams



Processor 2/13

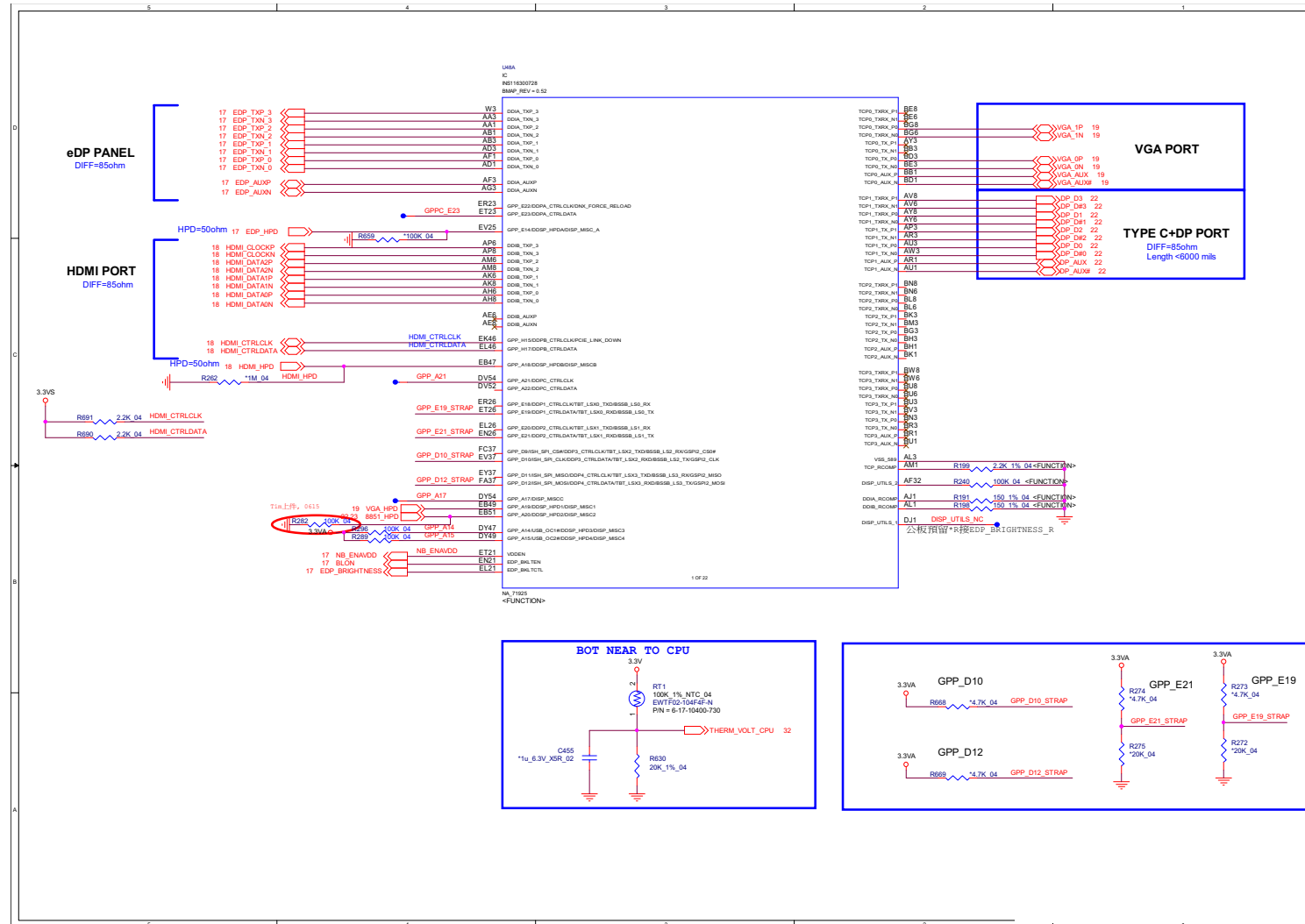
3. Schematic Diagrams

Sheet 3 of 48
Processor 2/13



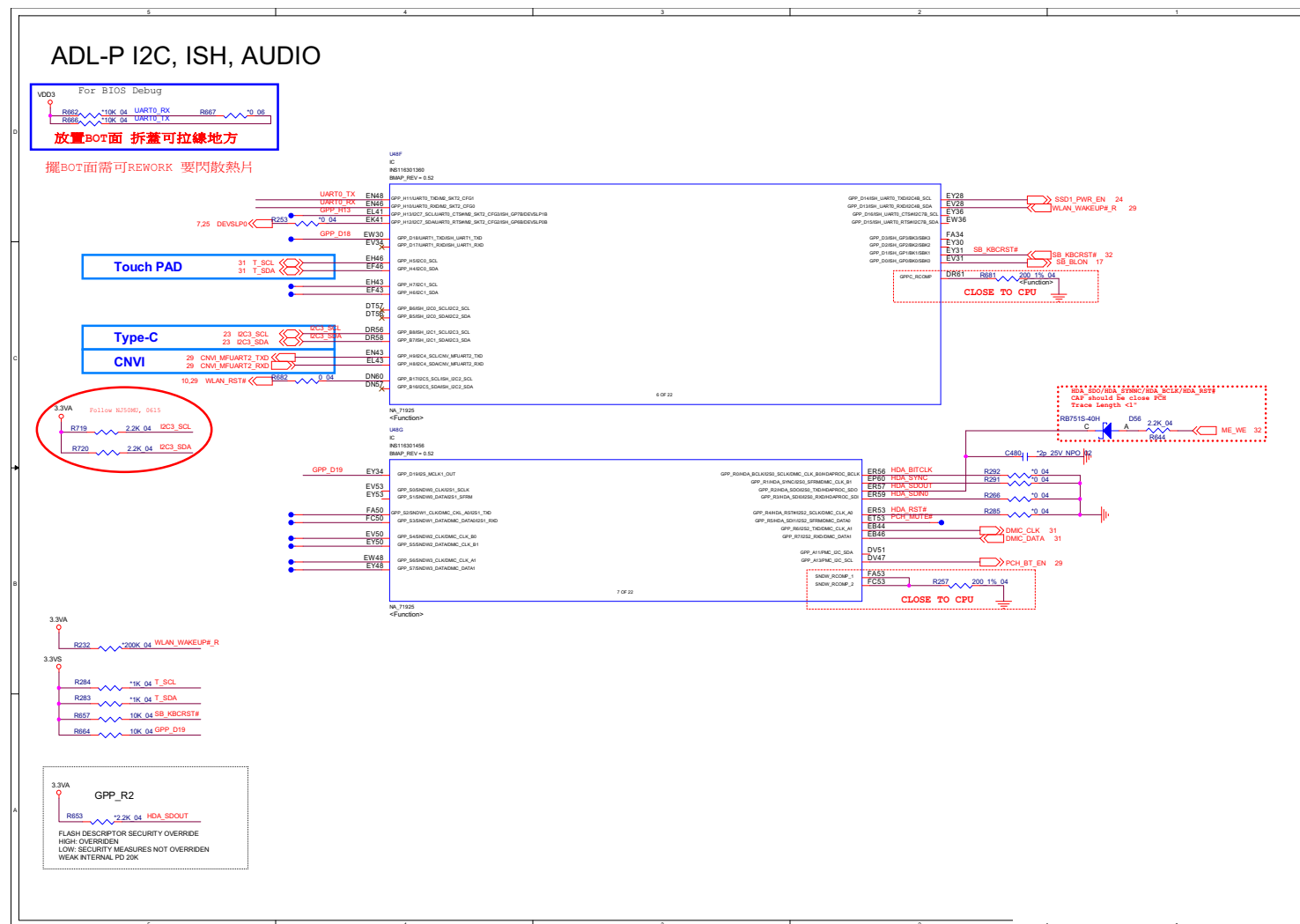
Processor 3/13 B - 5

B.Schematic Diagrams



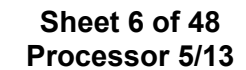
Processor 4/13

Sheet 5 of 48
Processor 4/13



Processor 5/13 B - 7

B.Schematic Diagrams

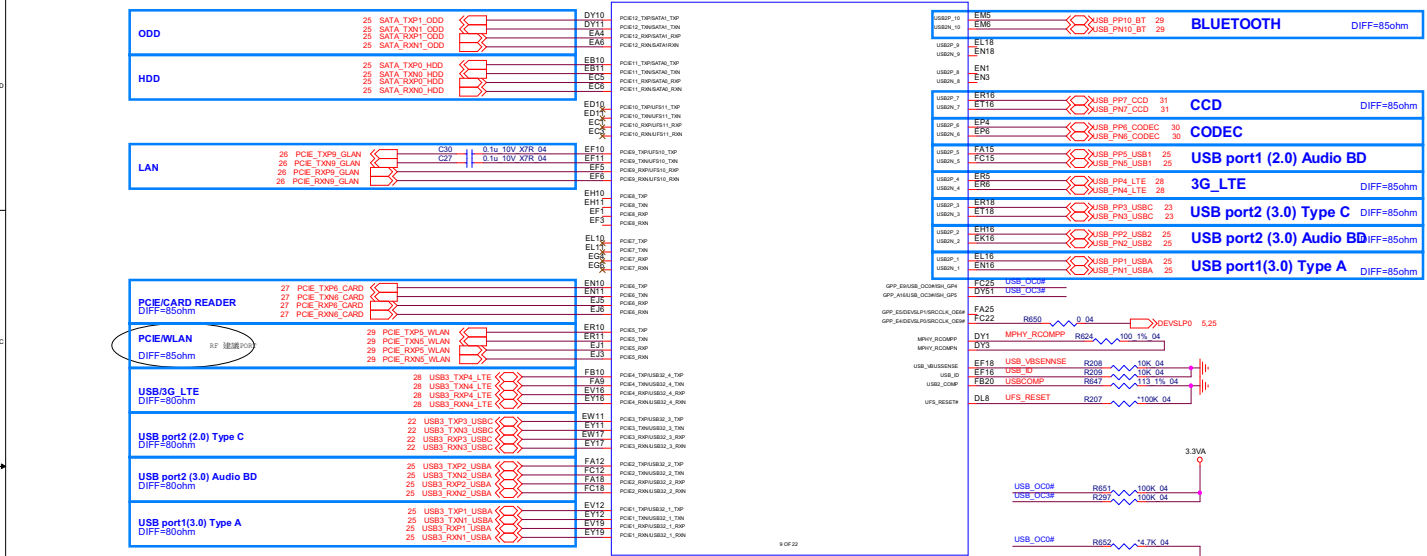


Schematic Diagrams

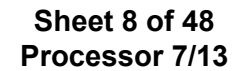
Processor 6/13

Sheet 7 of 48
Processor 6/13

ADL-P PCIE, USB3, USB2



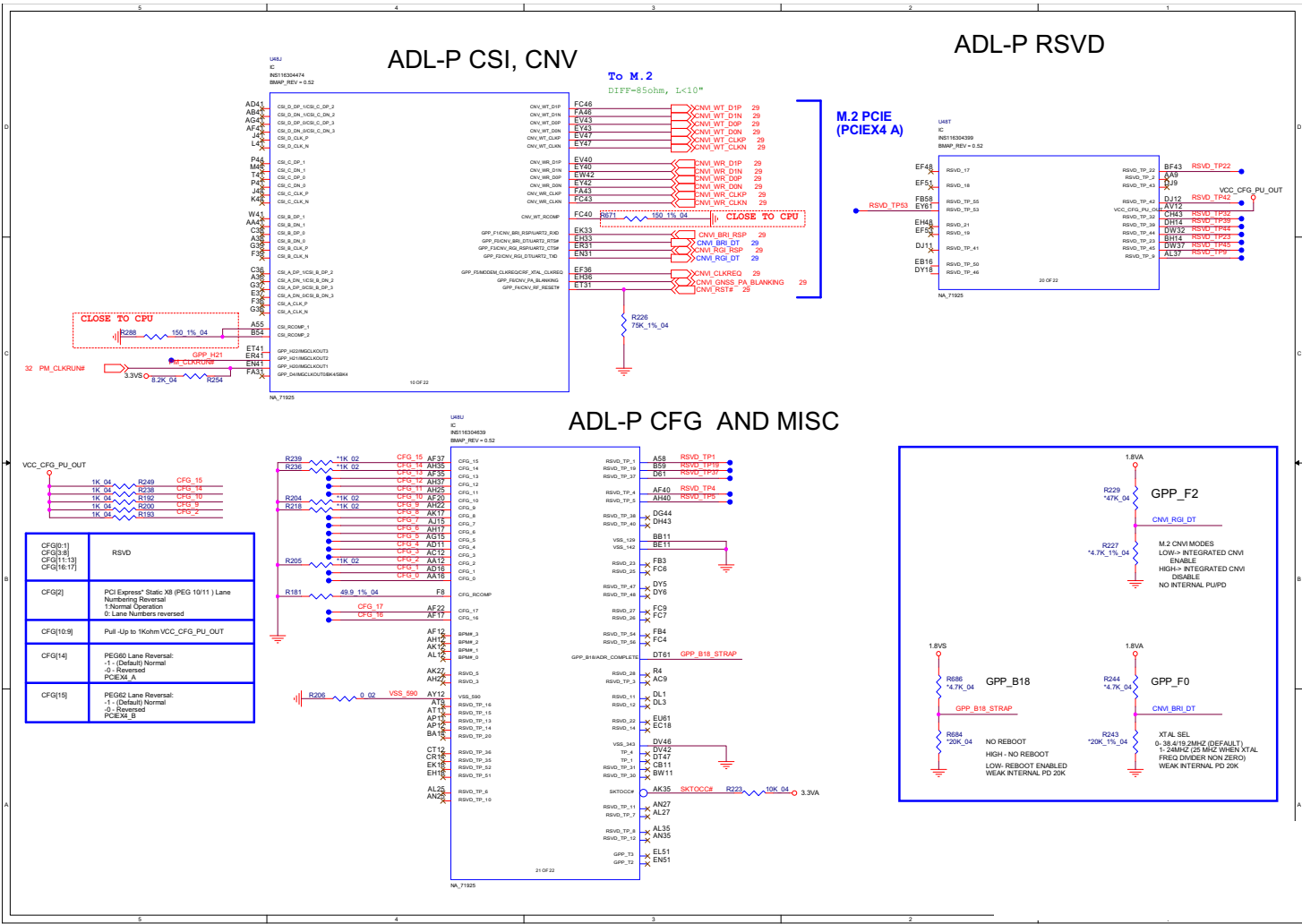
Processor 7/13 B - 9



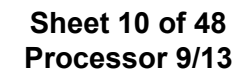
Schematic Diagrams

Processor 8/13

Sheet 9 of 48
Processor 8/13

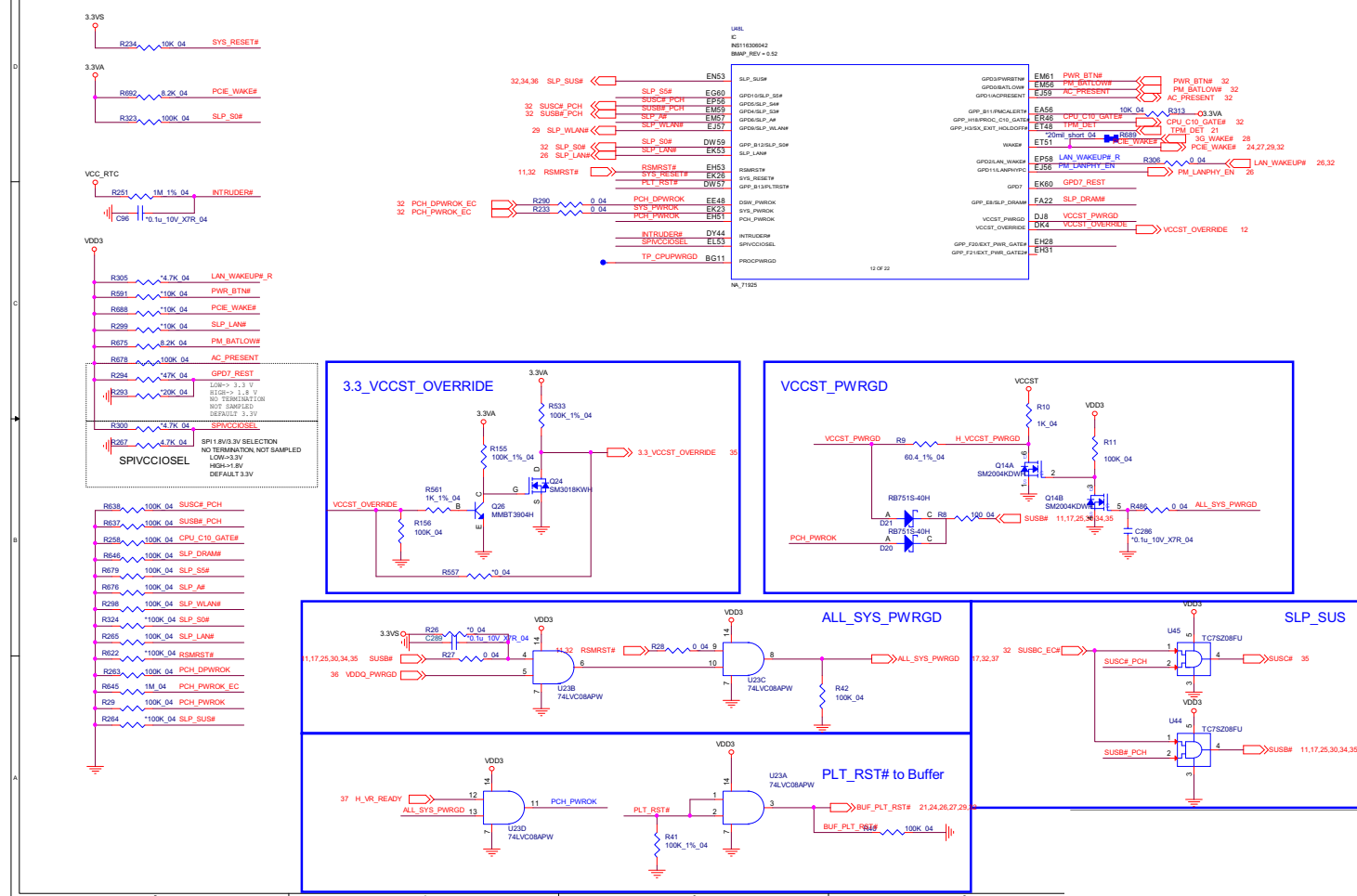


Processor 9/13 B - 11

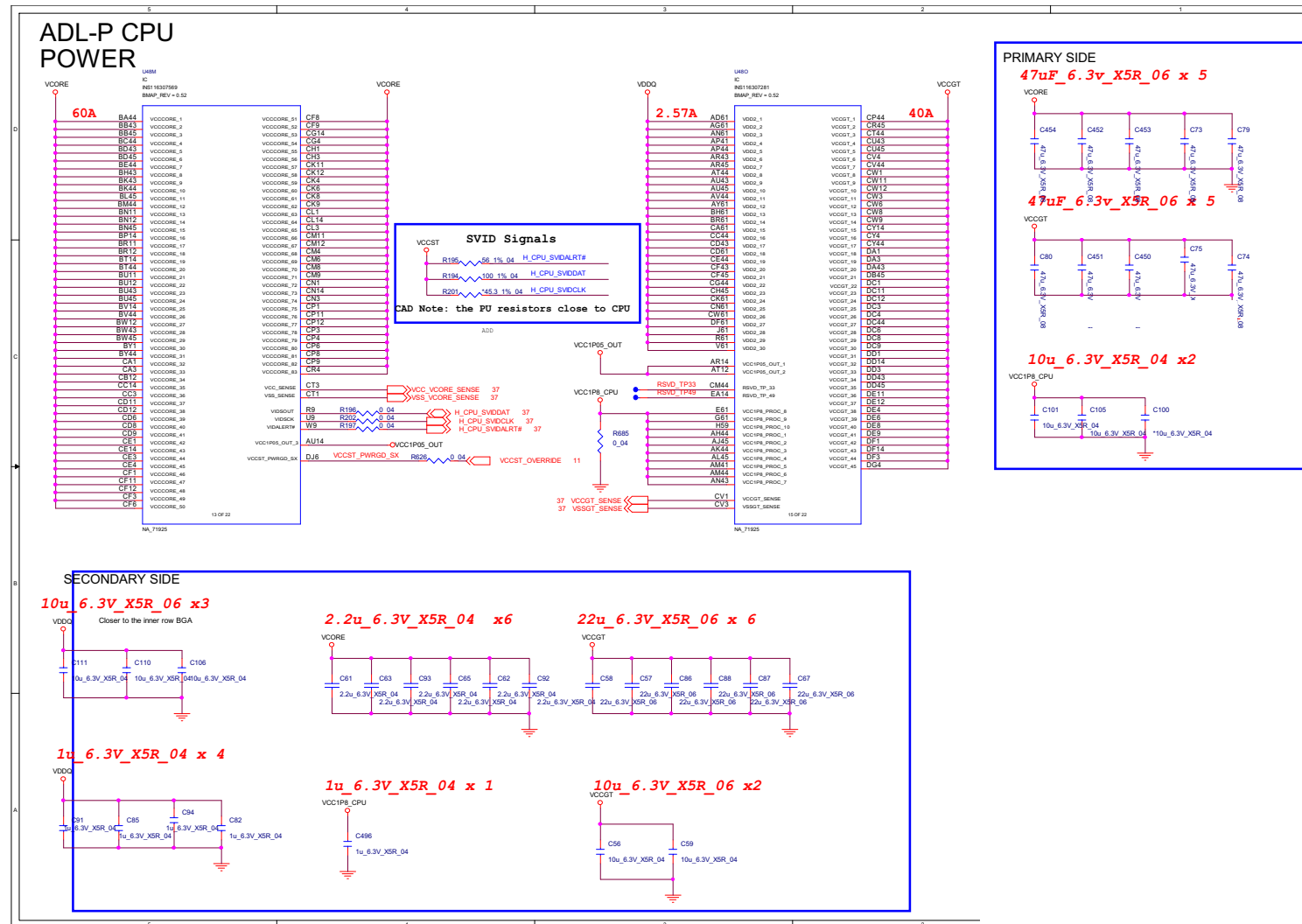


Processor 10/13

ADL-P SYSTEM POWER MANAGEMENT

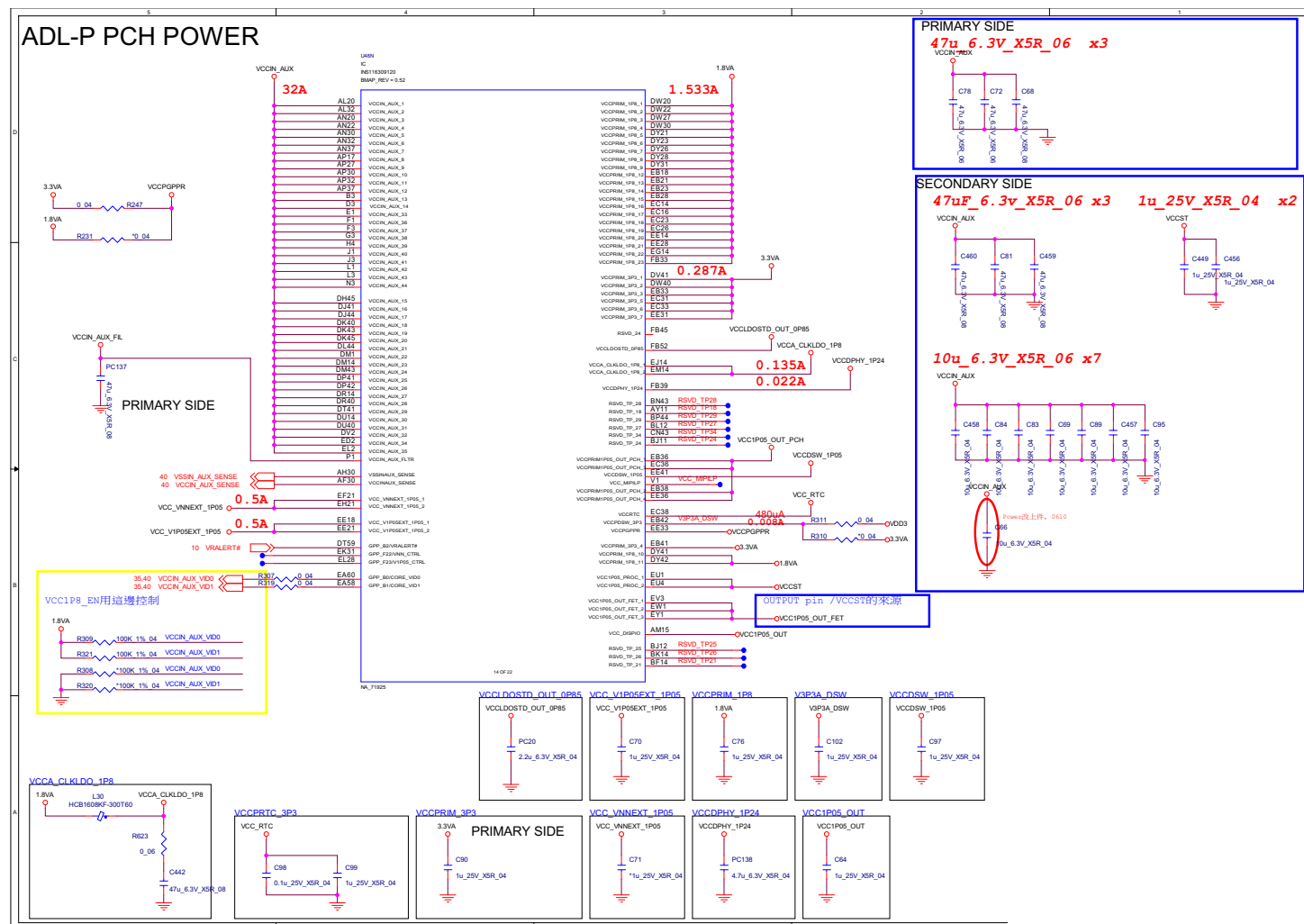


Processor 11/13

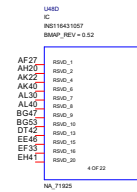
Sheet 12 of 48
Processor 11/13

Processor 12/13

Sheet 13 of 48
Processor 12/13



B.Schematic Diagrams



DDR4 SO_DIMM_A

B.Schematic Diagrams

SO-DIMM A

J_DIMMA1A

J_DIMMA1B

VREFCA

CAPACITORS: C129, C130, C131, C132, C133, C134, C135, C136.

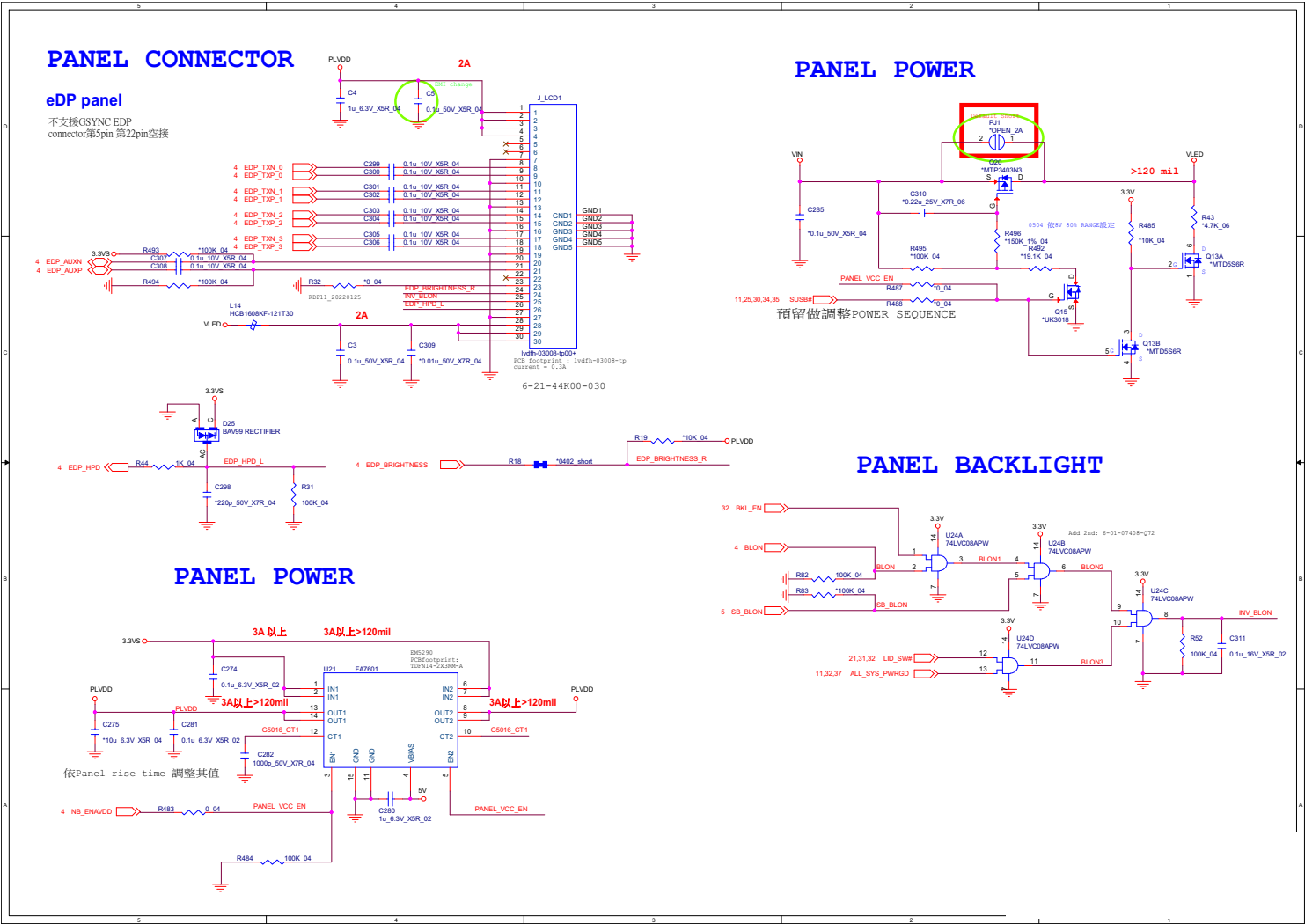
PIN CONNECTIONS:

PIN	SIGNAL	FUNCTION
1	M_A_CLK_DQ0	DQ0
2	M_A_CLK_DQ8	DQ8
3	M_A_CLK_DQ16	DQ16
4	M_A_CLK_DQ24	DQ24
5	M_A_CLK_DQ32	DQ32
6	M_A_CLK_DQ40	DQ40
7	M_A_CLK_DQ48	DQ48
8	M_A_CLK_DQ56	DQ56
9	M_A_CLK_DQ64	DQ64
10	M_A_CLK_DQ72	DQ72
11	M_A_CLK_DQ80	DQ80
12	M_A_CLK_DQ88	DQ88
13	M_A_CLK_DQ96	DQ96
14	M_A_CLK_DQ104	DQ104
15	M_A_CLK_DQ112	DQ112
16	M_A_CLK_DQ120	DQ120
17	M_A_CLK_DQ128	DQ128
18	M_A_CLK_DQ136	DQ136
19	M_A_CLK_DQ144	DQ144
20	M_A_CLK_DQ152	DQ152
21	M_A_CLK_DQ160	DQ160
22	M_A_CLK_DQ168	DQ168
23	M_A_CLK_DQ176	DQ176
24	M_A_CLK_DQ184	DQ184
25	M_A_CLK_DQ192	DQ192
26	M_A_CLK_DQ200	DQ200
27	M_A_CLK_DQ208	DQ208
28	M_A_CLK_DQ216	DQ216
29	M_A_CLK_DQ224	DQ224
30	M_A_CLK_DQ232	DQ232
31	M_A_CLK_DQ240	DQ240
32	M_A_CLK_DQ248	DQ248
33	M_A_CLK_DQ256	DQ256
34	M_A_CLK_DQ264	DQ264
35	M_A_CLK_DQ272	DQ272
36	M_A_CLK_DQ280	DQ280
37	M_A_CLK_DQ288	DQ288
38	M_A_CLK_DQ296	DQ296
39	M_A_CLK_DQ304	DQ304
40	M_A_CLK_DQ312	DQ312
41	M_A_CLK_DQ320	DQ320
42	M_A_CLK_DQ328	DQ328
43	M_A_CLK_DQ336	DQ336
44	M_A_CLK_DQ344	DQ344
45	M_A_CLK_DQ352	DQ352
46	M_A_CLK_DQ360	DQ360
47	M_A_CLK_DQ368	DQ368
48	M_A_CLK_DQ376	DQ376
49	M_A_CLK_DQ384	DQ384
50	M_A_CLK_DQ392	DQ392
51	M_A_CLK_DQ400	DQ400
52	M_A_CLK_DQ408	DQ408
53	M_A_CLK_DQ416	DQ416
54	M_A_CLK_DQ424	DQ424
55	M_A_CLK_DQ432	DQ432
56	M_A_CLK_DQ440	DQ440
57	M_A_CLK_DQ448	DQ448
58	M_A_CLK_DQ456	DQ456
59	M_A_CLK_DQ464	DQ464
60	M_A_CLK_DQ472	DQ472
61	M_A_CLK_DQ480	DQ480
62	M_A_CLK_DQ488	DQ488
63	M_A_CLK_DQ496	DQ496
64	M_A_CLK_DQ504	DQ504
65	M_A_CLK_DQ512	DQ512
66	M_A_CLK_DQ520	DQ520
67	M_A_CLK_DQ528	DQ528
68	M_A_CLK_DQ536	DQ536
69	M_A_CLK_DQ544	DQ544
70	M_A_CLK_DQ552	DQ552
71	M_A_CLK_DQ560	DQ560
72	M_A_CLK_DQ568	DQ568
73	M_A_CLK_DQ576	DQ576
74	M_A_CLK_DQ584	DQ584
75	M_A_CLK_DQ592	DQ592
76	M_A_CLK_DQ600	DQ600
77	M_A_CLK_DQ608	DQ608
78	M_A_CLK_DQ616	DQ616
79	M_A_CLK_DQ624	DQ624
80	M_A_CLK_DQ632	DQ632
81	M_A_CLK_DQ640	DQ640
82	M_A_CLK_DQ648	DQ648
83	M_A_CLK_DQ656	DQ656
84	M_A_CLK_DQ664	DQ664
85	M_A_CLK_DQ672	DQ672
86	M_A_CLK_DQ680	DQ680
87	M_A_CLK_DQ688	DQ688
88	M_A_CLK_DQ696	DQ696
89	M_A_CLK_DQ704	DQ704
90	M_A_CLK_DQ712	DQ712
91	M_A_CLK_DQ720	DQ720
92	M_A_CLK_DQ728	DQ728
93	M_A_CLK_DQ736	DQ736
94	M_A_CLK_DQ744	DQ744
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103	M_A_CLK_DQ816	DQ816
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105	M_A_CLK_DQ832	DQ832
106	M_A_CLK_DQ840	DQ840
107	M_A_CLK_DQ848	DQ848
108	M_A_CLK_DQ856	DQ856
109	M_A_CLK_DQ864	DQ864
110	M_A_CLK_DQ872	DQ872
111	M_A_CLK_DQ880	DQ880
112	M_A_CLK_DQ888	DQ888
113	M_A_CLK_DQ896	DQ896
114	M_A_CLK_DQ904	DQ904
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116	M_A	

Schematic Diagrams

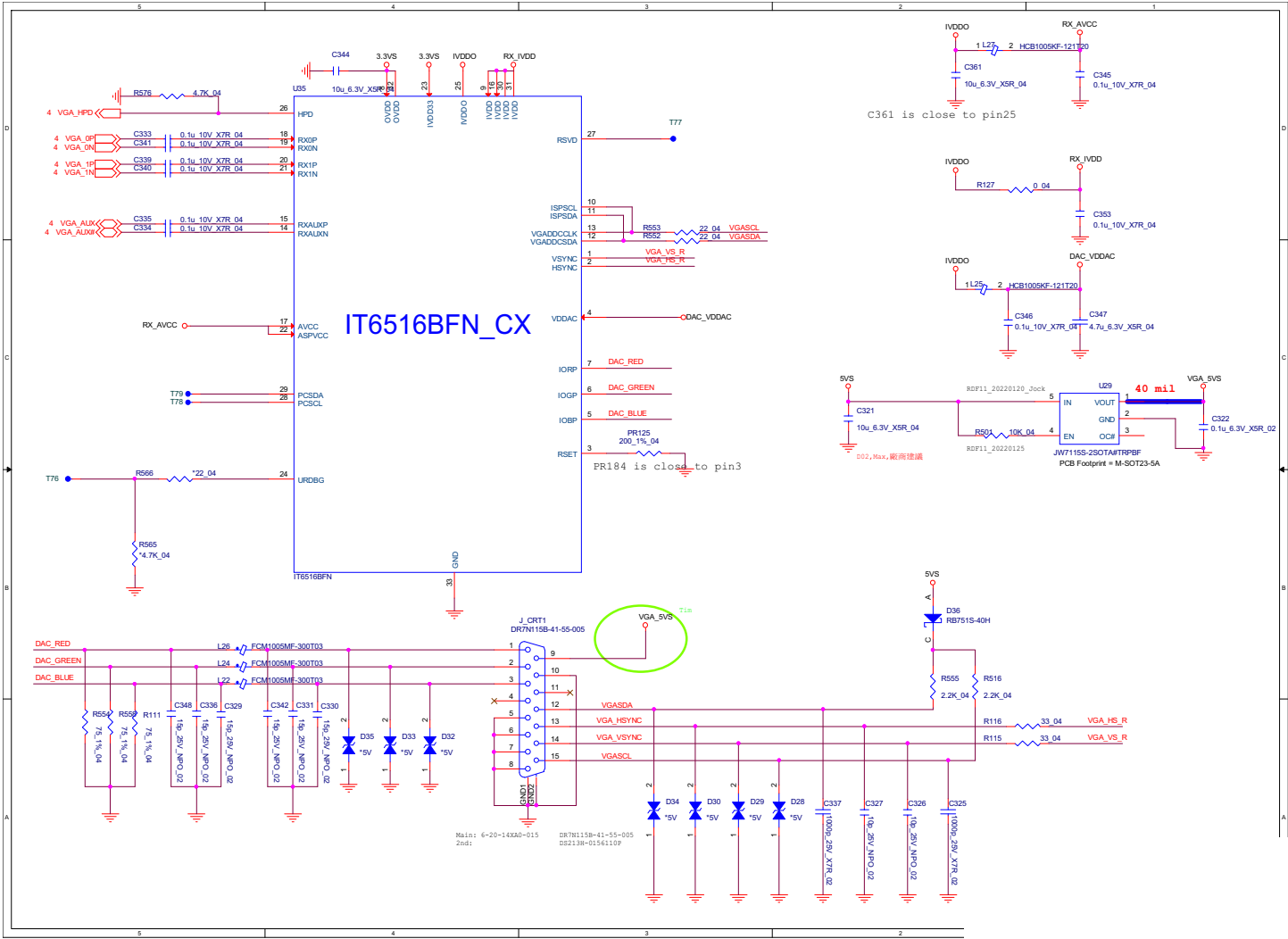
Panel, Inverter

Sheet 17 of 48
Panel, Inverter

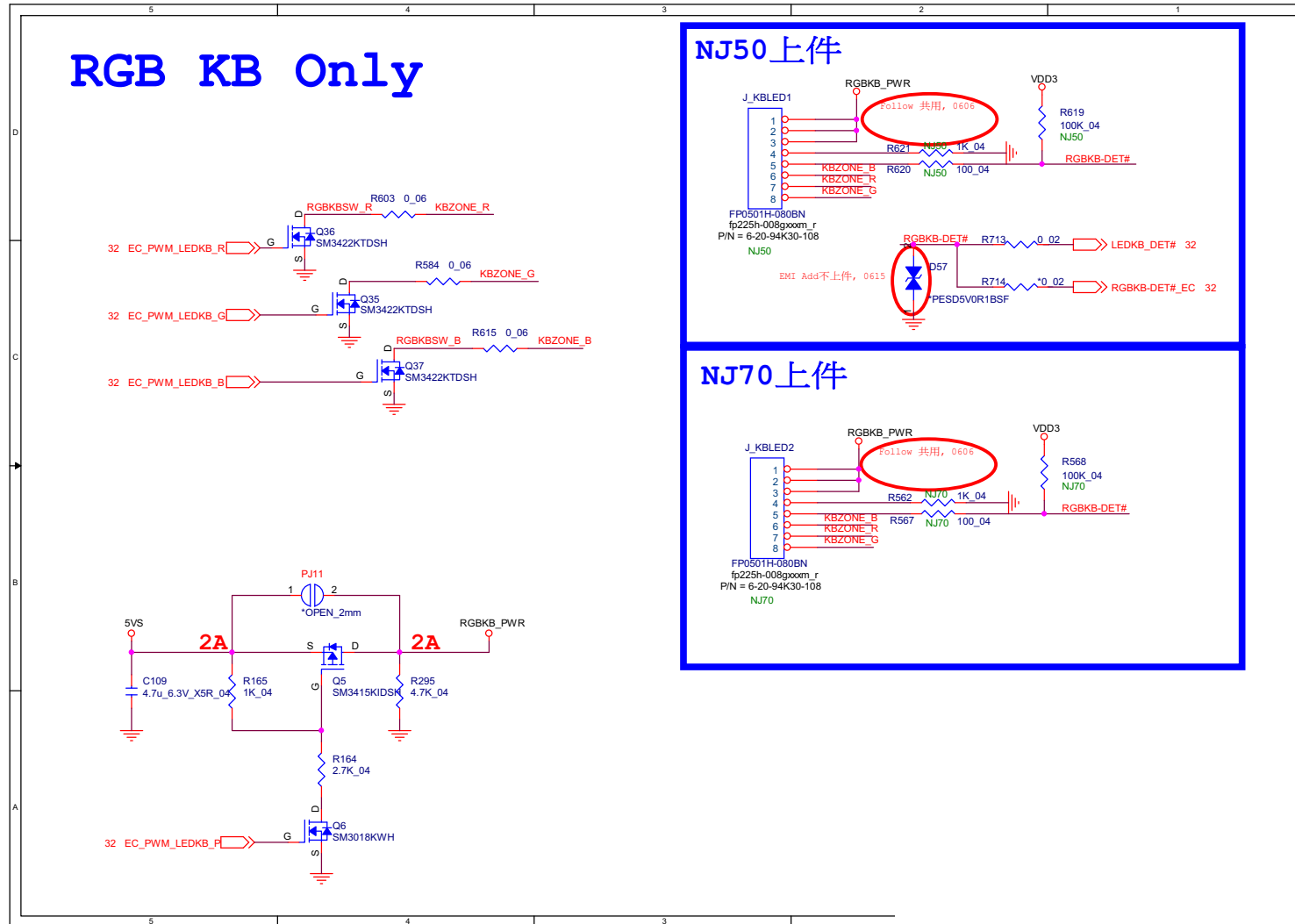




DP to VGA IT6516



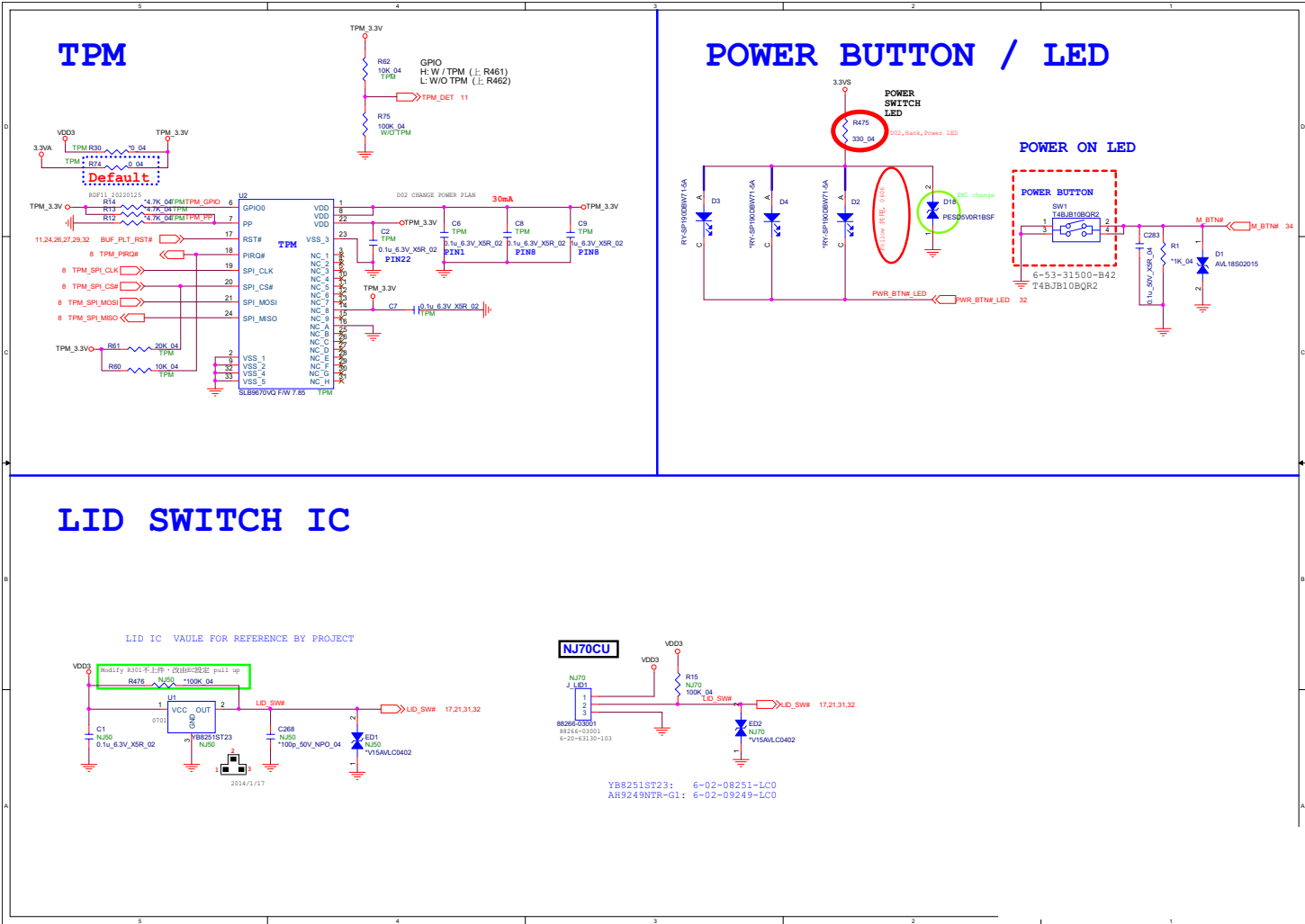
RGB KB

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RGB KB

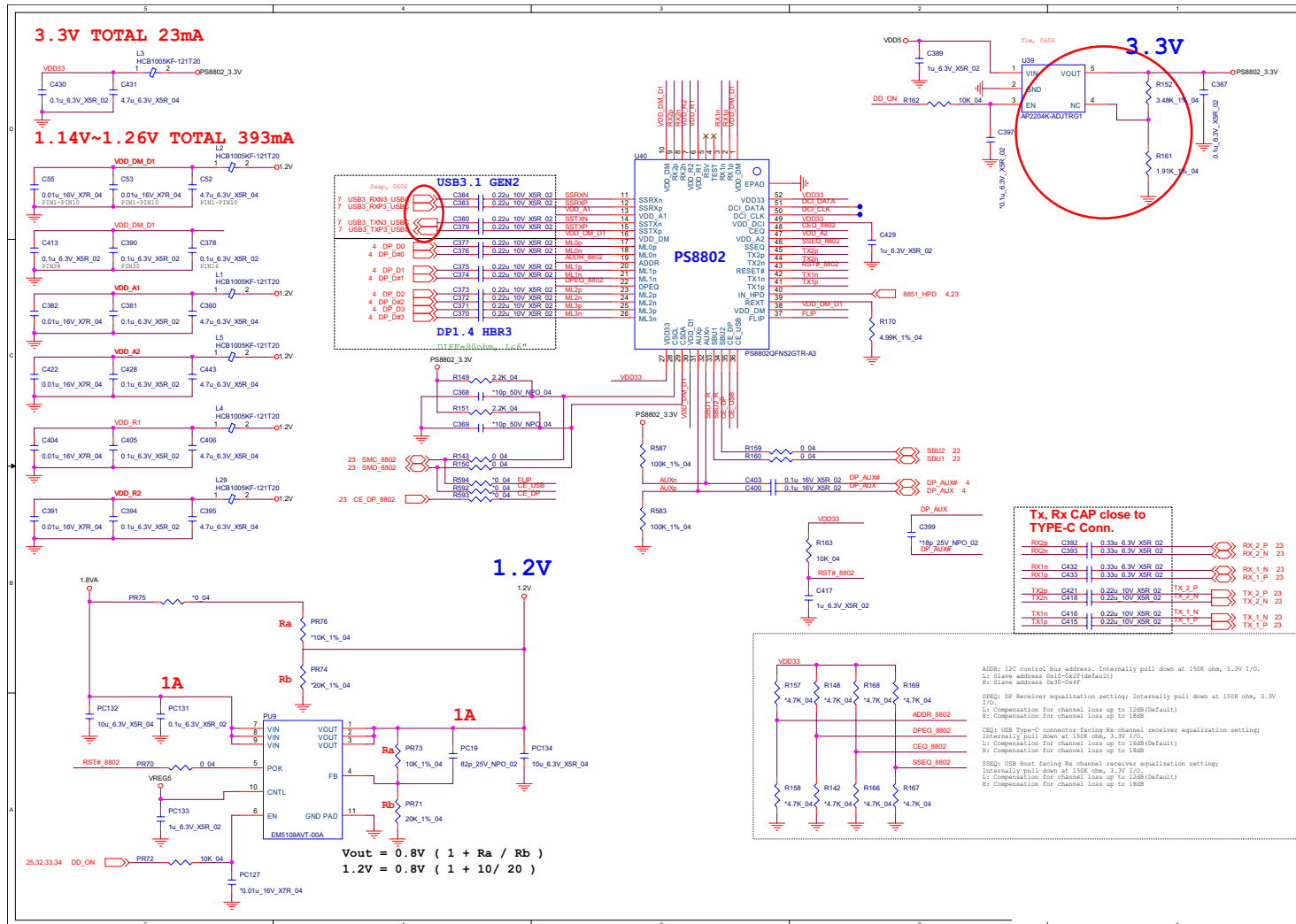
Schematic Diagrams

TPM, PW Button, LID SW, LED

Sheet 21 of 48
TPM, PW Button,
LID SW, LED



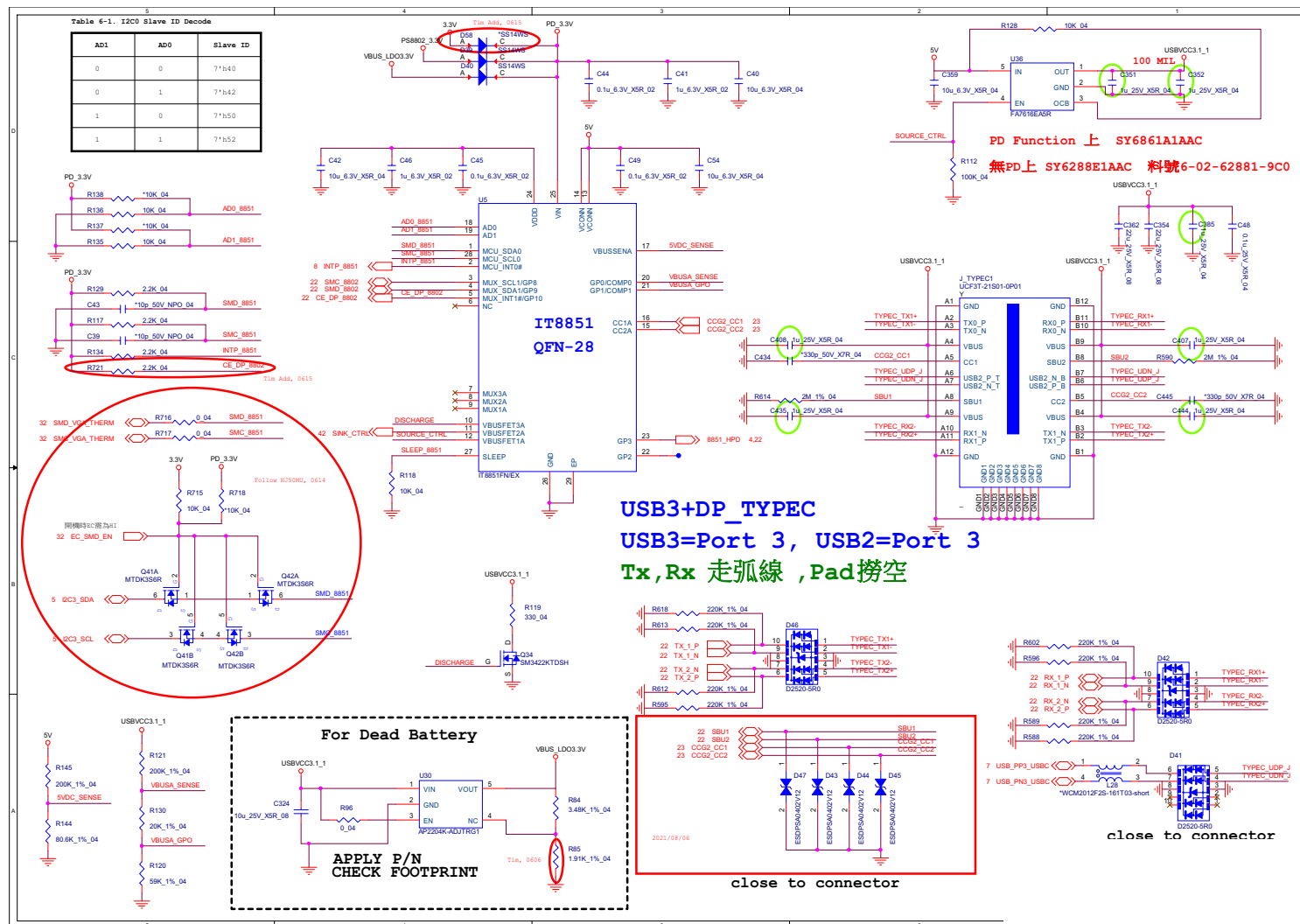
Type-C



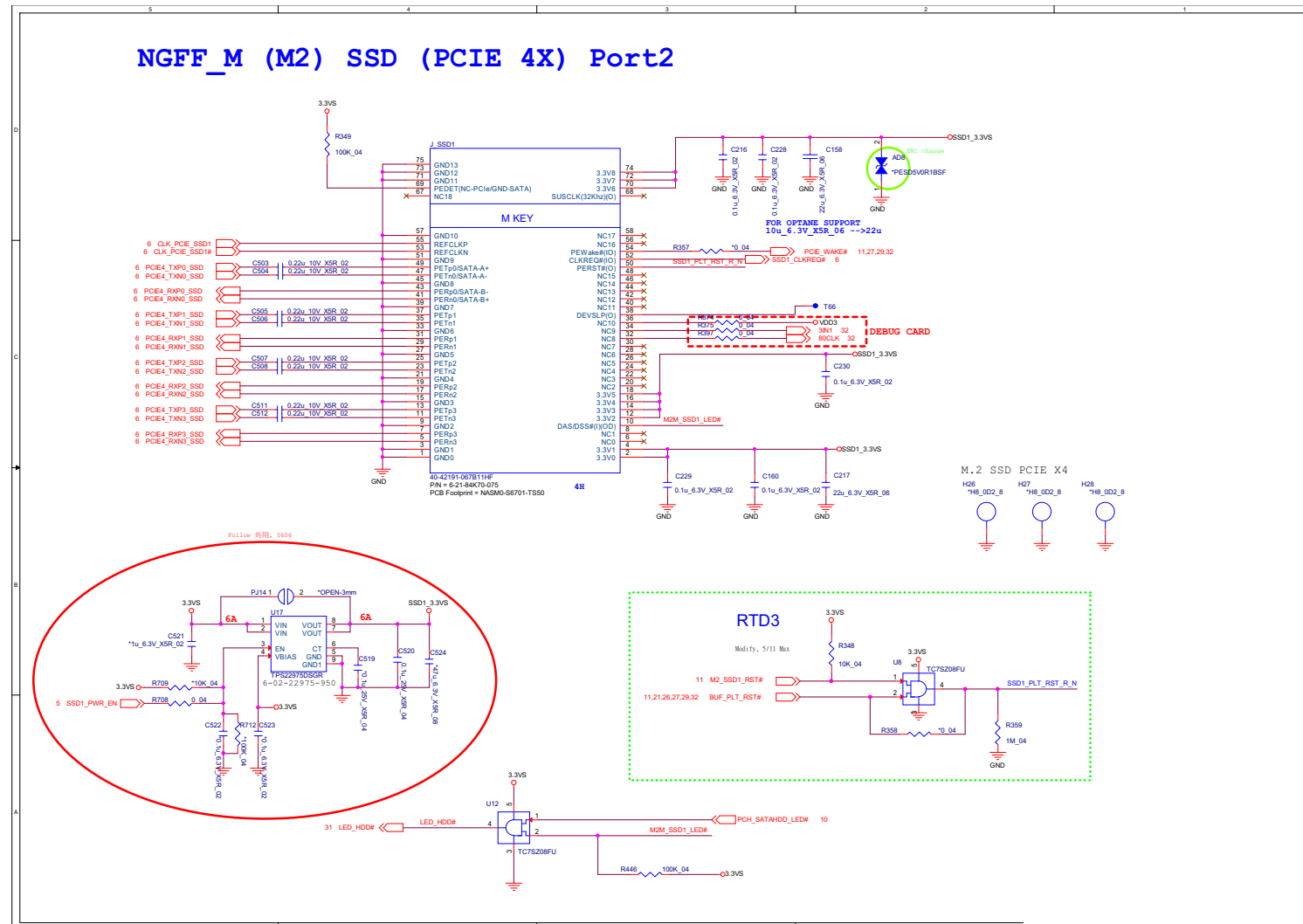
PD Controller IT8851

B. Schematic Diagrams

Sheet 23 of 48
PD Controller
IT8851



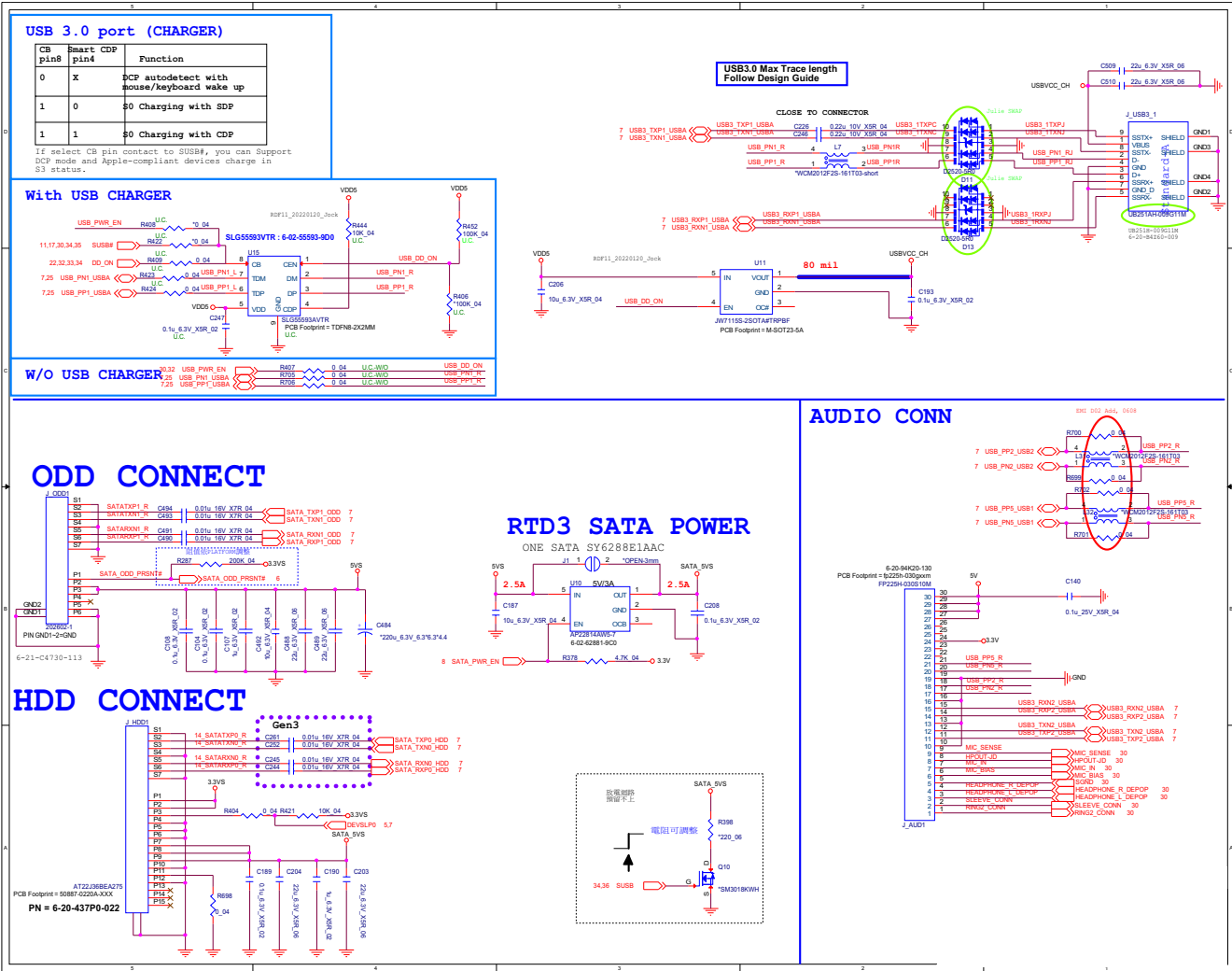
M Key PCIE SSD B - 25



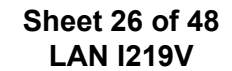
Schematic Diagrams

USB, HDD, ODD

Sheet 25 of 48
USB, HDD, ODD

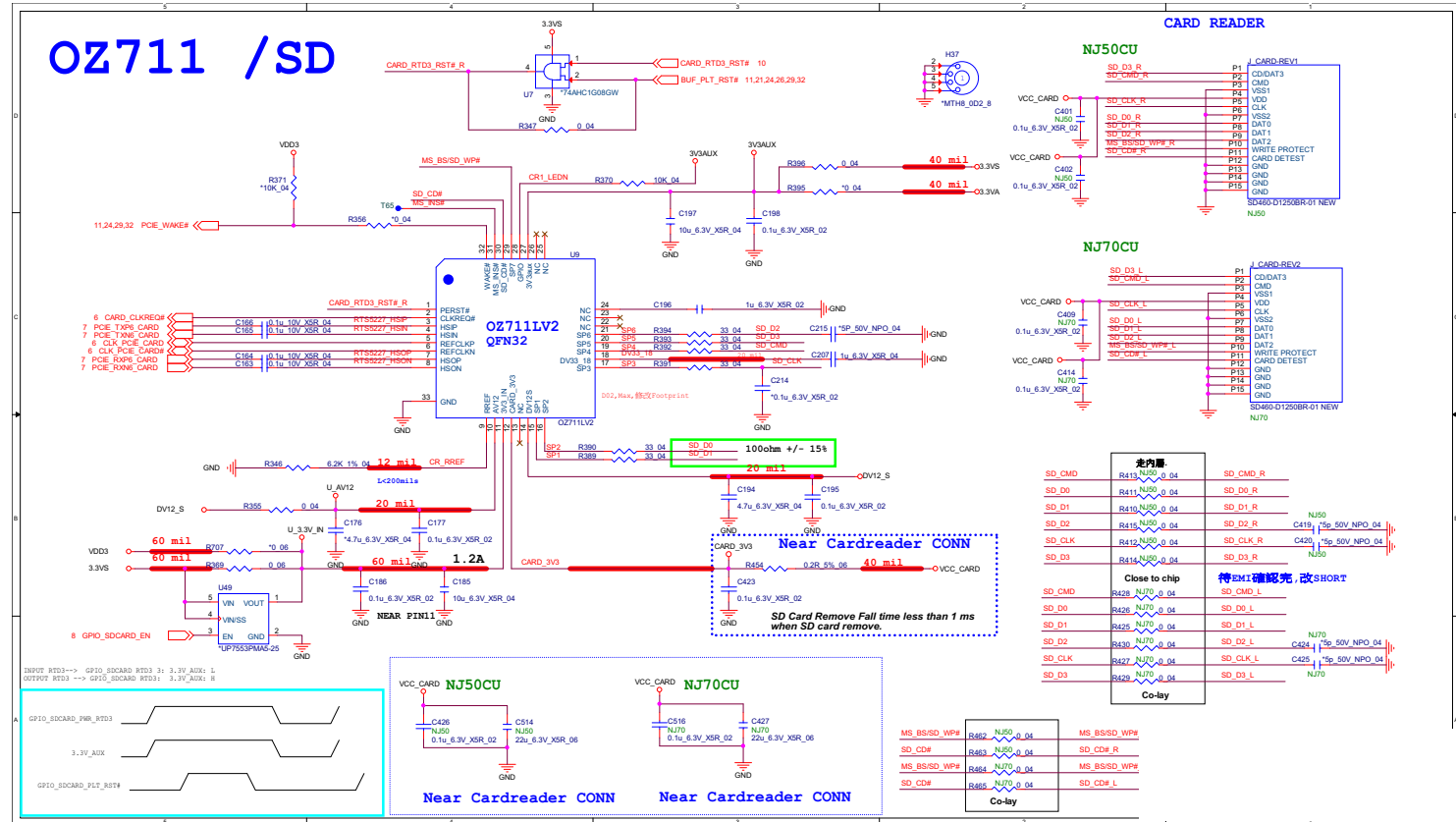


B.Schematic Diagrams



Card Reader OZ711

Sheet 27 of 48
Card Reader OZ711



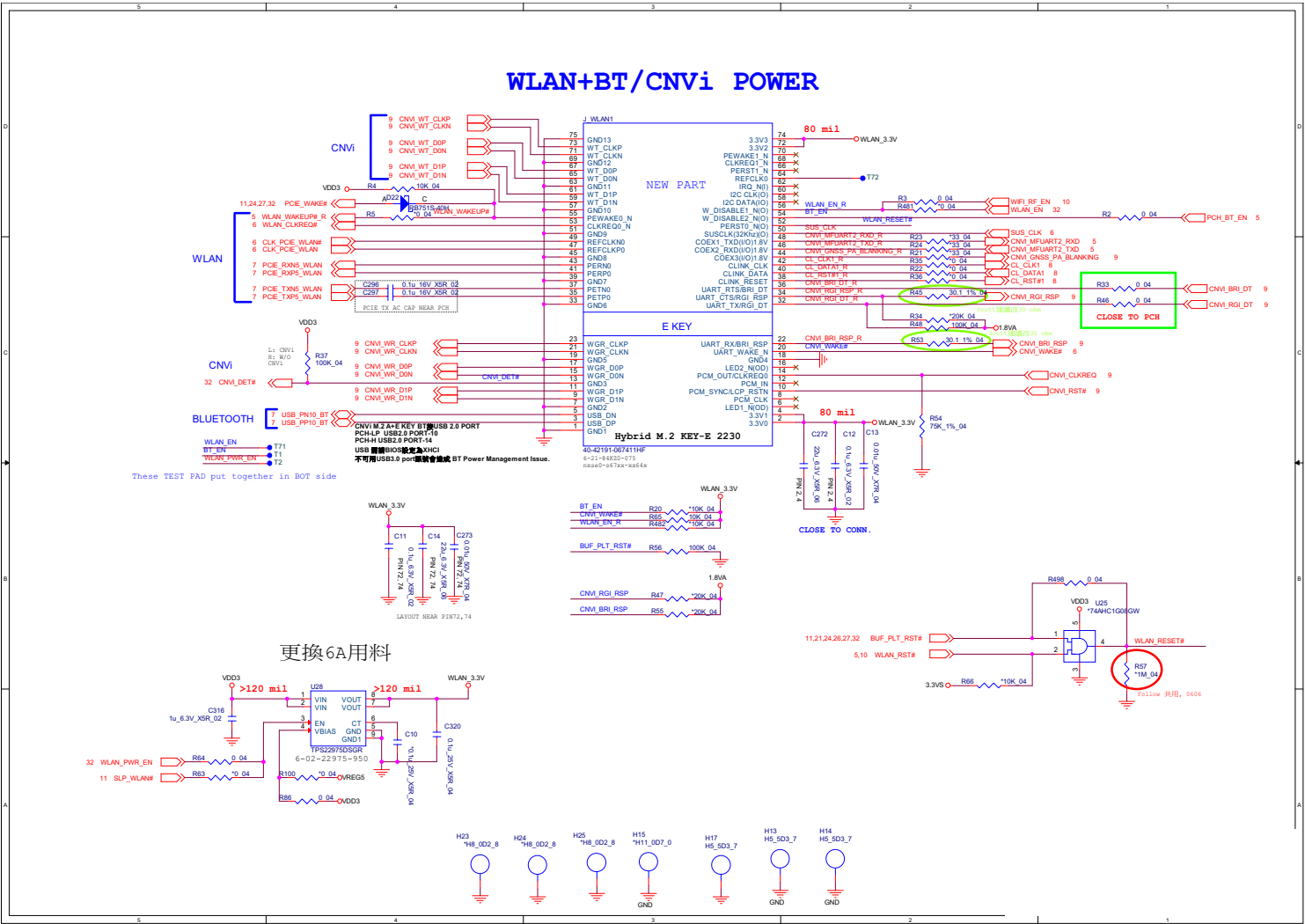
Sheet 28 of 48
M.2 Card (3G/LTE)



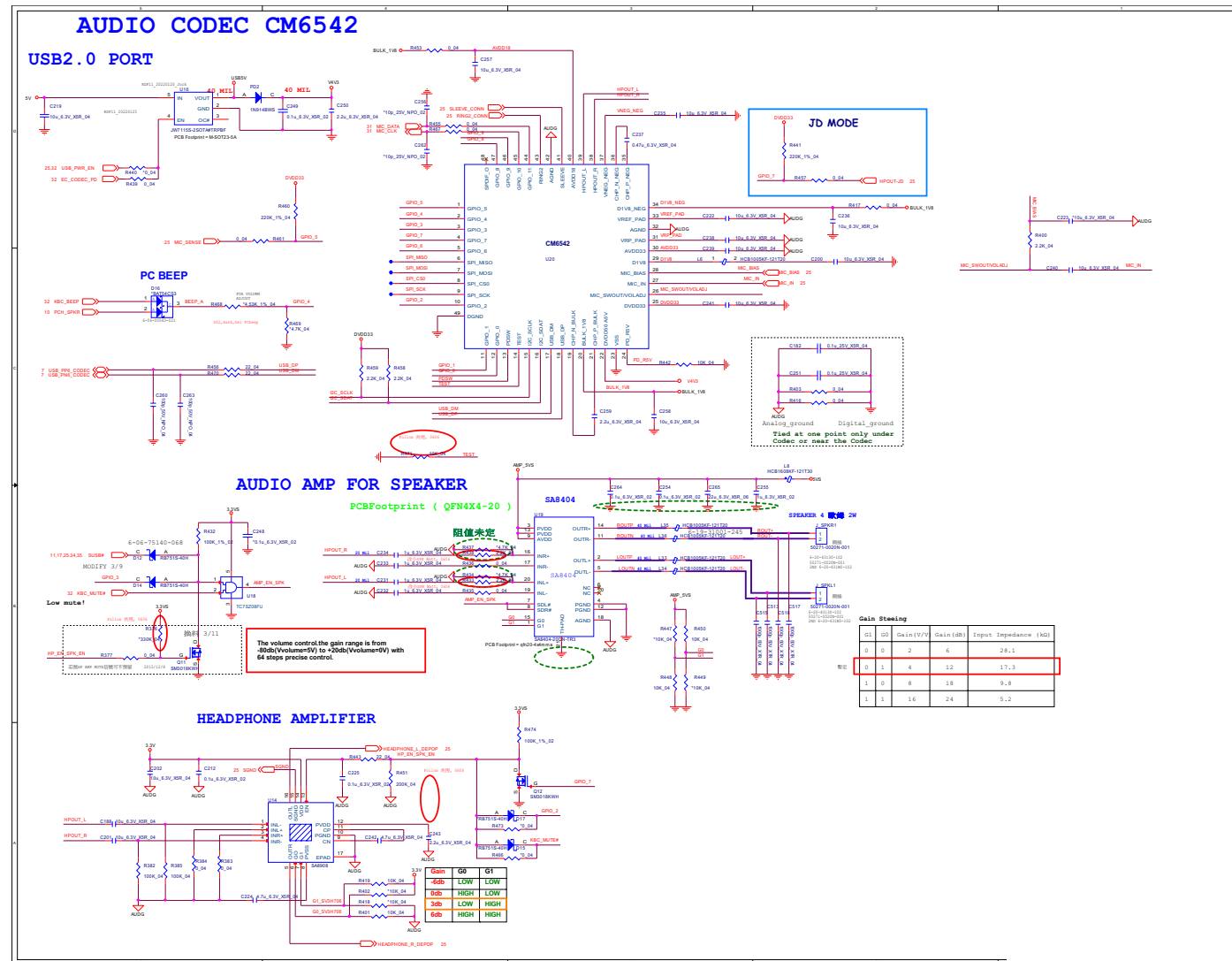
Schematic Diagrams

M.2 Card (BT/WLAN)

Sheet 29 of 48
M.2 Card (BT/
WLAN)



Audio Codec



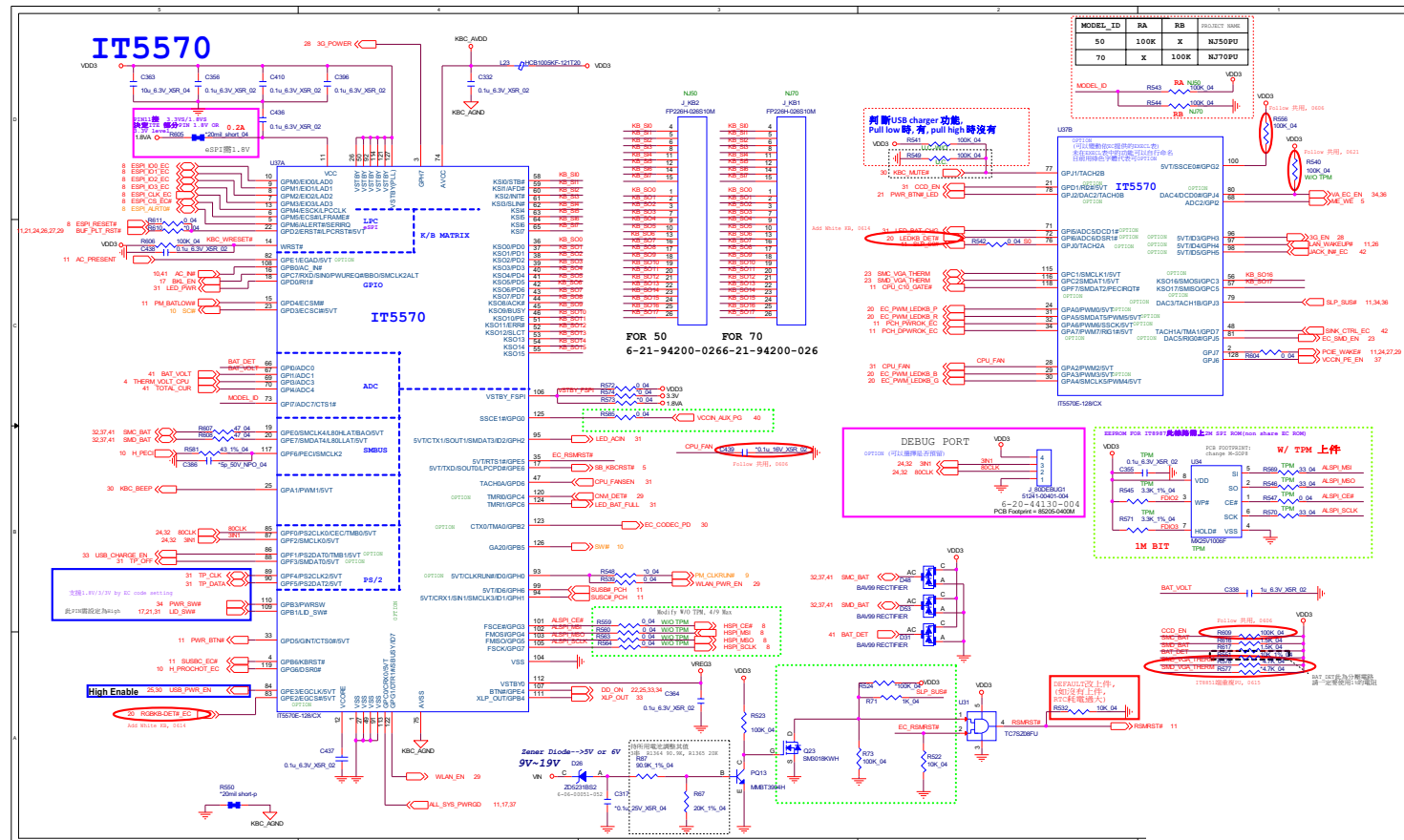
Sheet 30 of 48
Audio Codec

Sheet 31 of 48
CONN FAN, TP,
CCD, LED



KBC ITE IT5570 B - 33

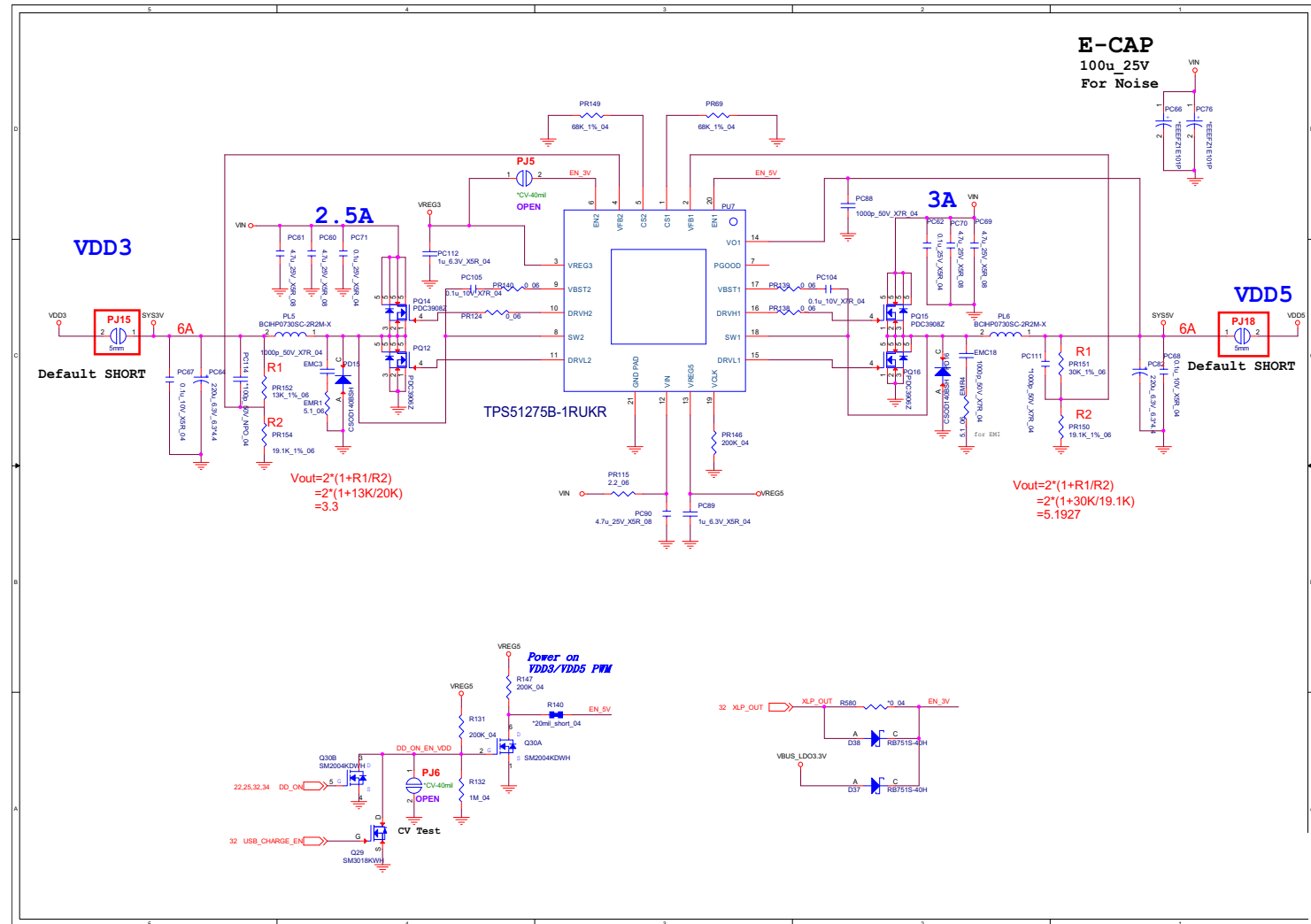
B.Schematic Diagrams



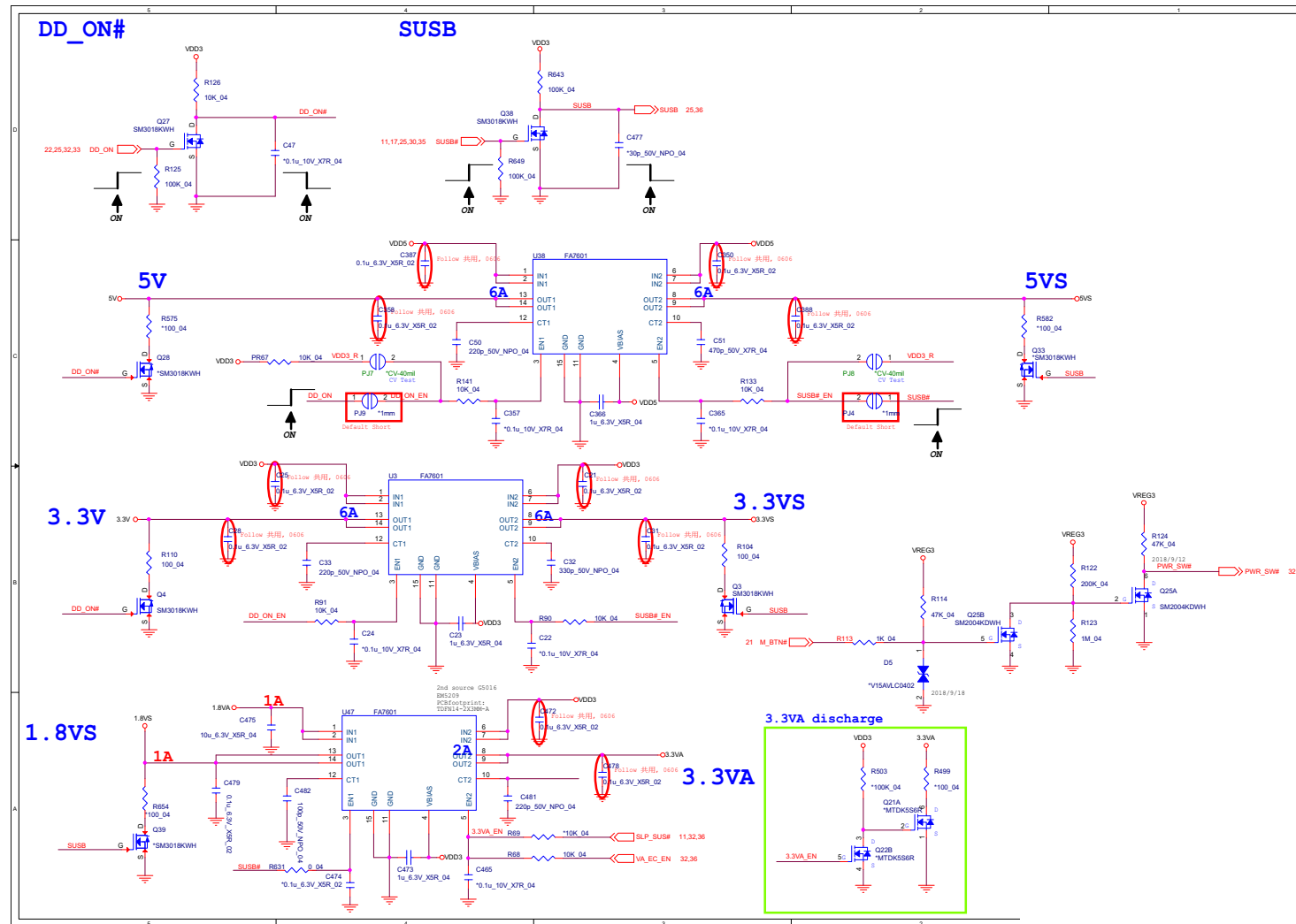
Schematic Diagrams

VDD3 / VDD5

Sheet 33 of 48
VDD3 / VDD5



3.3V, 5V, 3VS, 5VS, CTL

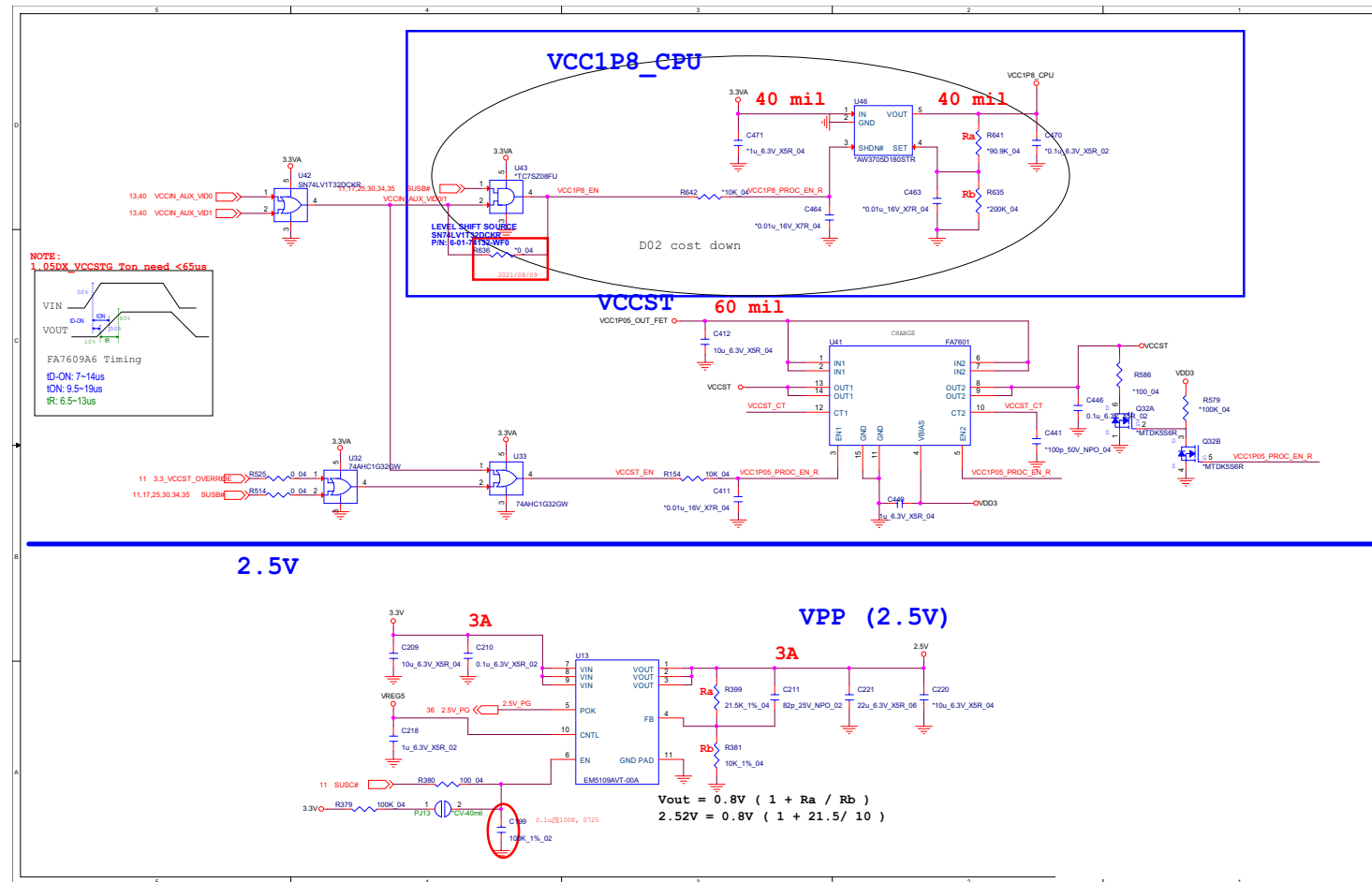


Sheet 34 of 48
3.3V, 5V, 3VS, 5VS,
CTL

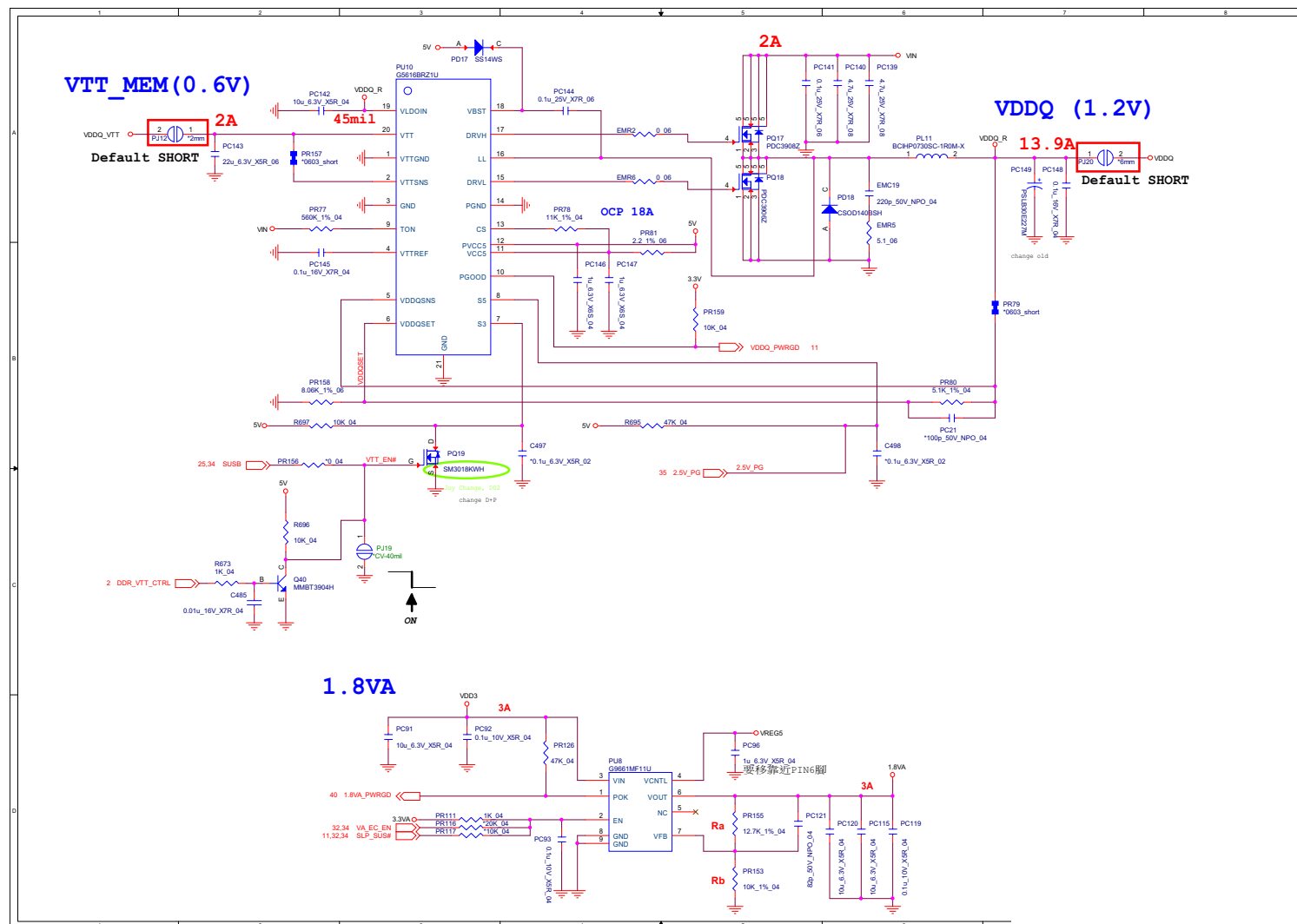
Schematic Diagrams

2.5V, VCCST, VCCSTG

Sheet 35 of 48
2.5V, VCCST,
VCCSTG

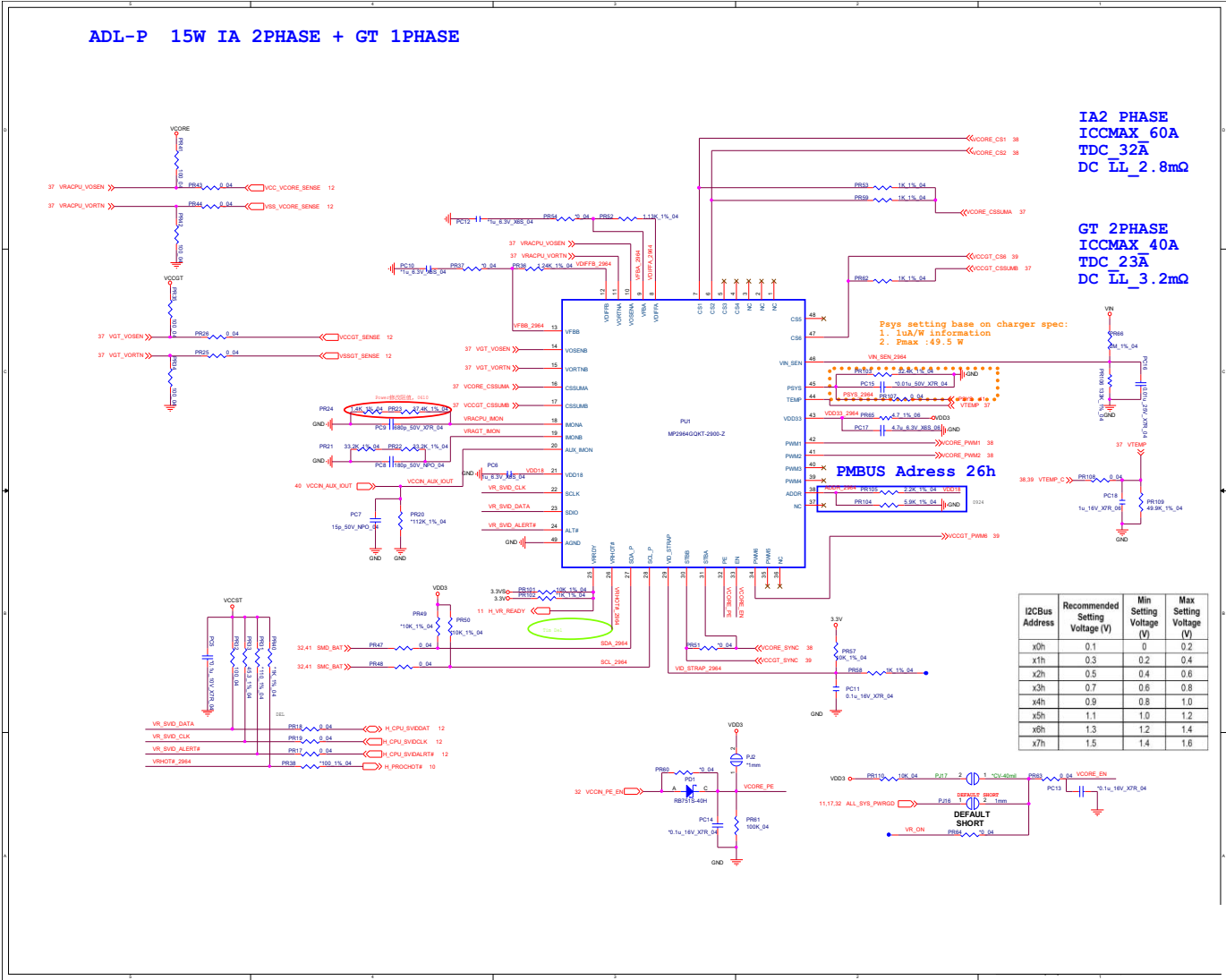


VDDQ, VDDQ_VTT, 1.8VA



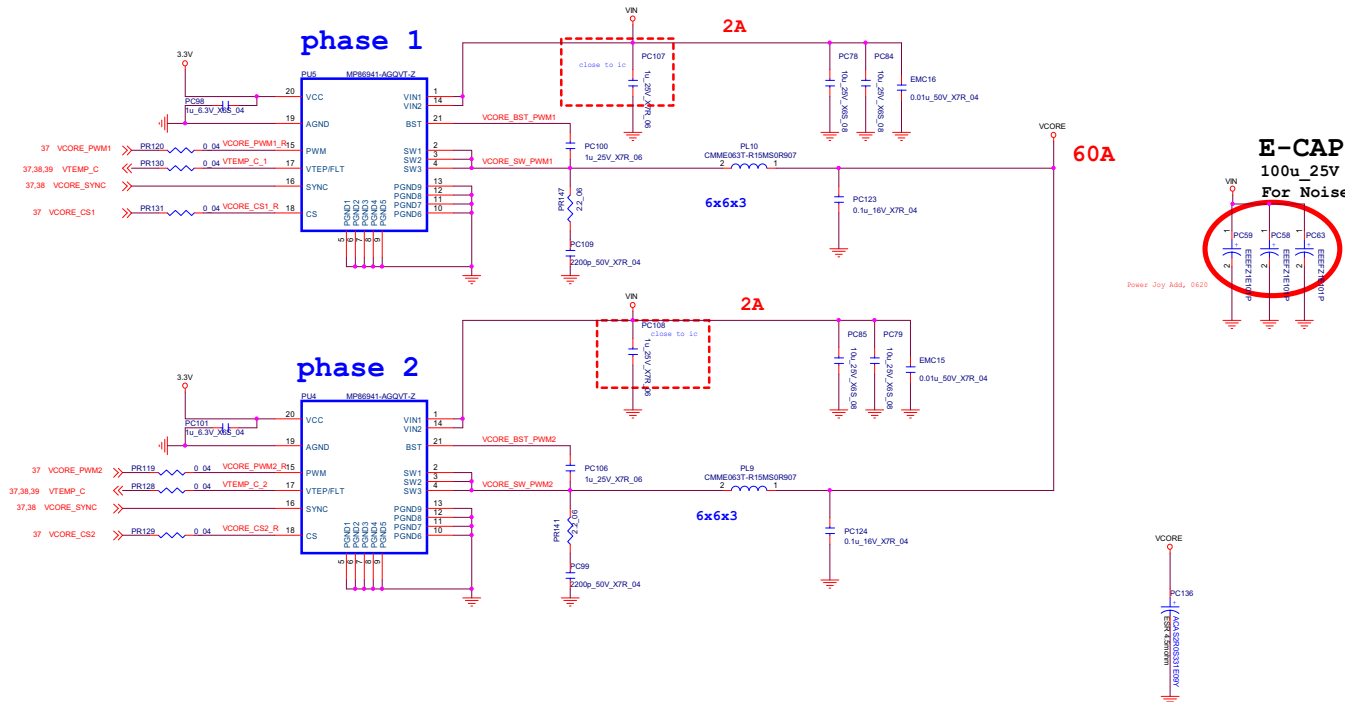
Sheet 36 of 48
VDDQ, VDDQ_VTT,
1.8VA

MP2964 Controller



VCore

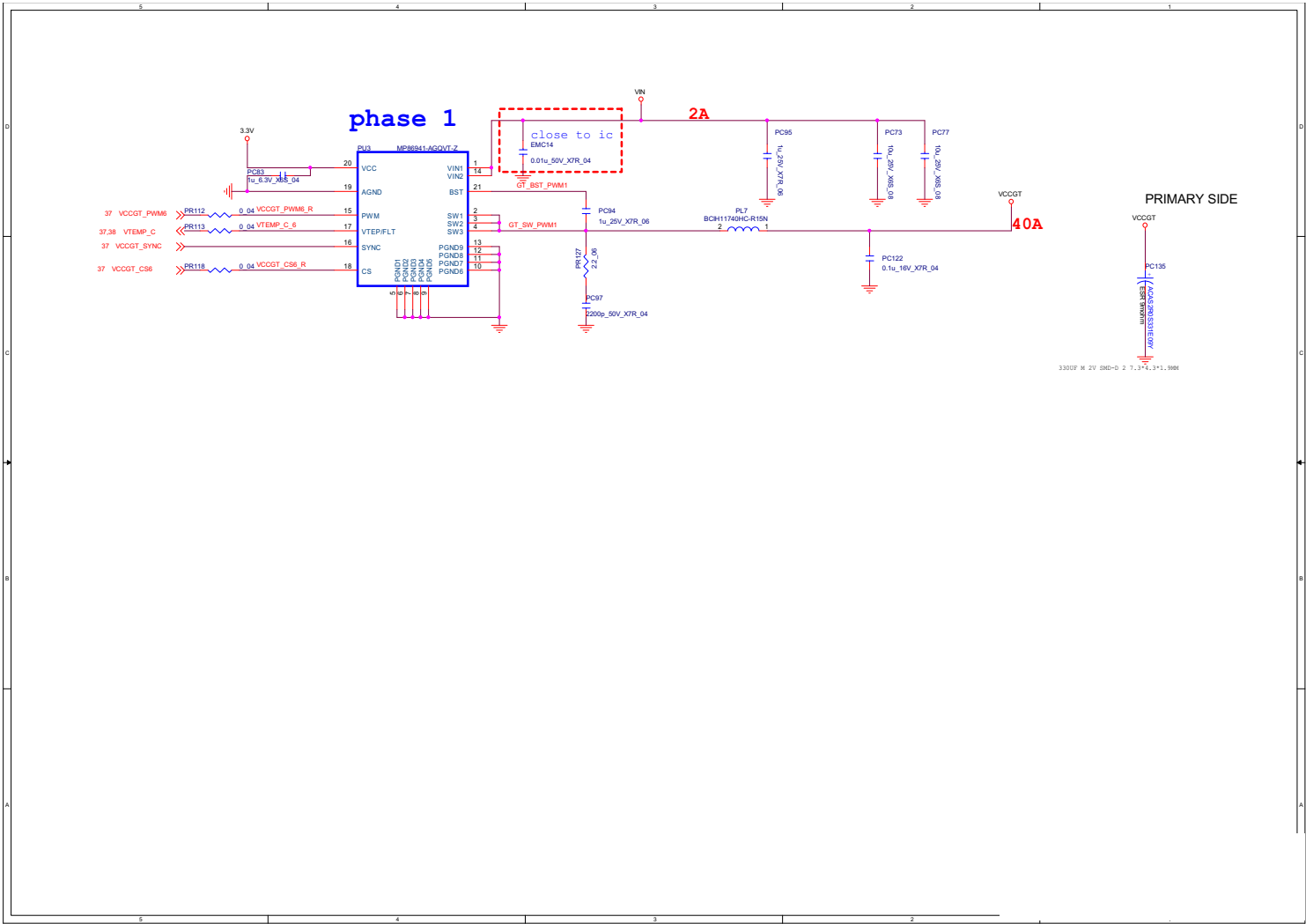
VCORE OUTPUT STAGE



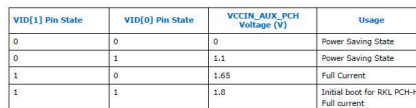
Sheet 38 of 48
VCore

VCCGT

Sheet 39 of 48
VCCGT



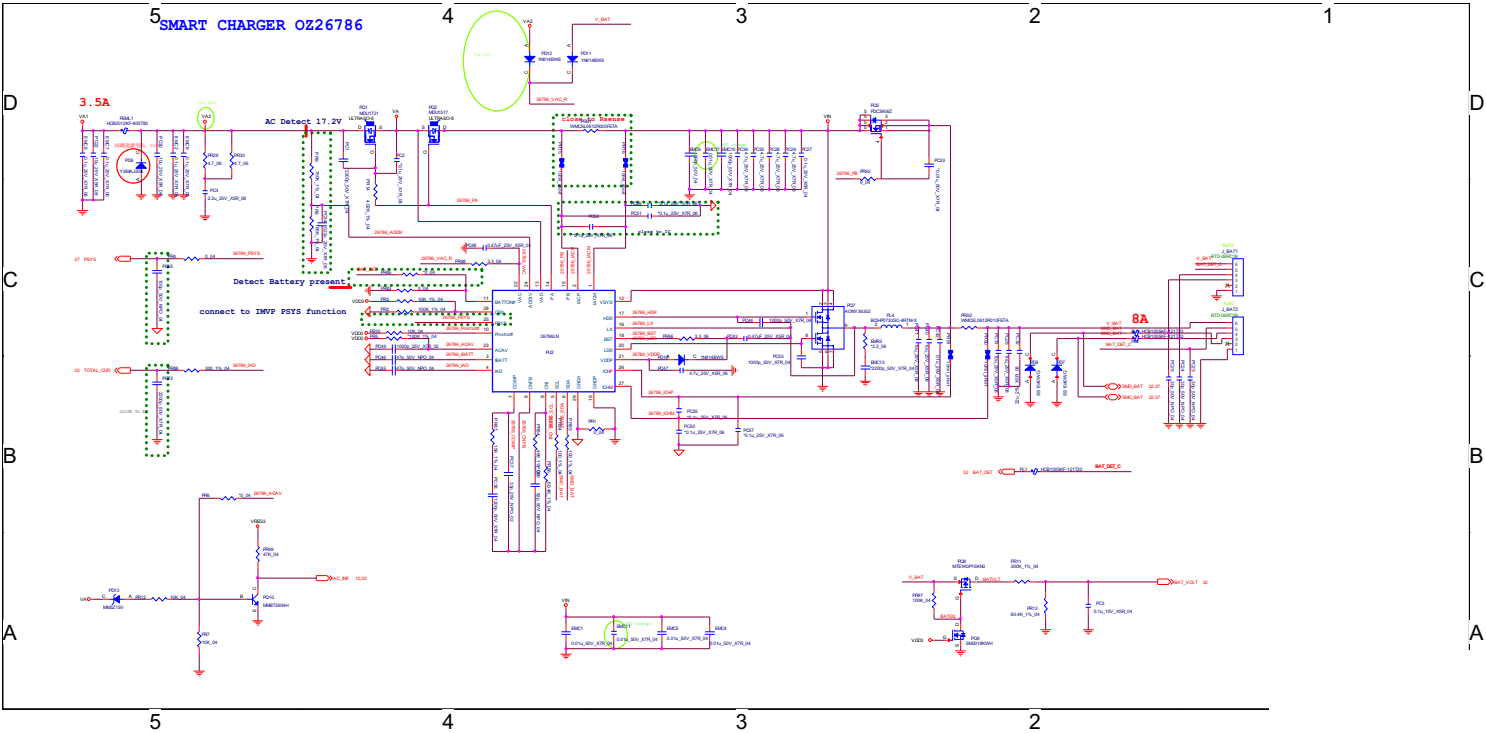
Sheet 40 of 48
VCCIN



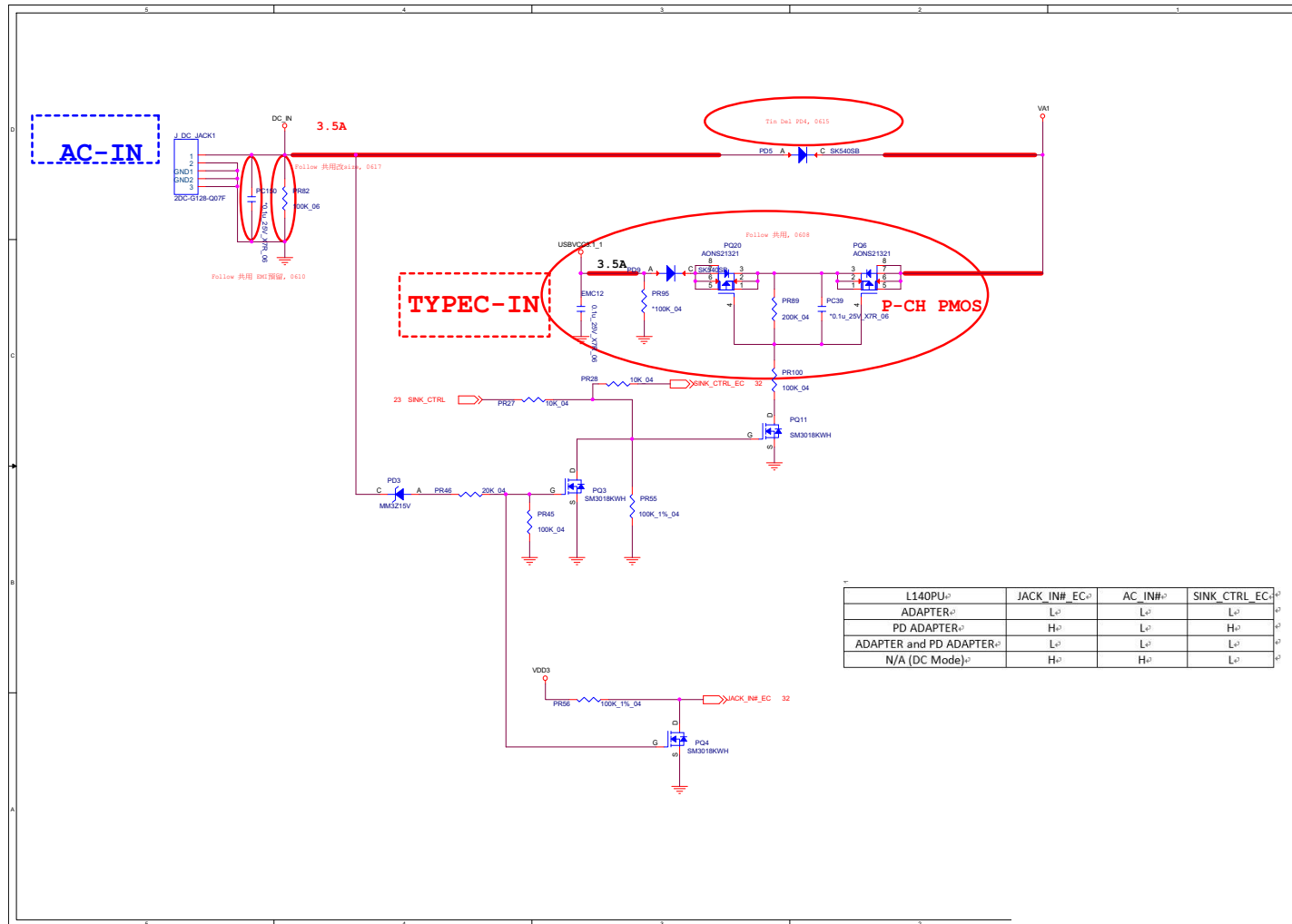
Schematic Diagrams

Charger

Sheet 41 of 48
Charger



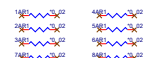
AC IN



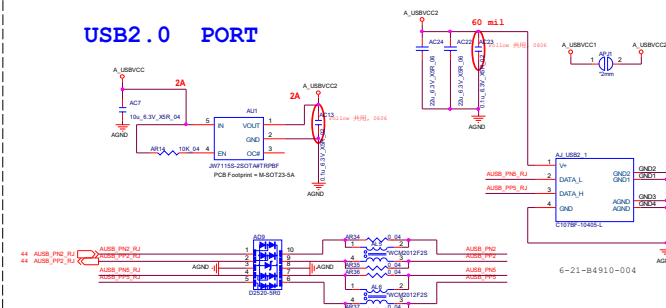
Sheet 42 of 48
AC IN

Audio Board

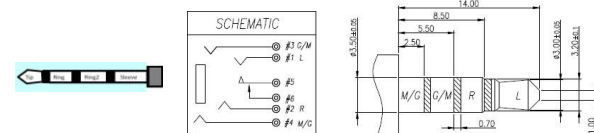
NJ50/70 AUDIO BOARD
USB2.0 CON PORT1



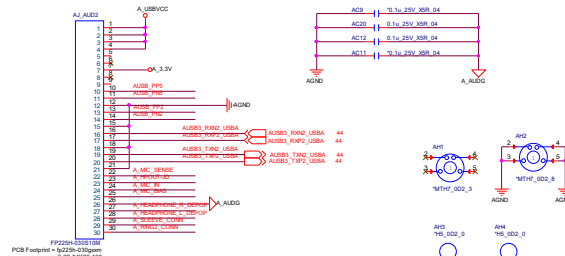
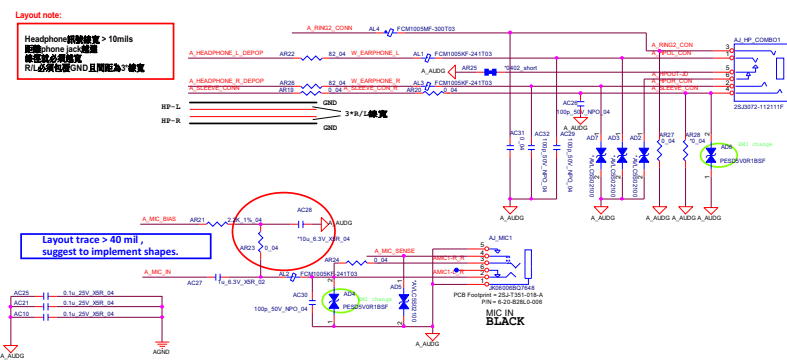
USB2.0 PORT



AUDIO JACK



COMBO JACK



PCB Footprint = fp225h-030gxm
6-30-94K25-116

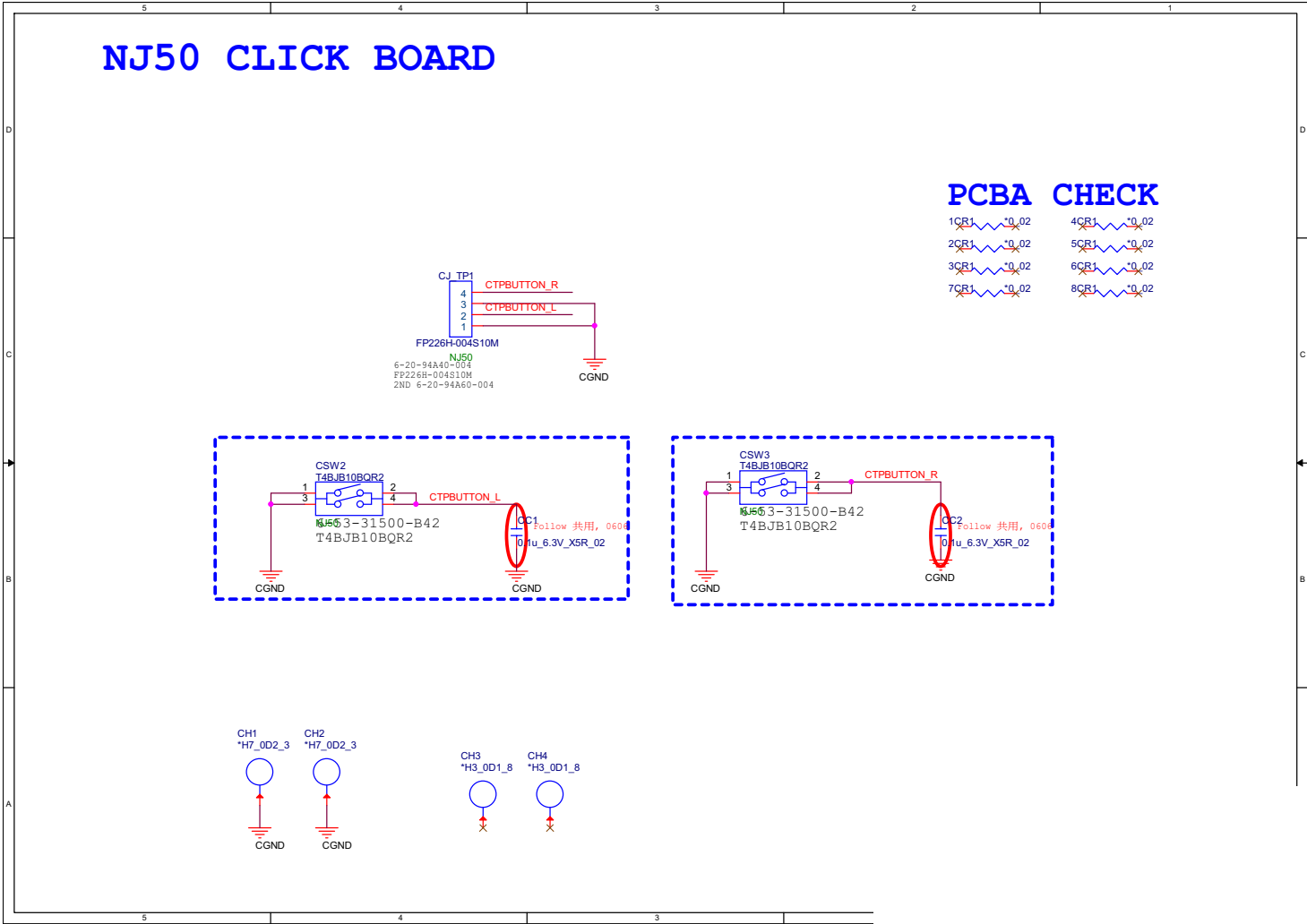
09-0807-00000000000000000000

Audio Board B - 45



Click Board

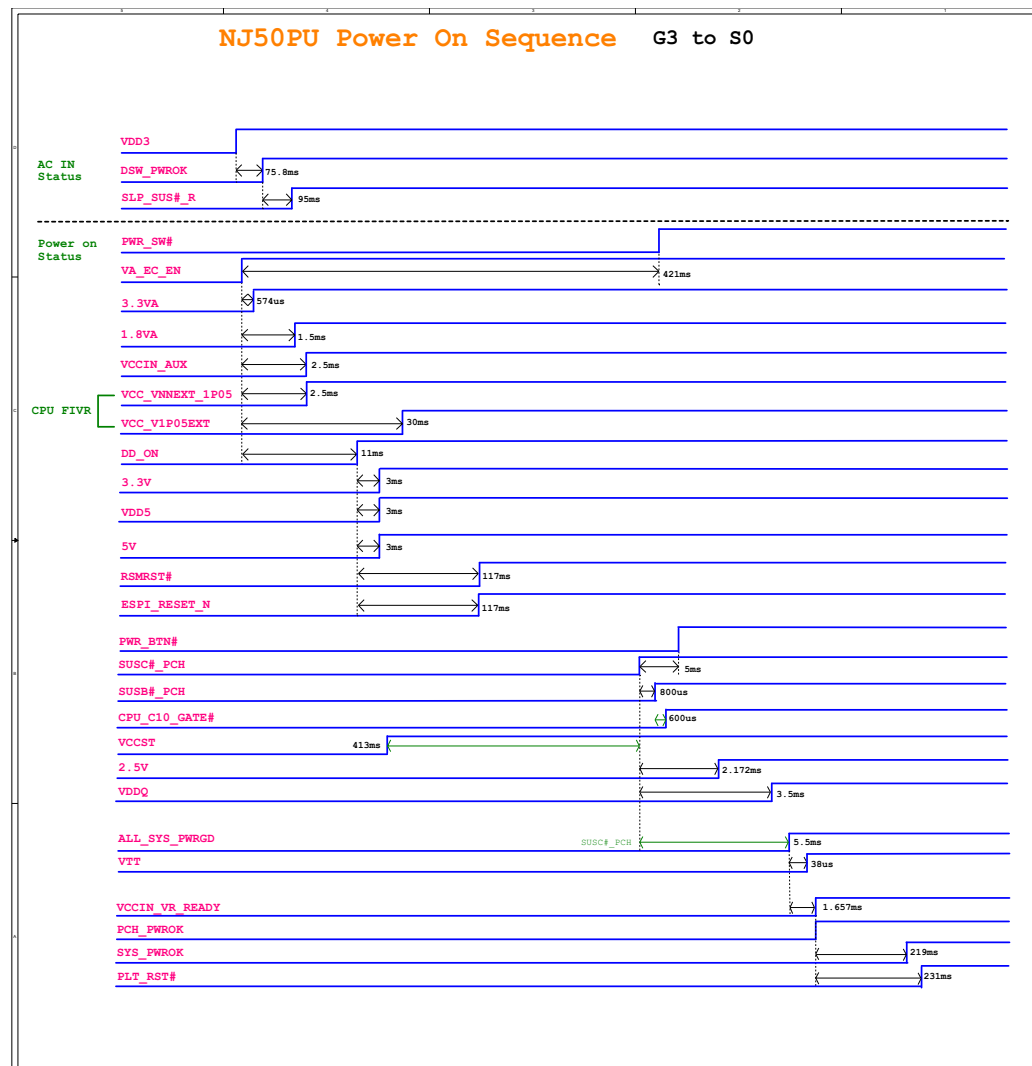
Sheet 45 of 48
Click Board



Sheet 47 of 48
LID SW Board



Power Seq.

Sheet 48 of 48
Power Seq.

