

SERVICE MANUAL

15CU50 / 15CU51 / 15CU52

notebook



Notebook Computer

SKIKK 15CU50 / 15CU51 / 15CU52

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 *N150CU* / *N151CU* / *N152CU* 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, 3.42A (**65** 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.

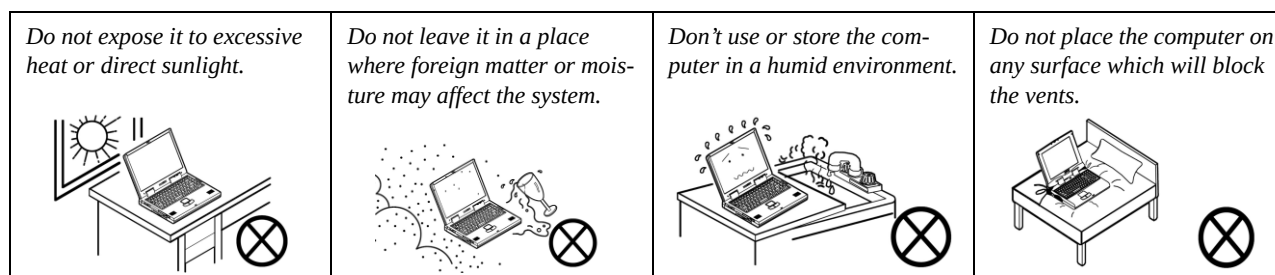
Instructions for Care and Operation

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

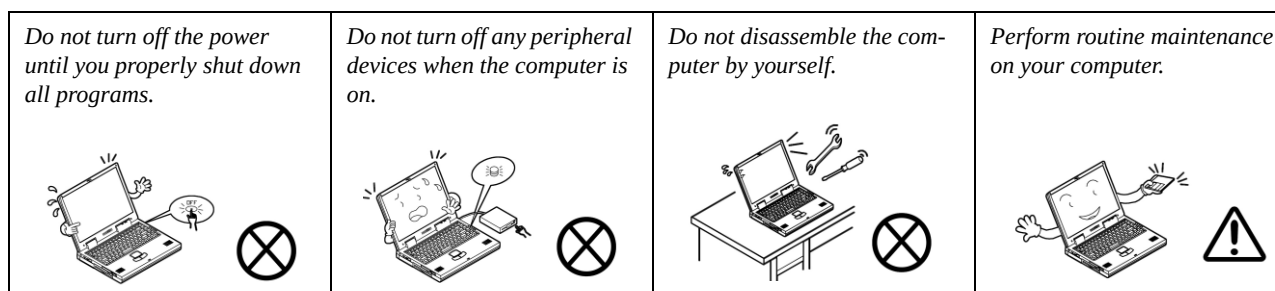
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

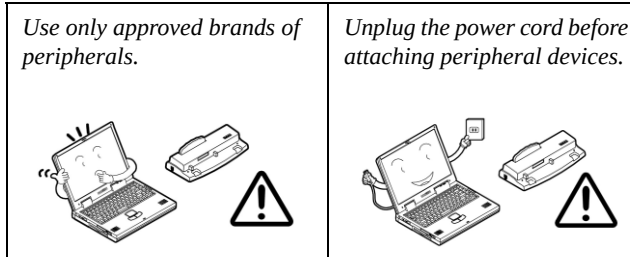


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

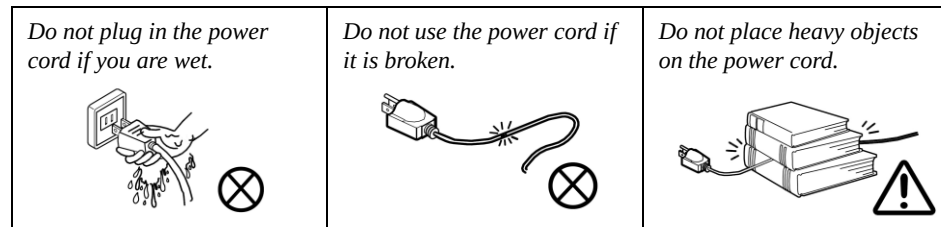
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



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.

Preface

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".

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.

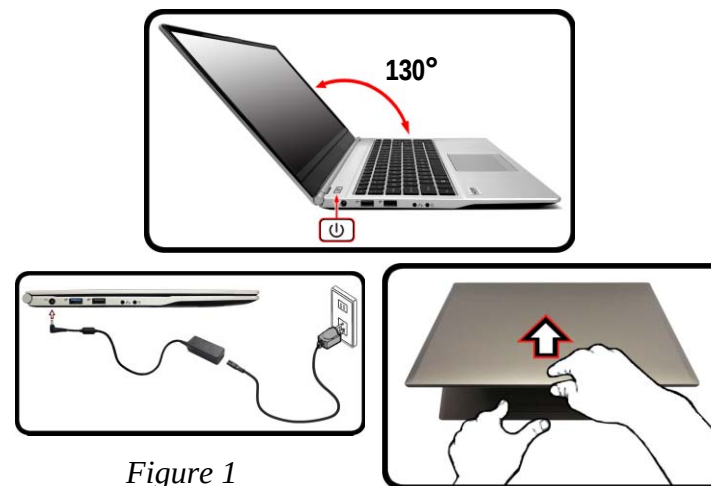


Figure 1
**Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In**

Shut Down

Note that you should always shut your computer down by choosing **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 **N150CU / N151CU / N152CU** 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 **N150CU / N151CU / N152CU** 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

i7-8565U (1.80GHz)

8MB Smart Cache, **14nm**, DDR4-2400MHz, TDP 15W

Intel® Core™ i5 Processor

i5-8265U (1.60GHz)

6MB Smart Cache, **14nm**, DDR4-2400MHz, TDP 15W

Intel® Core™ i3 Processor

i3-8145U (2.10GHz)

4MB Smart Cache, **14nm**, DDR4-2400MHz, TDP 15W

BIOS

128Mb SPI Flash ROM

Insyde BIOS

Memory

Dual Channel DDR4

Two 260 Pin SO-DIMM Sockets

Supporting **DDR4 2133MHz** (Depending on CPU Type)

Memory Modules

Memory Expandable up to 32GB

Compatible with 4GB, 8GB or 16GB Modules

LCD Options

15.6" (39.62cm), 16:9, FHD (1920x1080)

Storage

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

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

Video Adapter

Intel UHD Graphics 620

Dynamic Frequency

Intel Dynamic Video Memory Technology

Microsoft DirectX®12 Compatible

Pointing Device

Built-in Touchpad

Or

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

Keyboard

Full-size Keyboard (with Embedded Numeric Keypad)

Or

(**Factory Option**) **Multi-Color Illuminated** Full-size Keyboard (with Embedded Numeric Keypad)

Audio

High Definition Audio Compliant Interface

2 * Built-In Speakers

Built-In Array Microphone

Security

Security (Kensington® Type) Lock Slot

BIOS Password

Intel PTT for Systems Without TPM Hardware

(**Factory Option**) TPM 2.0

(**Factory Option**) Fingerprint Reader Module

M.2 Slots

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

Slot 2 for **SATA/PCIe Gen3 x4 SSD**

Card Reader

Embedded Multi-In-1 Card Reader

MMC (MultiMedia Card) / RS MMC

SD (Secure Digital) / Mini SD / SDHC/ SDXC

Interface

One USB 3.1 Gen 2 Type-C Port*

**The maximum amount of current supplied by USB Type-C ports is 500mA (USB 2.0)/1500mA (USB 3.1).*

Or

(Factory Option) One Thunderbolt 3 Port**

****Supports USB Power Delivery/DC-in Function**

Two USB 3.0 (USB 3.1 Gen 1) Type-A Ports

One USB 2.0 Port

One Mini DisplayPort 1.2

One HDMI-Out Port

One 2- In-1 Audio Jack (Microphone and S/PDIF Optical)

One 2- In-1 Audio Jack (Headphone and Microphone)

One RJ-45 LAN Jack

One DC-in Jack

Communication

Built-In 10/100/1000Mb Base-TX Ethernet LAN

1.0M HD Camera Module

Or

(Factory Option) Windows Hello Camera Module

WLAN/ Bluetooth M.2 Modules:

(Factory Option) Intel® Dual Band Wireless-AC 9560 Wireless LAN **(802.11ac)** + Bluetooth

(Factory Option) Intel® Dual Band Wireless-AC 9462 Wireless LAN **(802.11ac)** + Bluetooth

(Factory Option) Intel® Wi-Fi 6 AX-201 Wireless LAN **(802.11ax)** + Bluetooth

Power

Full Range AC/DC Adapter

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

DC Output: 19V, 3.42A **(65W)**

Embedded Lithium-Ion Polymer Battery Pack, 36WH

(Factory Option) Embedded Lithium-Ion Polymer Battery Pack, 54WH

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

360.4mm (w) * 244.5mm (d) * 19.9mm (h)

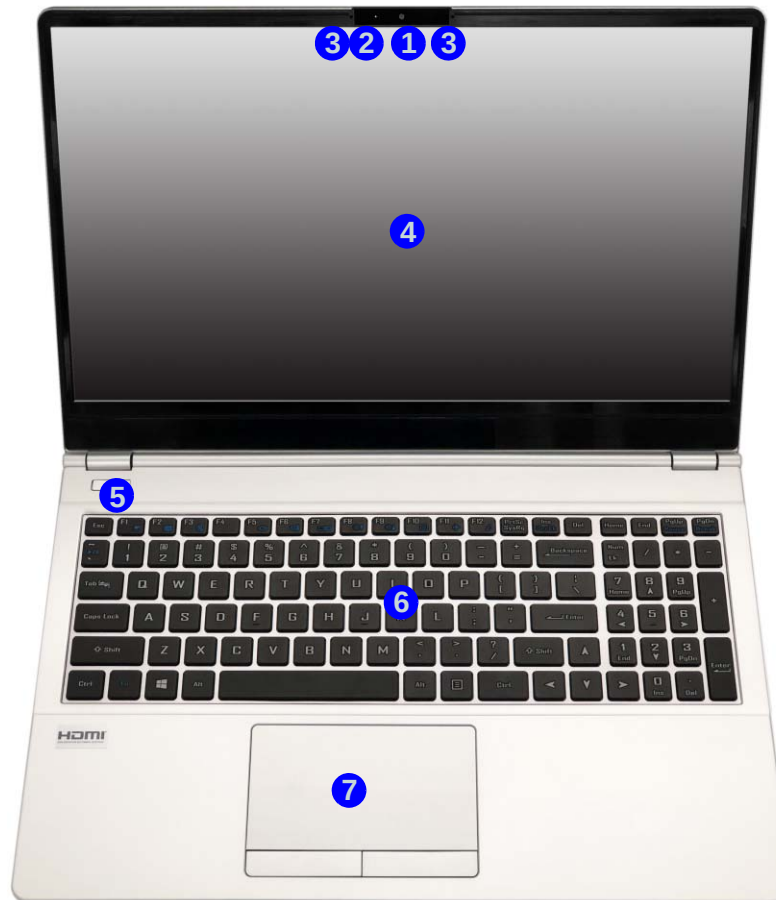
1.7kg (Barebone with 36WH Battery)

Introduction

Figure 1
Top View

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

External Locator - Top View with LCD Panel Open



External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Indicators

FRONT VIEW



Figure 3
Right Side View

1. USB 3.1 Gen 2 Type-C Port or (Factory Option) *Thunderbolt 3 Port
2. USB 3.0 (USB 3.1 Gen 1) Type-A Port
3. Mini DisplayPort 1.2
4. HDMI-Out Port
5. Multi-in-1 Card Reader
6. RJ-45 LAN Jack
7. Security Lock

RIGHT SIDE VIEW



Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. DC-In Jack
2. USB 3.0 (USB 3.1 Gen 1) Type-A Port
3. USB 2.0 Port
4. 2- In-1 Audio Jack (Microphone and S/PDIF Optical)
5. 2- In-1 Audio Jack (Headphone and Microphone)

LEFT SIDE VIEW



Figure 5
Rear View

1. Vent

REAR VIEW



External Locator - Bottom View



Figure 6
Bottom View

1. Vent
2. Speakers

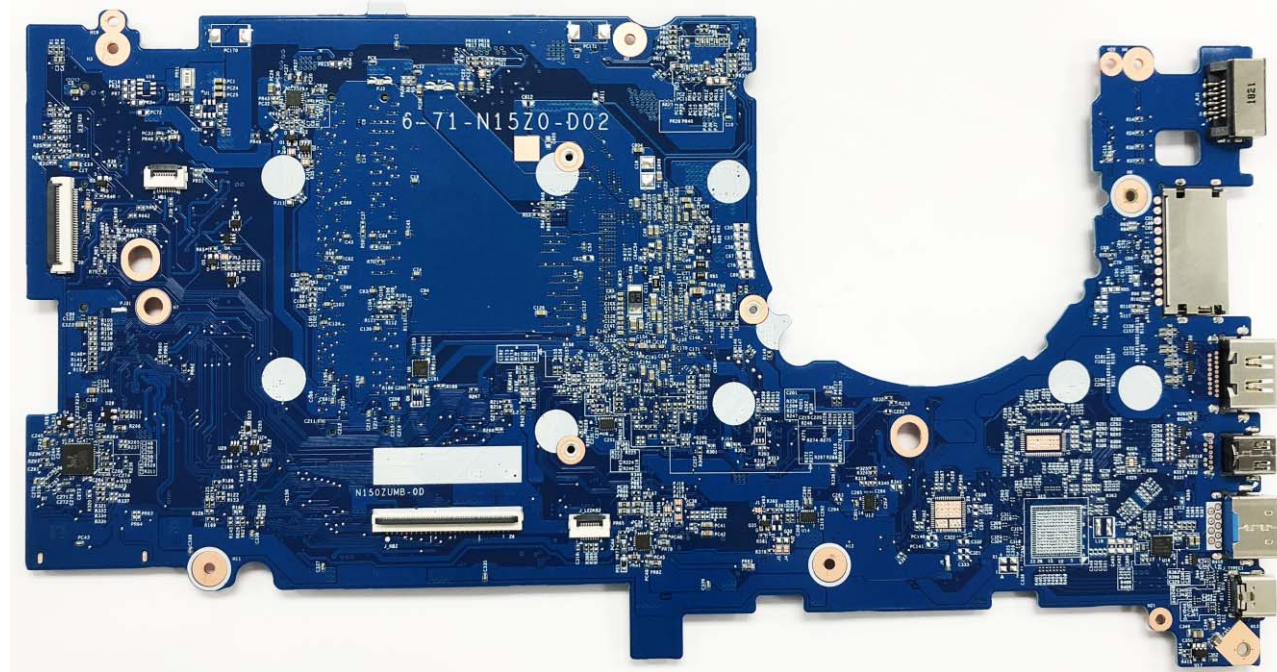


Overheating

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 IT8587



Introduction

Figure 9
**Mainboard Top
Connectors**

Mainboard Overview - Top (Connectors)

1. USB Board Connector
2. Power Connector
3. Keyboard Cable Connector
4. White LED Keyboard Connector
5. RJ-45 LAN Jack
6. HDMI-Out Port
7. Mini Display Port
8. USB Port 3.0 (USB 3.1 Gen 1) Port
9. USB 3.1 Gen 2 Type-C Port or (Factory Option) *Thunderbolt 3 Port

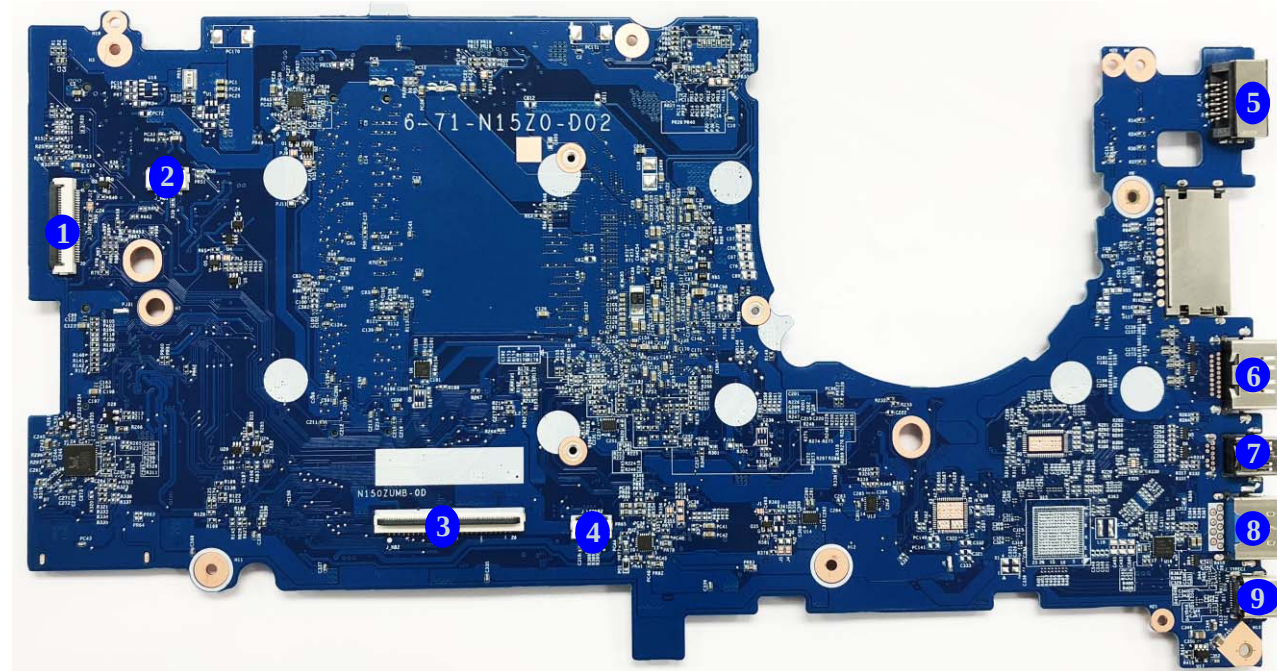


Figure 10
**Mainboard Bottom
Connectors**

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



Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the *N150CU* / *N151CU* / *N152CU* 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.


Information

Warning

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 Keyboard:

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

To remove the Battery:

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

To remove the HDD:

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

To remove the System Memory:

1. Remove the keyboard [page 2 - 5](#)
2. Remove the battery [page 2 - 6](#)
3. Remove the system memory [page 2 - 11](#)

To remove the Wireless LAN Module:

1. Remove the keyboard [page 2 - 5](#)
2. Remove the battery [page 2 - 6](#)
3. Remove the WLAN [page 2 - 13](#)

To remove the M.2 SSD Module:

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

To remove the CCD Module:

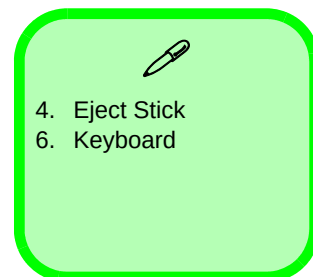
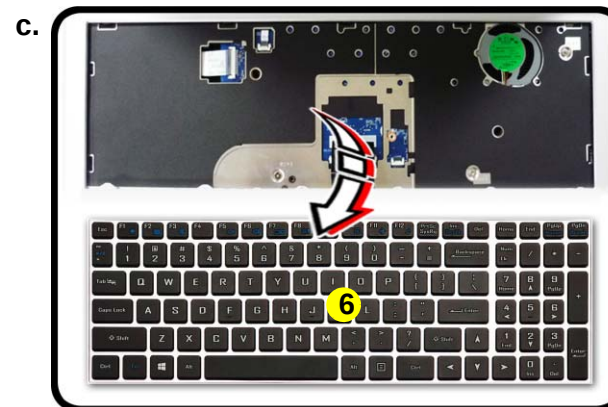
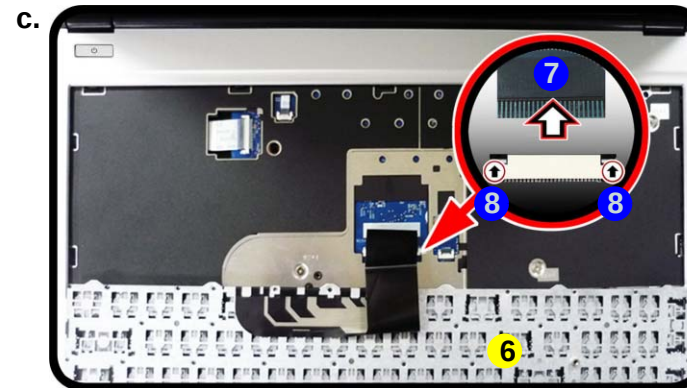
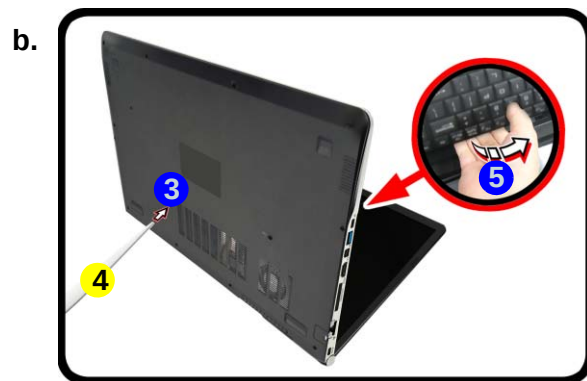
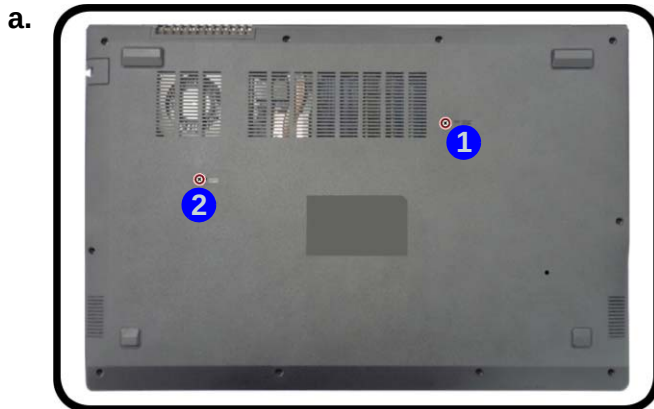
1. Remove the keyboard [page 2 - 5](#)
2. Remove the battery [page 2 - 6](#)
3. Remove the CCD module [page 2 - 16](#)

Removing the Keyboard

1. Turn **off** the computer, turn it over.
2. Remove screws **1** - **2** from the bottom case (**Figure 1a**).
3. 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 1b**).
4. 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 1c**).
5. Carefully lift up the keyboard **6** off the computer (**Figure 1d**).
6. Reverse the process to install the keyboard (be careful not to bend the keyboard ribbon cable).

Figure 1
Keyboard Removal

- a.
- b. Release the keyboard by pressing at point **3**.
- c. Disconnect the keyboard ribbon cable from the locking collar socket.
- d. Remove the keyboard.

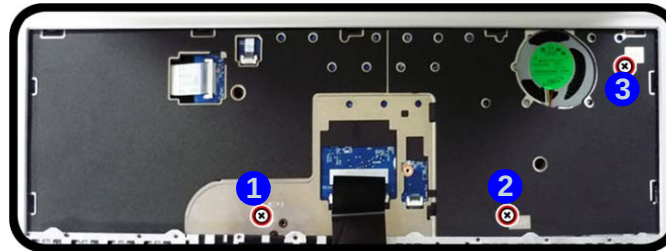


Disassembly

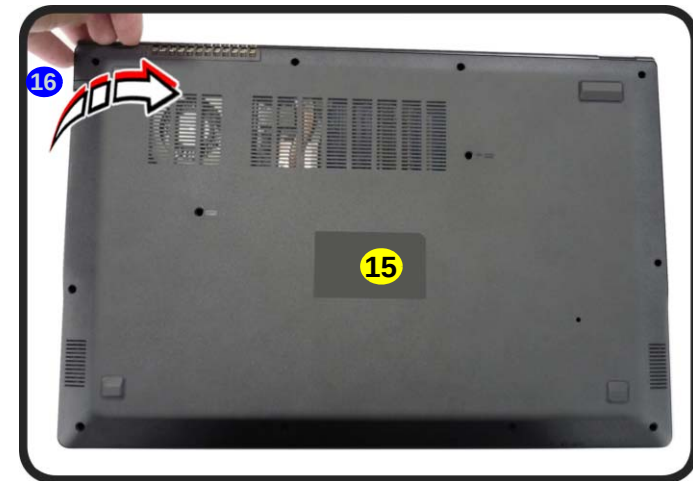
Figure 2
36W Battery Removal

- Remove the screws.
 - Remove the SD cover and screws.
 - Remove the bottom case.
- Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)).
 - Remove screws ① - ③ ([Figure 2a](#)).
 - Remove the SD card cover ④ and screws ⑤ - ⑭ on the bottom case ([Figure 2b](#)).
 - Carefully lift the bottom case ⑮ up in the direction of the arrow at point ⑯ and remove it ([Figure 2c](#)).

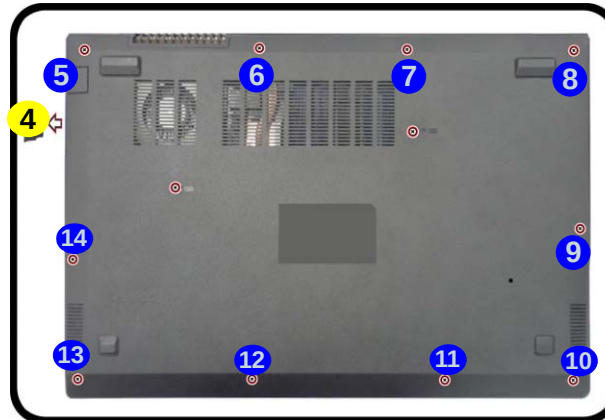
a.



c.



b.



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.

4. SD Card Cover
15. Bottom Case

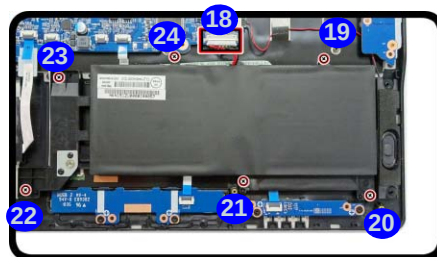
- 13 Screws

5. The battery will be visible at point **17** on the computer (**Figure 3d**).
6. Carefully disconnect the cable **18**, then remove screws **19** - **25** (**Figure 3e**).
7. Lift the battery **26** off the computer (**Figure 3f**).
8. Reverse the process to install a new battery (do not forget to replace all the screws and bottom cover - check the HDD sponge information below).

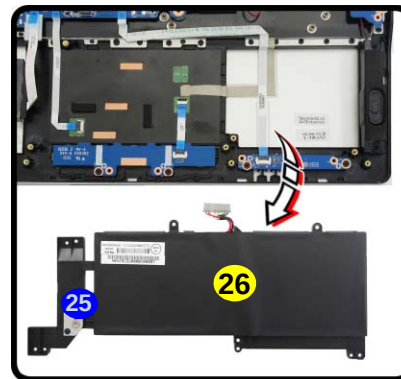
d.



e.



f.



HDD Sponge

Note that the sponge must exist on the back of the bottom cover for machines using a 36W battery.

While these sponge must be removed from the back of the bottom cover for machines using a 54W battery.



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.



26. Battery

- 7 Screws

Figure 3
36W Battery Removal (cont'd.)

- d. Locate the battery.
- e. Disconnect the cable and remove the screws.
- f. Lift the battery off the computer.

Disassembly

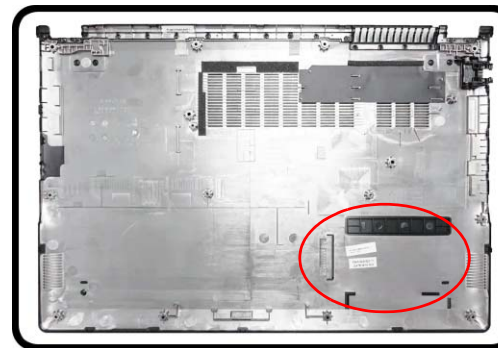
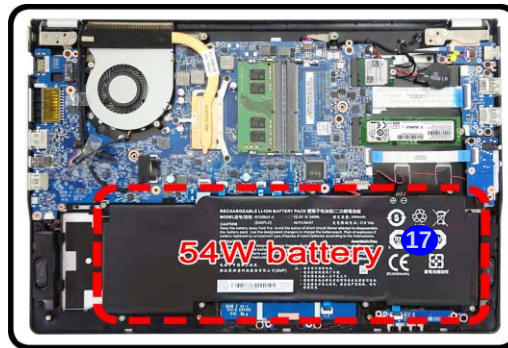
Figure 4
54W Battery Removal (cont'd.)

- Locate the battery.
- Disconnect the cable and remove the screws.
- Lift the battery off the computer.

54W Battery Removal

- Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)), bottom case ([page 2 - 6](#)) and hard disk ([page 2 - 9](#)).
- The battery will be visible at point **17** on the computer ([Figure 4a](#)).
- Carefully disconnect the cable **18**, then remove screws **19** - **25** ([Figure 4b](#)).
- Lift the battery **26** off the computer ([Figure 3e](#)).
- Reverse the process to install a new battery (do not forget to replace all the screws and bottom cover - check the HDD sponge information below).

a.



HDD Sponge

Note that the sponge must exist on the back of the bottom cover for machines using a 36W battery.

While these sponge must be removed from the back of the bottom cover for machines using a 54W battery.

b.



c.



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.

26. Battery

- 7 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

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
2. The hard disk drive will be visible at point **1** on the mainboard ([Figure 5a](#)).
3. Disconnect the cable **2** from the HDD assembly ([Figure 5b](#)).

a.



b.

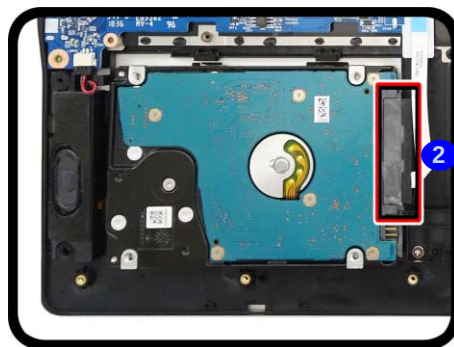


Figure 5
HDD Assembly Removal

- a. Locate the HDD assembly.
- b. Remove the screw.



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.



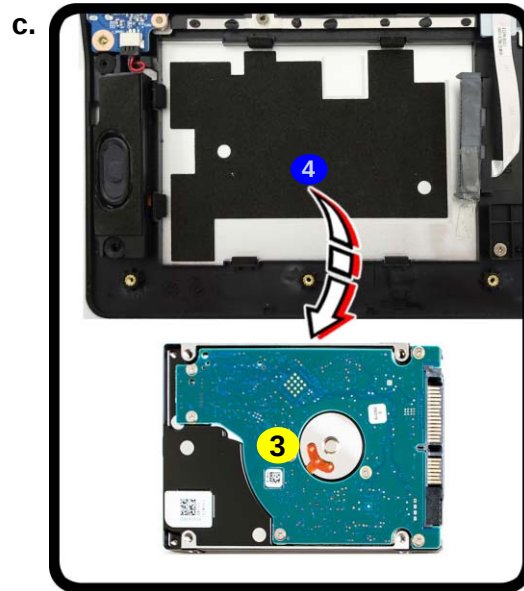
1. HDD Assembly
 - 1 Screw

Disassembly

Figure 6
**HDD Assembly
Removal (cont'd.)**

c. Lift the HDD assembly out of the bay.

4. Lift the hard disk **3** out of the bay **4** (*Figure 6c*).
5. Reverse the process to install a new hard disk (do not forget to replace all the screws and bottom cover - check the HDD sponge information on [page 2 - 7](#)).



3. HDD

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 2133MHz. The main memory can be expanded up to 32GB. The total memory size is automatically detected by the POST routine once you turn on your computer.

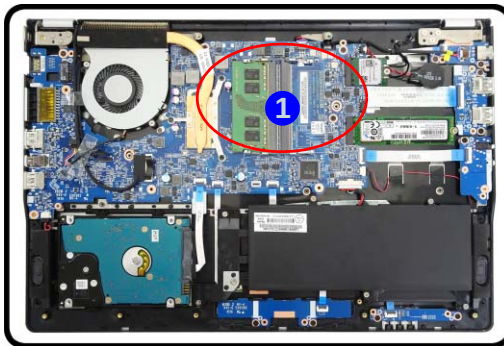
Memory Upgrade Process

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
2. The RAM modules will be visible at point **1** on the mainboard ([Figure 7b](#)).
3. Gently pull the two release latches (**2** & **3**) on the sides of the memory socket in the direction indicated by the arrows ([Figure 7b](#)).
4. The RAM module **4** will pop-up ([Figure 7c](#)), and you can then remove it.

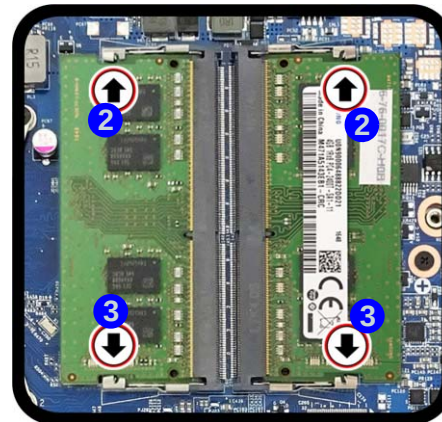
Figure 7
RAM Module Removal

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

a.



b.



c.



Single Memory Module Installation

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



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

Disassembly

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 - 6](#)).
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
2. The Wireless LAN module will be visible at point **1** on the mainboard ([Figure 8a](#)).
3. Carefully disconnect the cables **2** & **3**, and then remove the screw **4** ([Figure 8b](#)).
4. The Wireless LAN module **5** ([Figure 8c](#)) 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).

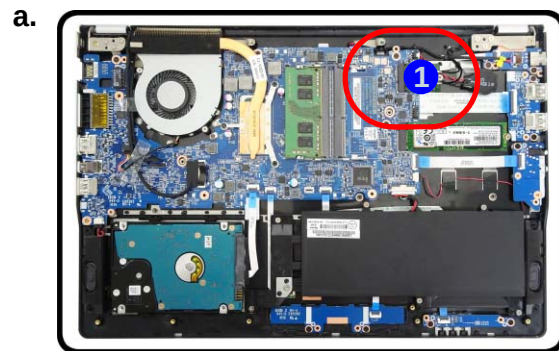


Figure 8
**Wireless LAN
Module Removal**

- 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 8b](#)).



5. Wireless LAN Module

- 1 Screw

Disassembly

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	WL 1	Black	Transparent
	WL 2	Black	White

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

Removing the M.2 SSD Module

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
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).

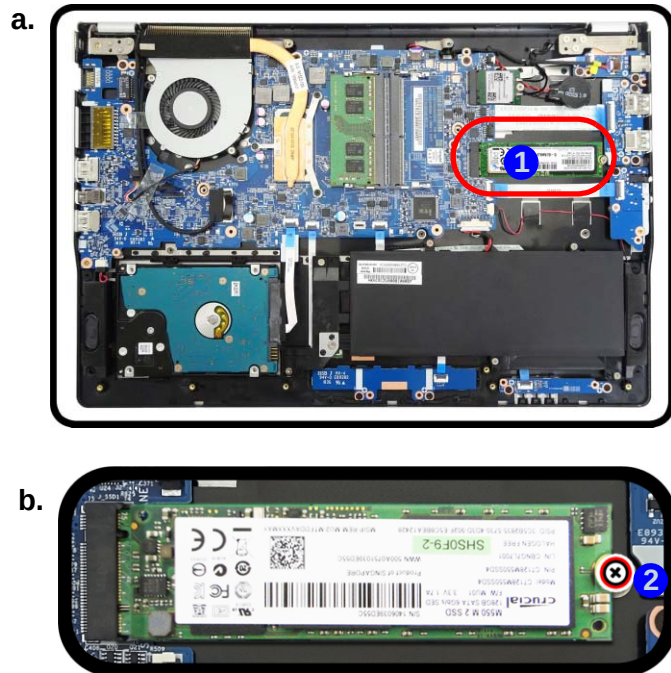


Figure 9
M.2 SSD Module Removal

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



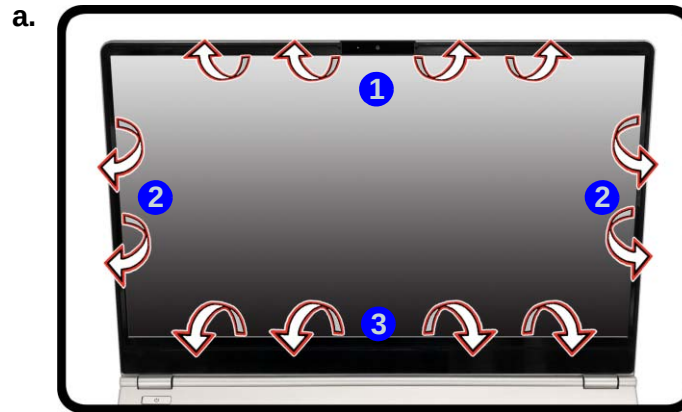
3.M2 SATA Module

- 1 Screw

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 - 5](#)) and battery ([page 2 - 6](#)).
 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 **5** upwards ([Figure 10b](#)).



4. LCD Front Cover

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 *N150CU / N151CU / N152CU* 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.

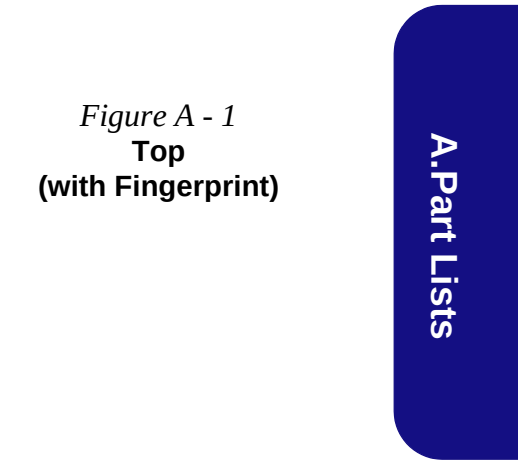
Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

Part List Illustration Location

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

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

Part	N150CU/N151CU	N152CU
Top (with Fingerprint)	<i>page A - 3</i>	
Top (without Fingerprint)	<i>page A - 4</i>	
Bottom	<i>page A - 5</i>	
LCD	<i>page A - 6</i>	<i>page A - 7</i>
MB	<i>page A - 8</i>	



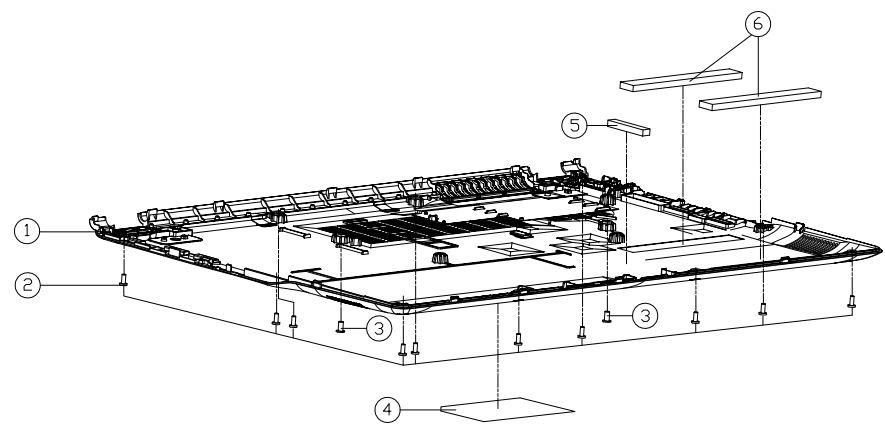
A.Part Lists

This exploded view diagram illustrates the assembly of the HP Pavilion 15-010 laptop chassis. The components are numbered 1 through 38, indicating the sequence of assembly. The diagram shows the following parts:

- 1**: Top cover (display bezel)
- 2**: Main chassis plate
- 3**: Bottom cover (base plate)
- 4**: Keyboard assembly
- 5**: Various screws and fasteners used throughout the assembly.
- 6**: Trackpoint assembly
- 7**: Touchpad assembly
- 8**: Battery pack
- 9**: Various screws and fasteners.
- 10**: Hinge assembly (left)
- 11**: Hinge assembly (right)
- 12**: Keyboard backlighting assembly
- 13**: Keyboard frame
- 14**: Keyboard support bracket
- 15**: Keyboard support bracket
- 16**: Keyboard support bracket
- 17**: Keyboard support bracket
- 18**: Keyboard support bracket
- 19**: Trackpoint support bracket
- 20**: Trackpoint support bracket
- 21**: Trackpoint support bracket
- 22**: Trackpoint support bracket
- 23**: Trackpoint support bracket
- 24**: Trackpoint support bracket
- 25**: Trackpoint support bracket
- 26**: Trackpoint support bracket
- 27**: Trackpoint support bracket
- 28**: Trackpoint support bracket
- 29**: Trackpoint support bracket
- 30**: Trackpoint support bracket
- 31**: Trackpoint support bracket
- 32**: Trackpoint support bracket
- 33**: Trackpoint support bracket
- 34**: Trackpoint support bracket
- 35**: Trackpoint support bracket
- 36**: Trackpoint support bracket
- 37**: Trackpoint support bracket
- 38**: Trackpoint support bracket

ITEM	PART	NAME	PART	NO	REMARK
1	KB FOR MULTI ISC BL KB SERIES	N150ZU	6-N150ZU-KB-MCL-US		
1	KB FOR NON BL KB SERIES	N150ZU	6-N150ZU-KB-NBL-US		
1	KB FOR US SERIES	N151ZU	6-N151ZU-KB-US		
1	KB FOR MULTI ISC BL KB US SERIES	N152U	6-N151ZU-KB-MCL-US		
1	KB FOR US SERIES	N152ZU	6-N152ZU-KB-US		
1	KB FOR MULTI ISC BL KB US SERIES	N152ZU	6-N152ZU-KB-MCL-US		
2	KB MYLAR WD BL L	N150ZU	6-40-N152Z-060		FOR W/O BL KB, W/O PHOTOGRAPHIC SENSITIVE
3	TOP CASE MODULE	N151ZU	6-39-N152Z-114		FOR W/O BL KB, W/O PHOTOGRAPHIC SENSITIVE
3	TOP CASE MODULE	N150ZU	6-39-N152Z-013		FOR W/O BL KB, W/O PHOTOGRAPHIC SENSITIVE
3	TOP CASE MODULE	N152ZU	6-39-N152Z-210		FOR W/O BL KB, W/O PHOTOGRAPHIC SENSITIVE
4	USB BOARD	V2.0 N150ZU	6-77-N1523-D02		
5	SCREW M2x4L KI BZ ICT NY (CDD=445,DT=04)		6-35-B6120-3RD		
6	POWER SWITCH BOARD	V2.0 N150ZU	6-77-N1523-D02		
7	AUDIO BOARD	V2.0 N150ZU	6-77-N1528-D02		
8	SWP S1 DAVYDAN/DAW ZDP REMOVED/IN CT CASE IS NOT/OTHER NCU		6-87-N130S-31A01		
8	SWP S1 DAVYDAN/DAW ZDP REMOVED/IN CT CASE IS NOT/OTHER NCU		6-87-N130S-30U91		
8	SWP S1 DAVYDAN/DAW ZDP REMOVED/IN CT CASE IS NOT/OTHER NCU		6-87-N145S-38B00-A		
8	SWP S1 DAVYDAN/DAW ZDP REMOVED/IN CT CASE IS NOT/OTHER NCU		6-87-N152S-51E01		
9	SCREW M2x4L KI BZ ICT NY (CDD=445,DT=04)		6-35-B1120-4RE		
10	KB MYLAR WD BL R	N150ZU	6-40-N152Z-030		
11	TP MYLAR W/O FINGER AG32+S01T-7N	N150ZU	6-40-N152Z-080		
11	TP MYLAR W/O FINGER AG32+S01T-7N	N152ZU	6-40-N152Z-121		
11	TP MYLAR W/O FINGER AG32+S01T-7N	N152ZU	6-40-N152Z-220		
12	SSD BRACKET	SGCC N130BU	6-33-N130S-011		ONLY FOR BL CDS/REMOVED SENSITIVE
13	SCREW M2x4L KI BZ ICT NY (CDD=45 J-05)		6-35-B1120-2RO		
14	ETFE CABLE FOR I/O TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-030		
15	ETFE CABLE FOR IC TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-021		
16	ETFE CABLE FOR I/O TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-080-1		
17	SPRINGLE L16W/24 L 2.0MM RES/PMMA IN FRONT THE DIRECTION OF AIR FLOW		6-23-SN15Z-010		
18	ETFE CABLE FOR AUDIO TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-011		
19	TP WD FP RUBBER (17.9x41.2x4.2) SILICONE	N150ZU	6-47-N152Z-090		
20	ETFE CABLE FOR TP TO QLEX L-26MM GUN PITCH I/O PIN AND NCU		6-43-N1520-061		
21	ETFE CABLE FOR LED TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-051		
22	HD CONSOLED-H0-P04L+M04L+HATE CITE	ETFE CABLE 73MM NCU	6-23-FN130-011		
23	LED BOARD	V2.0 N150ZU	6-77-N1524-D02		
24	ETFE CABLE FOR TP TO HD L-26MM GUN PITCH RES/PMMA NCU		6-43-N1520-041		
25	FAN MODULE (V17MM) PWM	N141WU	6-31-N14WS-102-1		
26	SPRINGLE L16W/24 L 2.0MM RES/PMMA IN FRONT THE DIRECTION OF AIR FLOW		6-23-SN15Z-0R1		
27	TAPE MYLAR TRANSPARENT (220x100x0.05) P180MM		6-40-P1803-020		
28	CLICK BOARD	V2.0 N150ZU	6-77-N152Z-D02		
29	TOUCH PAD SYNAPTICS PTP 1N-P029Z ODD/S0MM QALAD NCU		6-49-N1523-011		
30	TP MYLAR PET	N150ZU	6-40-N152Z-010		
31	TAPE MYLAR (B).MYLAR M550J		6-40-M55J2-020		
32	BATTERY HOLDER MODULE	N150ZU	6-42-N152Z-101		
33	W/O HDD ASSY	N151ZU	6-79-N151ZUJ-010		
34	W/HDD ASSY	N151ZU	6-79-N151ZUJ-020		
35	KB FOATING MYLAR	N150ZU	6-40-N152Z-090		
35	KB MYLAR WD BL DOWN	N150ZU	6-40-N152Z-0A0		
36	THERMAL PAD M500 (17.3x41.2x2.75MM) N150BU		6-48-N7503-010		FOR W/M2 SSD
37	THERMAL PAD R3500 (17.3x41.2x4.1) N230BU		6-48-N2303-010		FOR W/M2Z SSD
38	MYLAR(7x6x0.15MM BLACK) FOR P640F		6-40-01050-760		FOR N150Z/N151Z

Bottom

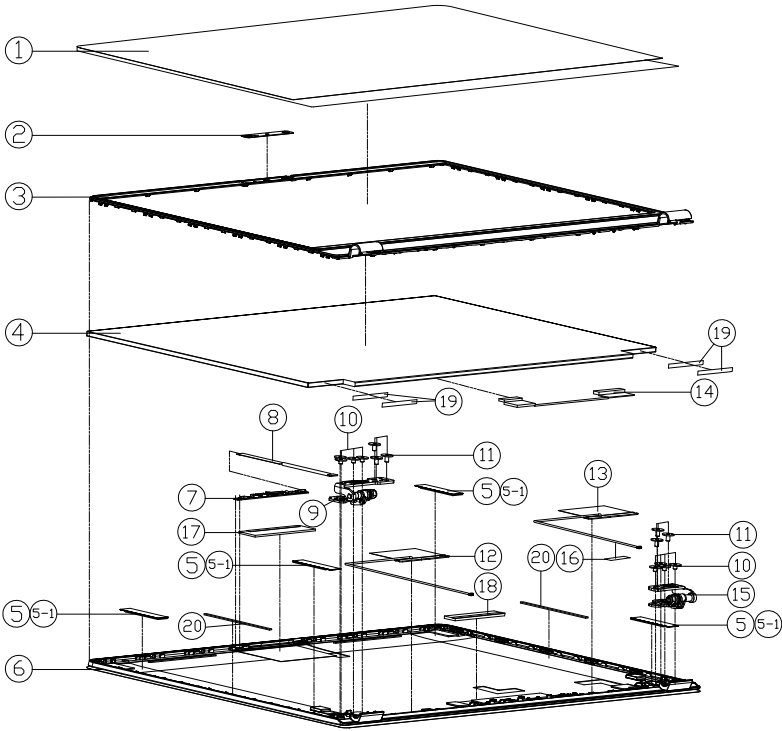


ITEM	PART NAME	PART NO	REMARK
1	BOTTOM CASE MODULE N150ZU	6-39-N15Z3-013	
1	BOTTOM CASE MODULE N151ZU	6-39-N15Z3-114	
1	BOTTOM CASE MODULE N152ZU	6-39-N15Z3-210	
2	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
3	SCREW M2.5*5L KI NI ICT NY	6-35-B1125-5RA	
4	PRODUCT LABEL FOR N150ZU	6-45-N150ZU03-010	
4	PRODUCT LABEL FOR N151ZU	6-45-N151ZU03-010	
4	PRODUCT LABEL FOR N152ZU	6-45-N152ZU03-010	
4	PRODUCT LABEL FOR N150CU	6-45-N150CU03-010	
4	PRODUCT LABEL FOR N151CU	6-45-N151CU03-010	
4	PRODUCT LABEL FOR N152CU	6-45-N152CU03-010	
5	BOTTOM HDD SPONGE (35*5*4T) CR4382 N150ZU	6-47-0019A-35K	
6	BOTTOM HDD SPONGE (80*10*35T) CR4382 N150ZU	6-47-0019A-80Y	

Figure A - 3
Bottom

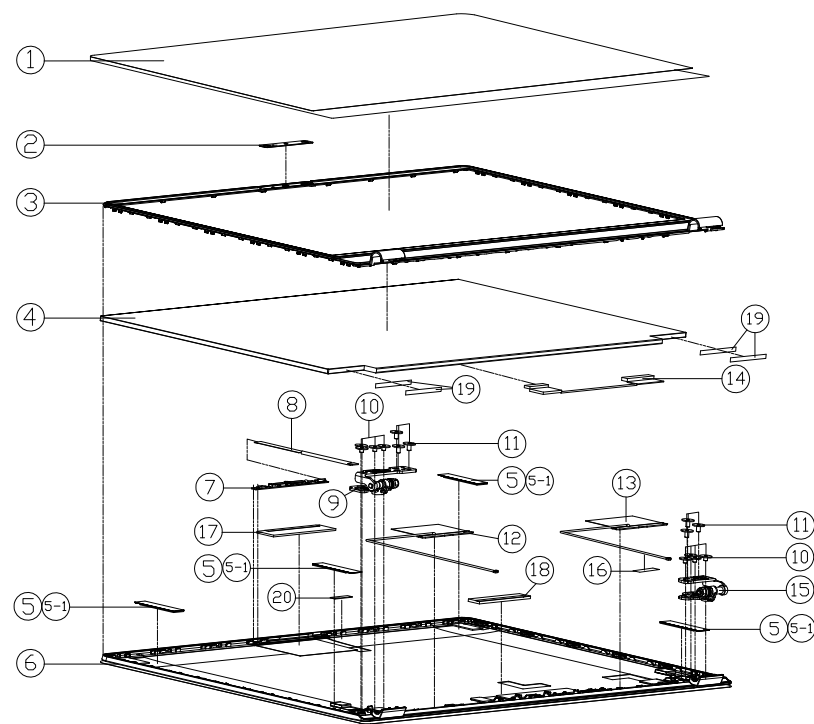
LCD (N150CU / N151CU)

Figure A - 4
LCD (N150CU /
N151CU)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP N150ZU	6-40-N15Z8-010	
2	CCD LENS PMMA N150ZU	6-42-N15Z1-020	FOR CCD
2	CCD W/IR LENS PMMA N150ZU	6-42-N15Z1-010	FOR IR CCD
3	FORNT COVER MODULE N150ZU	6-39-N15Z1-013	
3	FORNT COVER MODULE N151ZU	6-39-N15Z1-114	
4	LCD N156' FHD/NDN GT/EP AU B56HTN061 0V/VA0 LED 32 MM	6-50-LBB32-G004	
4	LCD N156' FHD/NDN GT/EP INDELUX N56H0A-EAS 0REV01 LED 32MM	6-50-LBB32-V002	
4	LCD N156' FHD/PS/NA/NDN GT/EP LG LPS6WFC-SP03 LED 32MM	6-50-LBB32-L015	
4	LCD N156' FHD/VA/NA/NDN GT/EP INDELUX N56H0E-ENI LED0 26MM	6-50-LBB26-V020	
5	DOUBLE SIDE TAPE (35M10*0.95T) FM2822K N150ZU	6-40-N15Z1-031	
5-1	DOUBLE SIDE TAPE(FM2822K 35M10*1.6T) N150Z	6-40-N15Z1-070	ONLY FOR 6-50-LBB26-V020
6	BACK COVER MODULE N150ZU	6-39-N15Z1-022	
6	BACK COVER MODULE N151ZU	6-39-N15Z1-123	
7	HC CABLE CORD TANGRA OTC000000110 B 0150 0000 0000 0000 0000 0000 0000 0000	6-88-N15ZC-5100	OPTION
7	HC CABLE CORD TANGRA OTC000000110 B 0150 0000 0000 0000 0000 0000 0000 0000	6-88-N15ZC-4900	OPTION
7	HC CABLE CORD TANGRA OTC000000110 B 0150 0000 0000 0000 0000 0000 0000 0000	6-88-N15ZC-5111	OPTION
8	WIRE-HFC CABLE FOR CCD 515.5MM 12P TO 0P 3.3V 04L N150ZU	6-43-N15ZT-021	FOR CCD
8	WIRE-HFC CABLE FOR CCD 515.5MM 3.3V 12P 04L N150ZU	6-43-N15ZT-011	FOR IR CCD
9	HINGE L <SK7> N150ZU	6-33-N15Z1-0L2	
10	SCREW M2.5*2.5L KI BK/Z ICT NY(08,T=0.6)	6-35-B6125-2R5	
11	SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
12	ANTENNA (SLOT) IPEX WL01 WGT W11 PCB DR 24G/5G 150MM N150ZU	6-23-7N15Z-011	
13	ANTENNA (SLOT) IPEX WL01 WGT W12 PCB DR 24G/5G 150MM N150ZU	6-23-7N15Z-021	
14	WIRE CABLE FOR EIP 40MM ID 19V 30P 011/ALV CON/V0030-200 N150ZU	6-43-N15Z1-011-IN	
15	HINGE R <SK7> N150ZU	6-33-N15Z1-0R2	
16	TOP CASE MYLAR FR83 25*7*0.05 P1804MM	6-40-P1802-030	
17	CCD SPONGER(60.05*15*0.75T) CR4382 N150ZU	6-47-0019A-60S	ONLY FOR 6-50-LBB26-V020
18	LCD SPONGER(50*10*0.75T) CR4382 N150ZU	6-47-0019A-50V	ONLY FOR 6-50-LBB26-V020
19	MYLAR 30 2PB 0P4T DFR117 N150ZU	6-40-N15Z1-140	ONLY FOR 6-50-LBB26-V020
20	LCD SPONGE (100*3*1.15)MM CR4382 N150ZU	6-47-0019A-B01	ONLY FOR 6-50-LBB26-V020

LCD (N152CU)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP N150ZU	6-40-N15Z8-010	
2	CCD LENS PMMA N152ZU	6-42-N15Z1-220	FOR CCD
2	CCD W/IR LENS PMMA N152ZU	6-42-N15Z1-210	FOR IR CCD
3	FRONT COVER MODULE N152ZU	6-39-N15Z1-211	
4	LCD N156' FHD/IPS/VA/NOA GT/EEP LG LP56WFC-SPB3 LED 32MM	6-50-LBB32-L015	
4	LCD N156' FHD/NOA GT/EEP AU B56HTN61 QW/VA LED 32 MM	6-50-LBB32-G004	
4	LCD N156' FHD/NOA GT/EEP INNOVIX NS64GA-EA3 (REV C1) LED 32MM	6-50-LBB32-V002	
4	LCD N156' FHD/VA/NOA/NOA GT/EEP INNOVIX NS64GE-ENI (LED 25MM	6-50-LBB26-V020	
5	DOUBLE SIDE TAPE (35*10*0.95T) FM2822K N150ZU	6-40-N15Z1-031	FOR 6-50-LBB32-V002
5-1	DOUBLE SIDE TAPE (FM2822K 35*10*1.6T) N150Z	6-40-N15Z1-070	6-50-LBB32-L004 ONLY FOR 6-50-LBB26-V020
6	BACK COVER MODULE N152ZU	6-39-N15Z1-220	
7	NO CARBON FIBER COVER (N152ZU) IN 100% CARBON FIBER W/VEHICLE W/VEHICLE W/VEHICLE	6-88-N15ZC-5100	OPTION
7	NO CARBON FIBER COVER (N152ZU) IN 100% CARBON FIBER W/VEHICLE W/VEHICLE W/VEHICLE	6-88-N15ZC-4900	OPTION
7	NO CARBON FIBER COVER (N152ZU) IN 100% CARBON FIBER W/VEHICLE W/VEHICLE W/VEHICLE	6-88-N15ZC-5111	OPTION
8	WIRE+FFC CABLE FOR CCD 515.5MM 12P TO 8P 3.3V (HT) N150ZU	6-43-N15ZT-021-1	FOR CCD
8	WIRE+FFC CABLE FOR CCD 515.5MM 3.3V 12P (HT) N150ZU	6-43-N15ZT-011-1	FOR IR CCD
9	HINGE L (SK7) N150ZU	6-33-N15Z1-0L2	
10	SCREW M2.5*2.5L KI BK/Z ICT NY(Ø8,T=0.6)	6-35-B6125-2R5	
11	SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
12	ANTENNA (SLIT) PEPA W/AN VGT VLT PCB DR 2.4G/5G 150MM N150ZU	6-23-7N15Z-011	
13	ANTENNA (SLIT) PEPA W/AN VGT VLT PCB DR 2.4G/5G 150MM N150ZU	6-23-7N15Z-021	
14	WIRE CABLE FOR EDP 400MM (D 19V 30P HT/V/L CONL V020-212) N150ZU	6-43-N15Z1-011-1N	
15	HINGE R (SK7) N150ZU	6-33-N15Z1-0R2	
16	TOP CASE MYLAR FR83 25*7*0.05 P180HM	6-40-P1802-030	
17	CCD SPONGER(60.05*15*0.75T) CR4382 N150ZU	6-47-0019A-60S	ONLY FOR 6-50-LBB26-V020
18	LCD SPONGER(50*10*0.75T) CR4382 N150ZU	6-47-0019A-50V	ONLY FOR 6-50-LBB26-V020
19	MYLAR 30 2P8 OP4T DFR117 N150ZU	6-40-N15Z1-140	ONLY FOR 6-50-LBB32-V002
20	FRONT COVER CCD COVA MYLAR (Ø54*Ø275MM) WHITE PET168220+6000 N150ZU	6-40-N15Z1-220	

Figure A - 5
LCD (N152CU)

A.Part Lists

This exploded view diagram illustrates the assembly of the HP DesignJet 1100 printer. The components are numbered 1 through 13, indicating the sequence of assembly. The main body of the printer is shown in the center, with various parts being attached to it. The components include:

- 1. Power cord and power button assembly.
- 2. Paper support assembly.
- 3. Paper support rollers.
- 4. Paper support rollers (set of four).
- 5. Main body of the printer.
- 6. Paper support assembly (bottom).
- 7. Paper support assembly (bottom).
- 8. Paper support rollers (bottom).
- 9. Paper support rollers (bottom).
- 10. Paper support rollers (bottom).
- 11. Paper support rollers (bottom).
- 12. Paper support rollers (bottom).
- 13. Paper support rollers (bottom).

ITEM	PART	NAME	PART	NO	REMARK
1	100	200V 200W 200V 200W 200W 200W 200W 200W	6-23-22015-TE0		
2	200	200V 200W 200V 200W 200W 200W 200W 200W	6-88-N24GF-4220		OPTION
3	200	200V 200W 200V 200W 200W 200W 200W 200W	6-88-1140F-4210		OPTION
4	200	200V 200W 200V 200W 200W 200W 200W 200W	6-88-N24GF-4200		
5	200	200V 200W 200V 200W 200W 200W 200W 200W	6-88-NISCF-4210		OPTION
6	300W	MEKEL K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K22 K23 K24 K25 K26 K27 K28 K29 K30 K31 K32 K33 K34 K35 K36 K37 K38 K39 K40 K41 K42 K43 K44 K45 K46 K47 K48 K49 K50 K51 K52 K53 K54 K55 K56 K57 K58 K59 K60 K61 K62 K63 K64 K65 K66 K67 K68 K69 K70 K71 K72 K73 K74 K75 K76 K77 K78 K79 K80 K81 K82 K83 K84 K85 K86 K87 K88 K89 K90 K91 K92 K93 K94 K95 K96 K97 K98 K99 K100 K101 K102 K103 K104 K105 K106 K107 K108 K109 K110 K111 K112 K113 K114 K115 K116 K117 K118 K119 K120 K121 K122 K123 K124 K125 K126 K127 K128 K129 K130 K131 K132 K133 K134 K135 K136 K137 K138 K139 K140 K141 K142 K143 K144 K145 K146 K147 K148 K149 K150 K151 K152 K153 K154 K155 K156 K157 K158 K159 K160 K161 K162 K163 K164 K165 K166 K167 K168 K169 K170 K171 K172 K173 K174 K175 K176 K177 K178 K179 K180 K181 K182 K183 K184 K185 K186 K187 K188 K189 K190 K191 K192 K193 K194 K195 K196 K197 K198 K199 K200 K201 K202 K203 K204 K205 K206 K207 K208 K209 K210 K211 K212 K213 K214 K215 K216 K217 K218 K219 K220 K221 K222 K223 K224 K225 K226 K227 K228 K229 K230 K231 K232 K233 K234 K235 K236 K237 K238 K239 K240 K241 K242 K243 K244 K245 K246 K247 K248 K249 K250 K251 K252 K253 K254 K255 K256 K257 K258 K259 K260 K261 K262 K263 K264 K265 K266 K267 K268 K269 K270 K271 K272 K273 K274 K275 K276 K277 K278 K279 K280 K281 K282 K283 K284 K285 K286 K287 K288 K289 K290 K291 K292 K293 K294 K295 K296 K297 K298 K299 K300 K301 K302 K303 K304 K305 K306 K307 K308 K309 K310 K311 K312 K313 K314 K315 K316 K317 K318 K319 K320 K321 K322 K323 K324 K325 K326 K327 K328 K329 K330 K331 K332 K333 K334 K335 K336 K337 K338 K339 K340 K341 K342 K343 K344 K345 K346 K347 K348 K349 K350 K351 K352 K353 K354 K355 K356 K357 K358 K359 K360 K361 K362 K363 K364 K365 K366 K367 K368 K369 K370 K371 K372 K373 K374 K375 K376 K377 K378 K379 K380 K381 K382 K383 K384 K385 K386 K387 K388 K389 K390 K391 K392 K393 K394 K395 K396 K397 K398 K399 K400 K401 K402 K403 K404 K405 K406 K407 K408 K409 K410 K411 K412 K413 K414 K415 K416 K417 K418 K419 K420 K421 K422 K423 K424 K425 K426 K427 K428 K429 K430 K431 K432 K433 K434 K435 K436 K437 K438 K439 K440 K441 K442 K443 K444 K445 K446 K447 K448 K449 K450 K451 K452 K453 K454 K455 K456 K457 K458 K459 K460 K461 K462 K463 K464 K465 K466 K467 K468 K469 K470 K471 K472 K473 K474 K475 K476 K477 K478 K479 K480 K481 K482 K483 K484 K485 K486 K487 K488 K489 K490 K491 K492 K493 K494 K495 K496 K497 K498 K499 K500 K501 K502 K503 K504 K505 K506 K507 K508 K509 K510 K511 K512 K513 K514 K515 K516 K517 K518 K519 K520 K521 K522 K523 K524 K525 K526 K527 K528 K529 K530 K531 K532 K533 K534 K535 K536 K537 K538 K539 K540 K541 K542 K543 K544 K545 K546 K547 K548 K549 K550 K551 K552 K553 K554 K555 K556 K557 K558 K559 K560 K561 K562 K563 K564 K565 K566 K567 K568 K569 K570 K571 K572 K573 K574 K575 K576 K577 K578 K579 K580 K581 K582 K583 K584 K585 K586 K587 K588 K589 K590 K591 K592 K593 K594 K595 K596 K597 K598 K599 K600 K601 K602 K603 K604 K605 K606 K607 K608 K609 K610 K611 K612 K613 K614 K615 K616 K617 K618 K619 K620 K621 K622 K623 K624 K625 K626 K627 K628 K629 K630 K631 K632 K633 K634 K635 K636 K637 K638 K639 K640 K641 K642 K643 K644 K645 K646 K647 K648 K649 K650 K651 K652 K653 K654 K655 K656 K657 K658 K659 K660 K661 K662 K663 K664 K665 K666 K667 K668 K669 K670 K671 K672 K673 K674 K675 K676 K677 K678 K679 K680 K681 K682 K683 K684 K685 K686 K687 K688 K689 K690 K691 K692 K693 K694 K695 K696 K697 K698 K699 K700 K701 K702 K703 K704 K705 K706 K707 K708 K709 K710 K711 K712 K713 K714 K715 K716 K717 K718 K719 K720 K721 K722 K723 K724 K725 K726 K727 K728 K729 K730 K731 K732 K733 K734 K735 K736 K737 K738 K739 K740 K741 K742 K743 K744 K745 K746 K747 K748 K749 K750 K751 K752 K753 K754 K755 K756 K757 K758 K759 K760 K761 K762 K763 K764 K765 K766 K767 K768 K769 K770 K771 K772 K773 K774 K775 K776 K777 K778 K779 K780 K781 K782 K783 K784 K785 K786 K787 K788 K789 K790 K791 K792 K793 K794 K795 K796 K797 K798 K799 K800 K801 K802 K803 K804 K805 K806 K807 K808 K809 K810 K811 K812 K813 K814 K815 K816 K817 K818 K819 K820 K821 K822 K823 K824 K825 K826 K827 K828 K829 K830 K831 K832 K833 K834 K835 K836 K837 K838 K839 K840 K841 K842 K843 K844 K845 K846 K847 K848 K849 K850 K851 K852 K853 K854 K855 K856 K857 K858 K859 K860 K861 K862 K863 K864 K865 K866 K867 K868 K869 K870 K871 K872 K873 K874 K875 K876 K877 K878 K879 K880 K881 K882 K883 K884 K885 K886 K887 K888 K889 K890 K891 K892 K893 K894 K895 K896 K897 K898 K899 K900 K901 K902 K903 K904 K905 K906 K907 K908 K909 K910 K911 K912 K913 K914 K915 K916			
7	300W	MEKEL K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K22 K23 K24 K25 K26 K27 K28 K29 K30 K31 K32 K33 K34 K35 K36 K37 K38 K39 K40 K41 K42 K43 K44 K45 K46 K47 K48 K49 K50 K51 K52 K53 K54 K55 K56 K57 K58 K59 K60 K61 K62 K63 K64 K65 K66 K67 K68 K69 K70 K71 K72 K73 K74 K75 K76 K77 K78 K79 K80 K81 K82 K83 K84 K85 K86 K87 K88 K89 K90 K91 K92 K93 K94 K95 K96 K97 K98 K99 K100 K101 K102 K103 K104 K105 K106 K107 K108 K109 K110 K111 K112 K113 K114 K115 K116 K117 K118 K119 K120 K121 K122 K123 K124 K125 K126 K127 K128 K129 K130 K131 K132 K133 K134 K135 K136 K137 K138 K139 K140 K141 K142 K143 K144 K145 K146 K147 K148 K149 K150 K151 K152 K153 K154 K155 K156 K157 K158 K159 K160 K161 K162 K163 K164 K165 K166 K167 K168 K169 K170 K171 K172 K173 K174 K175 K176 K177 K178 K179 K180 K181 K182 K183 K184 K185 K186 K187 K188 K189 K190 K191 K192 K193 K194 K195 K196 K197 K198 K199 K200 K201 K202 K203 K204 K205 K206 K207 K208 K209 K210 K211 K212 K213 K214 K215 K216 K217 K218 K219 K220 K221 K222 K223 K224 K225 K226 K227 K228 K229 K230 K231 K232 K233 K234 K235 K236 K237 K238 K239 K240 K241 K242 K243 K244 K245 K246 K247 K248 K249 K250 K251 K252 K253 K254 K255 K256 K257 K258 K259 K260 K261 K262 K263 K264 K265 K266 K267 K268 K269 K270 K271 K272 K273 K274 K275 K276 K277 K278 K279 K280 K281 K282 K283 K284 K285 K286 K287 K288 K289 K290 K291 K292 K293 K294 K295 K296 K297 K298 K299 K300 K301 K302 K303 K304 K305 K306 K307 K308 K309 K310 K311 K312 K313 K314 K315 K316 K317 K318 K319 K320 K321 K322 K323 K324 K325 K326 K327 K328 K329 K330 K331 K332 K333 K334 K335 K336 K337 K338 K339 K340 K341 K342 K343 K344 K345 K346 K347 K348 K349 K350 K351 K352 K353 K354 K355 K356 K357 K358 K359 K360 K361 K362 K363 K364 K365 K366 K367 K368 K369 K370 K371 K372 K373 K374 K375 K376 K377 K378 K379 K380 K381 K382 K383 K384 K385 K386 K387 K388 K389 K390 K391 K392 K393 K394 K395 K396 K397 K398 K399 K400 K401 K402 K403 K404 K405 K406 K407 K408 K409 K410 K411 K412 K413 K414 K415 K416 K417 K418 K419 K420 K421 K422 K423 K424 K425 K426 K427 K428 K429 K430 K431 K432 K433 K434 K435 K436 K437 K438 K439 K440 K441 K442 K443 K444 K445 K446 K447 K448 K449 K450 K451 K452 K453 K454 K455 K456 K457 K458 K459 K460 K461 K462 K463 K464 K465 K466 K467 K468 K469 K470 K471 K472 K473 K474 K475 K476 K477 K478 K479 K480 K481 K482 K483 K484 K485 K486 K487 K488 K489 K490 K491 K492 K493 K494 K495 K496 K497 K498 K499 K500 K501 K502 K503 K504 K505 K506 K507 K508 K509 K510 K511 K512 K513 K514 K515 K516 K517 K518 K519 K520 K521 K522 K523 K524 K525 K526 K527 K528 K529 K530 K531 K532 K533 K534 K535 K536 K537 K538 K539 K540 K541 K542 K543 K544 K545 K546 K547 K548 K549 K550 K551 K552 K553 K554 K555 K556 K557 K558 K559 K560 K561 K562 K563 K564 K565 K566 K567 K568 K569 K570 K571 K572 K573 K574 K575 K576 K577 K578 K579 K580 K581 K582 K583 K584 K585 K586 K587 K588 K589 K590 K591 K592 K593 K594 K595 K596 K597 K598 K599 K600 K601 K602 K603 K604 K605 K606 K607 K608 K609 K610 K611 K612 K613 K614 K615 K616 K617 K618 K619 K620 K621 K622 K623 K624 K625 K626 K627 K628 K629 K630 K631 K632 K633 K634 K635 K636 K637 K638 K639 K640 K641 K642 K643 K644 K645 K646 K647 K648 K649 K650 K651 K652 K653 K654 K655 K656 K657 K658 K659 K660 K661 K662 K663 K664 K665 K666 K667 K668 K669 K670 K671 K672 K673 K674 K675 K676 K677 K678 K679 K680 K681 K682 K683 K684 K685 K686 K687 K688 K689 K690 K691 K692 K693 K694 K695 K696 K697 K698 K699 K700 K701 K702 K703 K704 K705 K706 K707 K708 K709 K710 K711 K712 K713 K714 K715 K716 K717 K718 K719 K720 K721 K722 K723 K724 K725 K726 K727 K728 K729 K730 K731 K732 K733 K734 K735 K736 K737 K738 K739 K740 K741 K742 K743 K744 K745 K746 K747 K748 K749 K750 K751 K752 K753 K754 K755 K756 K757 K758 K759 K760 K761 K762 K763 K764 K765 K766 K767 K768 K769 K770 K771 K772 K773 K774 K775 K776 K777 K778 K779 K780 K781 K782 K783 K784 K785 K786 K787 K788 K789 K790 K791 K792 K793 K794 K795 K796 K797 K798 K799 K800 K801 K802 K803 K804 K805 K806 K807 K808 K809 K810 K811 K812 K813 K814 K815 K816 K817 K818 K819 K820 K821 K822 K823 K824 K825 K826 K827 K828 K829 K830 K831 K832 K833 K834 K835 K836 K837 K838 K839 K840 K841 K842 K843 K844 K845 K846 K847 K848 K849 K850 K851 K852 K853 K854 K855 K856 K857 K858 K859 K860 K861 K862 K863 K864 K865 K866 K867 K868 K869 K870 K871 K872 K873 K874 K875 K876 K877 K878 K879 K880 K881 K882 K883 K884 K885 K886 K887 K888 K889 K890 K891 K892 K893 K894 K895 K896 K897 K898 K899 K900 K901 K902 K903 K904 K905 K906 K907 K908 K909 K910 K911 K912 K913 K914 K915 K916			
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9	300W	MEKEL K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K22 K23 K24 K25 K26 K27 K28 K29 K30 K31 K32 K33 K34 K35 K36 K37 K38 K39 K40 K41 K42 K43 K44 K45 K46 K47 K48 K49 K50 K51 K52 K53 K54 K55 K56 K57 K58 K59 K60 K61 K62 K63 K64 K65 K66 K67 K68 K69 K70 K71 K72 K73 K74 K75 K76 K77 K78 K79 K80 K81 K82 K83 K84 K85 K86 K87 K88 K89 K90 K91 K92 K93 K94 K95 K96 K97 K98 K99 K100 K101 K102 K103 K104 K105 K106 K107 K108 K109 K110 K111 K112 K113 K114 K115 K116 K117 K118 K119 K120 K121 K122 K123 K124 K125 K126 K127 K128 K129 K130 K131 K132 K133 K134 K135 K136 K137 K138 K139 K140 K141 K142 K143 K144 K145 K146 K147 K148 K149 K150 K151 K152 K153 K154 K155 K156 K157 K158 K159 K160 K161 K162 K163 K164 K165 K166 K167 K168 K169 K170 K171 K172 K173 K174 K175 K176 K177 K178 K179 K180 K181 K182 K183 K184 K185 K186 K187 K188 K189 K190 K191 K192 K193 K194 K195 K196 K197 K198 K199 K200 K201 K202 K203 K204 K205 K206 K207 K208 K209 K210 K211 K212 K213 K214 K215 K216 K217 K218 K219 K220 K221 K222 K223 K224 K225 K226 K227 K228 K229 K230 K231 K232 K233 K234 K235 K236 K237 K238 K239 K240 K241 K242 K243 K244 K245 K246 K247 K248 K249 K250 K251 K252 K253 K254 K255 K256 K257 K258 K259 K260 K261 K262 K263 K264 K265 K266 K267 K268 K269 K270 K271 K272 K273 K274 K275 K276 K277 K278 K279 K280 K281 K282 K283 K284 K285 K286 K287 K288 K289 K290 K291 K292 K293 K294 K295 K296 K297 K298 K29			

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *N150CU* / *N151CU* / *N152CU* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
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<i>Processor 1/12 - Page B - 3</i>	<i>PS8338B - Page B - 19</i>	<i>1.05VA, VCCST, VCCSTG - Page B - 35</i>
<i>Processor 2/12 - Page B - 4</i>	<i>miniDP - Page B - 20</i>	<i>VDDQ, VDDQ_VTT, 1.5VS, 1.8VA - Page B - 36</i>
<i>Processor 3/12 - Page B - 5</i>	<i>TR_TBT - Page B - 21</i>	<i>AC-In - Page B - 37</i>
<i>Processor 4/12 - Page B - 6</i>	<i>TR_Power - Page B - 22</i>	<i>VCore NCP81218 - Page B - 38</i>
<i>Processor 5/12 - Page B - 7</i>	<i>ASM1543, Redriver - Page B - 23</i>	<i>VCCIN, VCCGT, VCCSA Output - Page B - 39</i>
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<i>Processor 7/12 - Page B - 9</i>	<i>Card Reader & LAN_RTL8411B - Page B - 25</i>	<i>Charger, AC IN - Page B - 41</i>
<i>Processor 8/12 - Page B - 10</i>	<i>Audio Codec - Page B - 26</i>	<i>USB Board - Page B - 42</i>
<i>Processor 9/12 - Page B - 11</i>	<i>KBC ITE IT8587 - Page B - 27</i>	<i>USB Board - Page B - 43</i>
<i>Processor 10/12 - Page B - 12</i>	<i>E, B Key - Page B - 28</i>	<i>Audio Board - Page B - 44</i>
<i>Processor 11/12 - Page B - 13</i>	<i>M Key PCIE SSD - Page B - 29</i>	<i>Click Board - Page B - 45</i>
<i>Processor 12/12 - Page B - 14</i>	<i>SATA, LED, TPM - Page B - 30</i>	<i>LED Board - Page B - 46</i>
<i>DDR4 SO_DIMM_0 - Page B - 15</i>	<i>USB - Page B - 31</i>	<i>Power Switch Board - Page B - 47</i>
<i>DDR4 SO_DIMM_1 - Page B - 16</i>	<i>Conn, CCD, Fan, TP, LED KB - Page B - 32</i>	
<i>HDMI - Page B - 17</i>	<i>3V, 5V, 3VS, 5VS, 1.8VS CTL - Page B - 33</i>	

Table B - 1
**SCHEMATIC
DIAGRAMS**

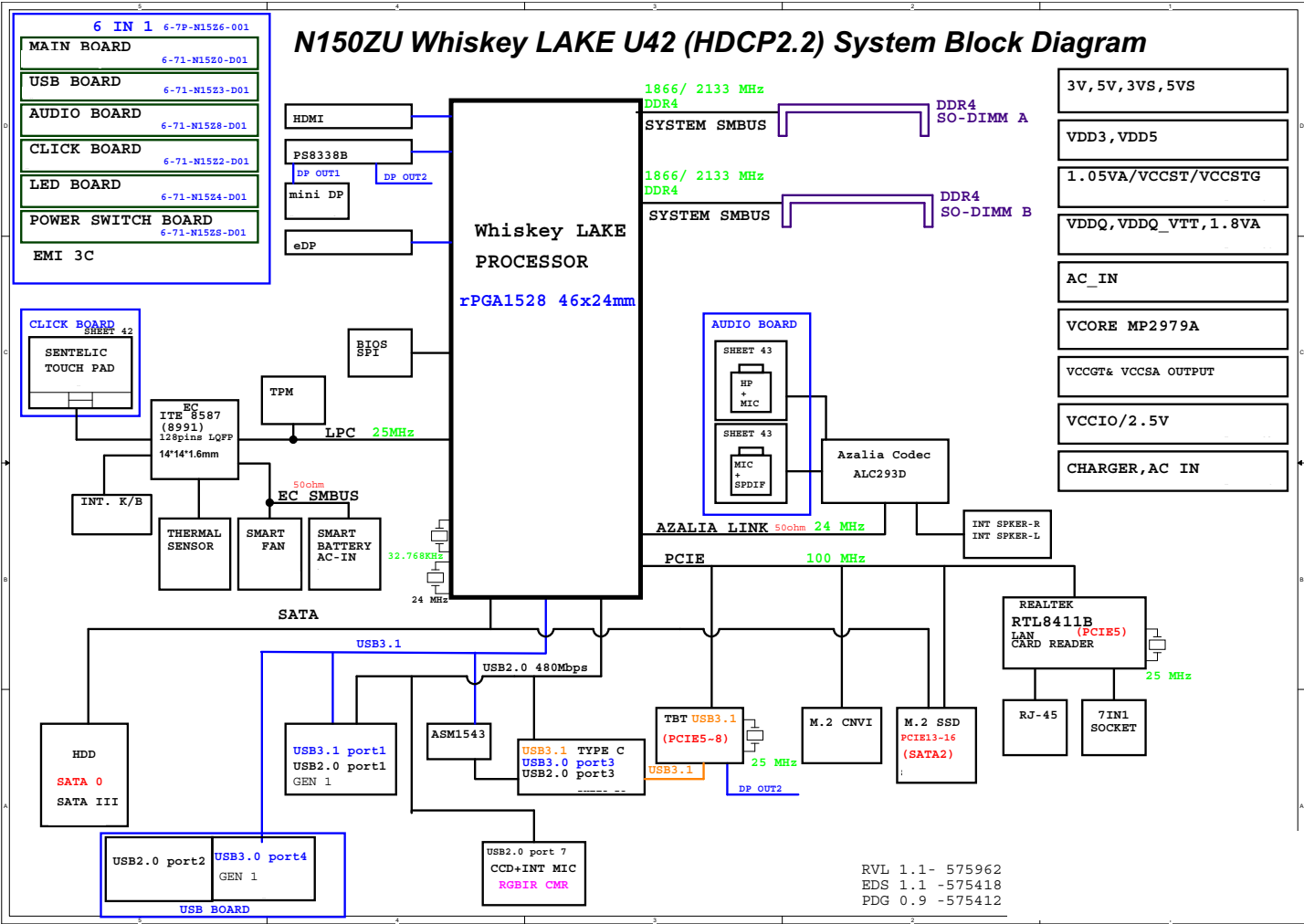


Version Note

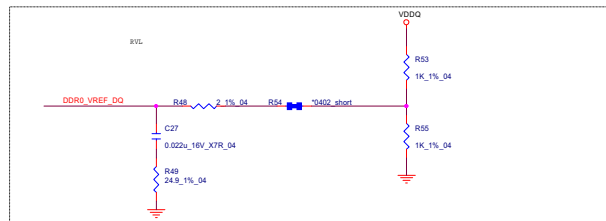
The schematic diagrams in this chapter are based upon version 6-7P-N15Z6-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 46
System Block
Diagram

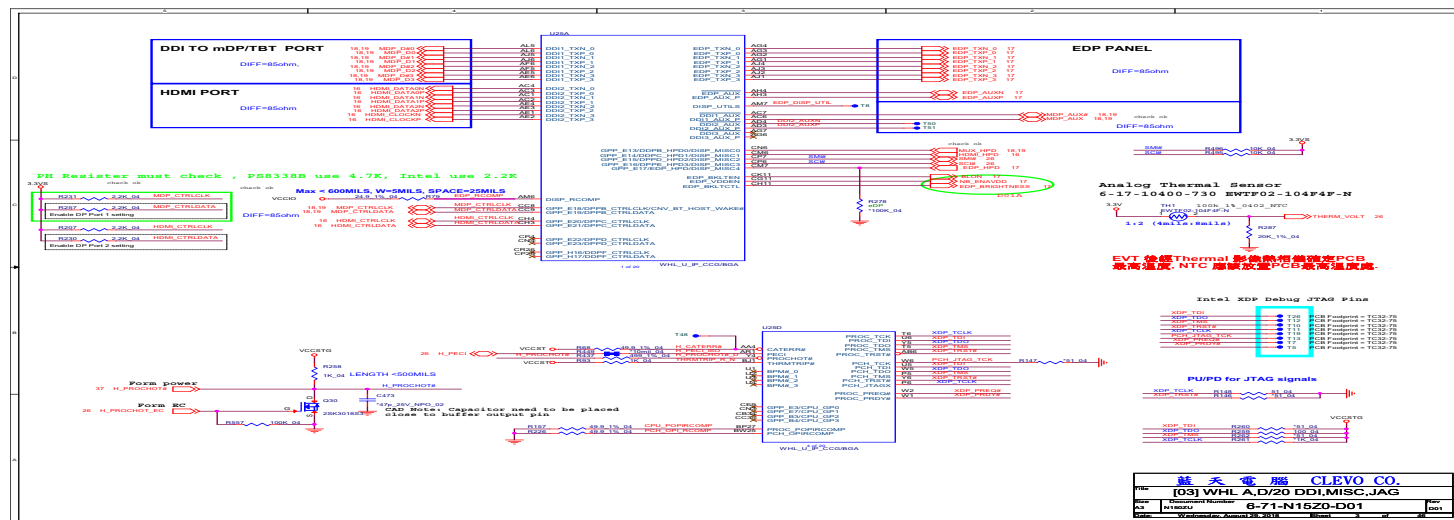


Processor 1/12 B - 3

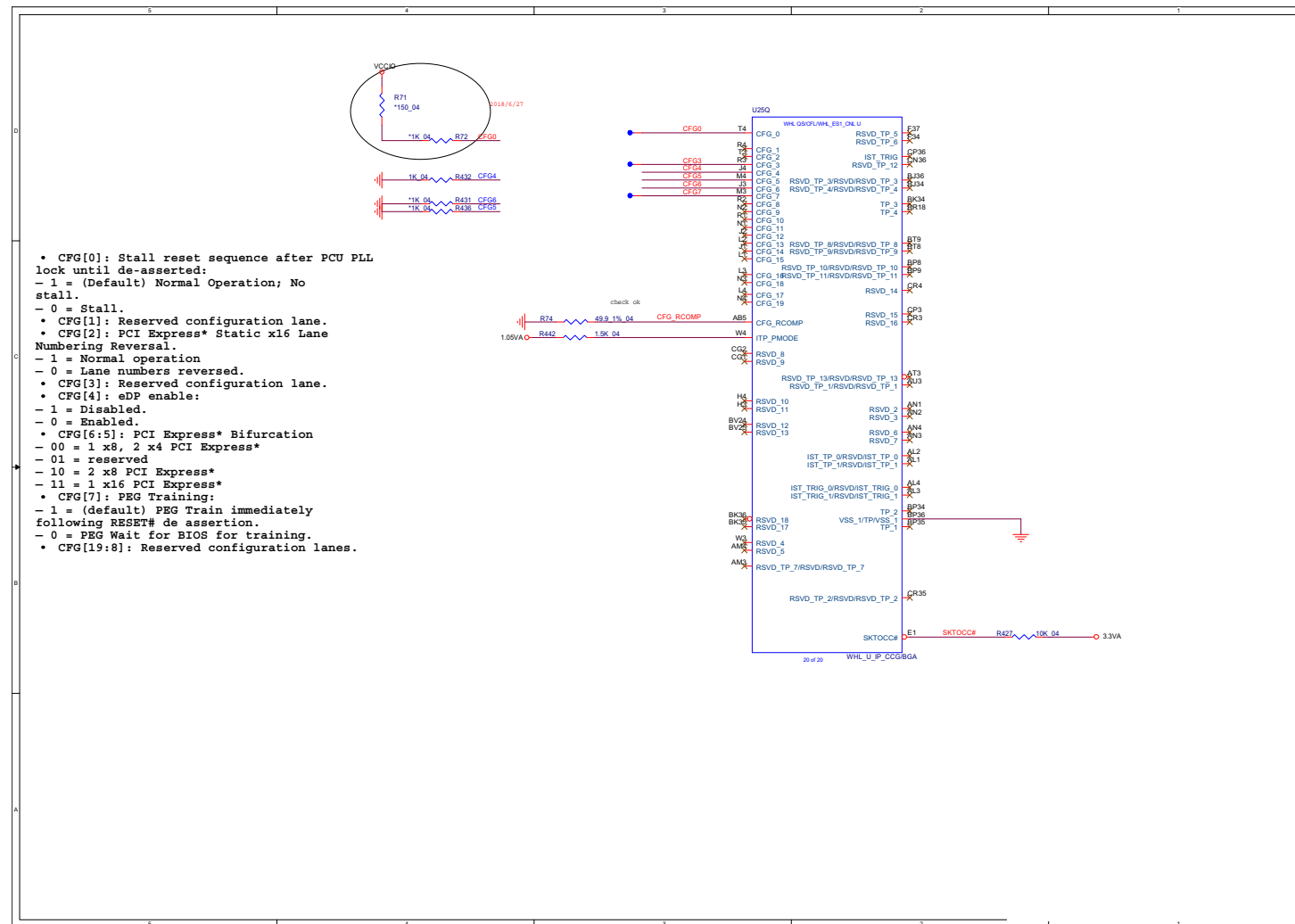


Processor 2/12

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Processor 2/12



Processor 3/12

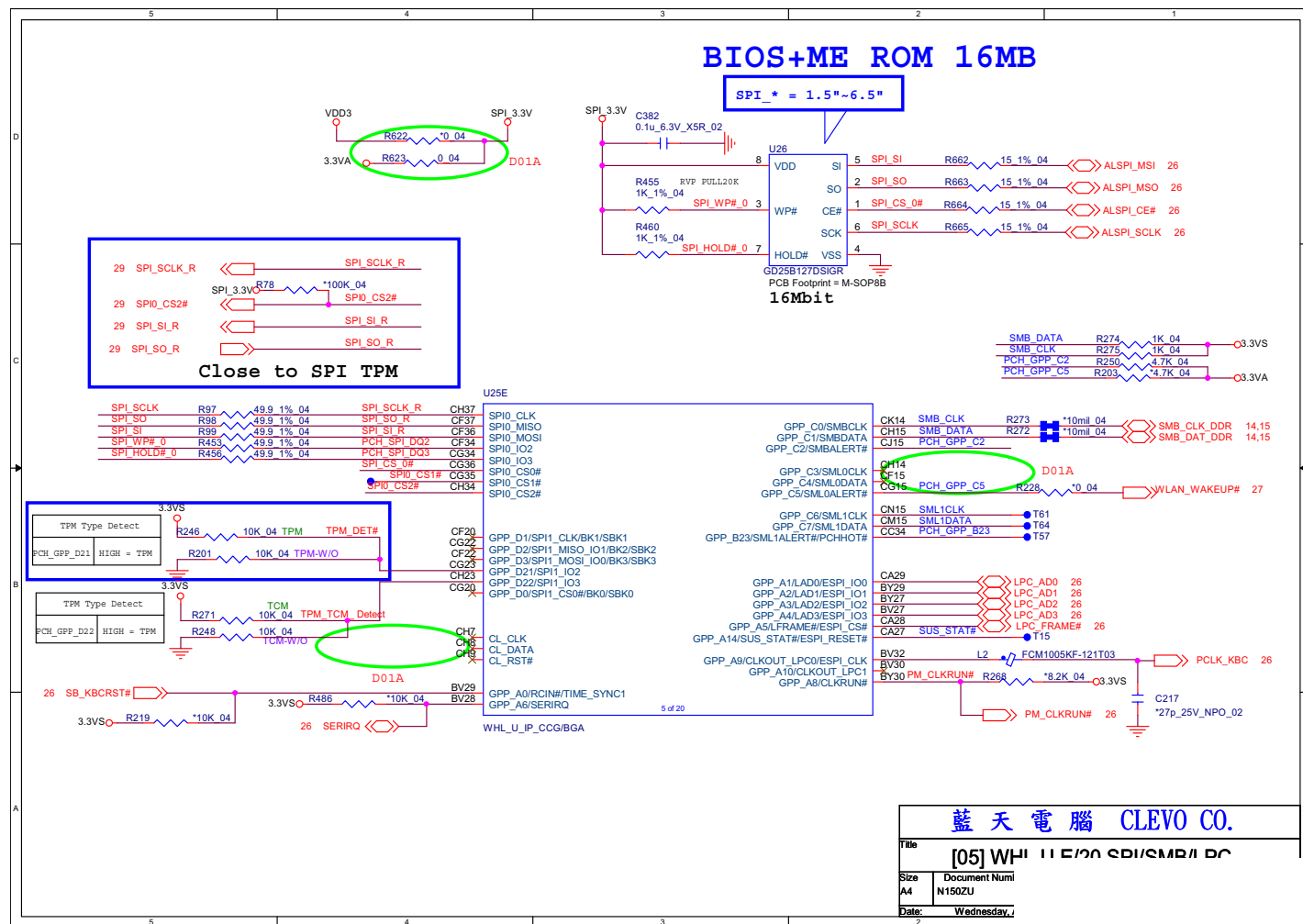


Sheet 4 of 46
Processor 3/12

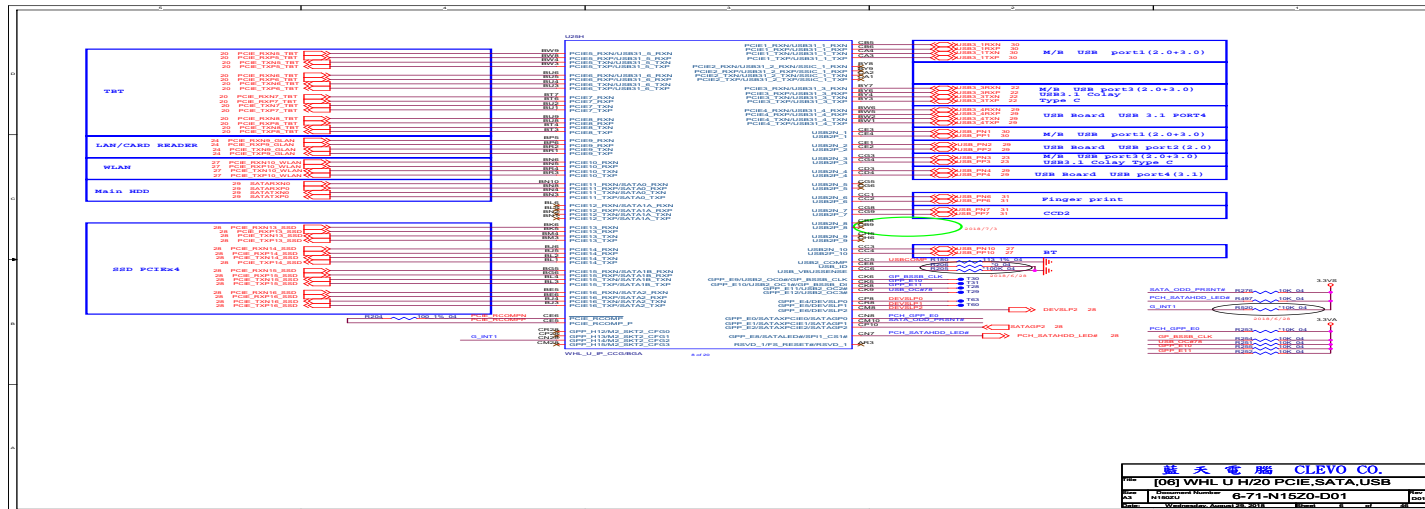
Processor 4/12

B. Schematic Diagrams

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Processor 4/12



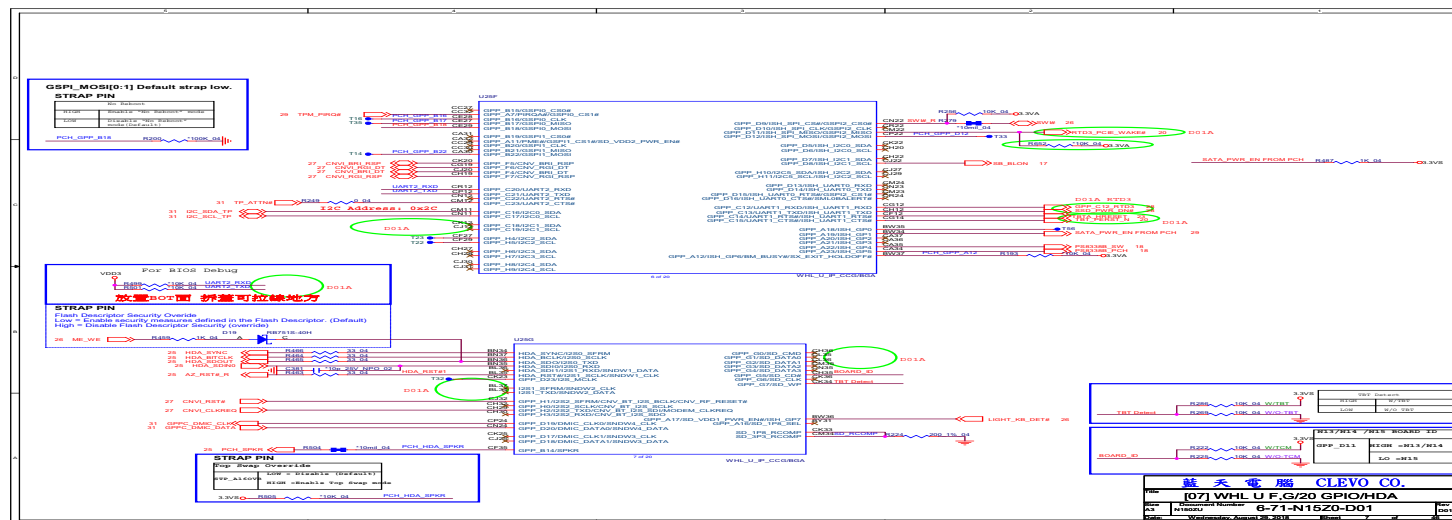
Processor 5/12

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Processor 5/12

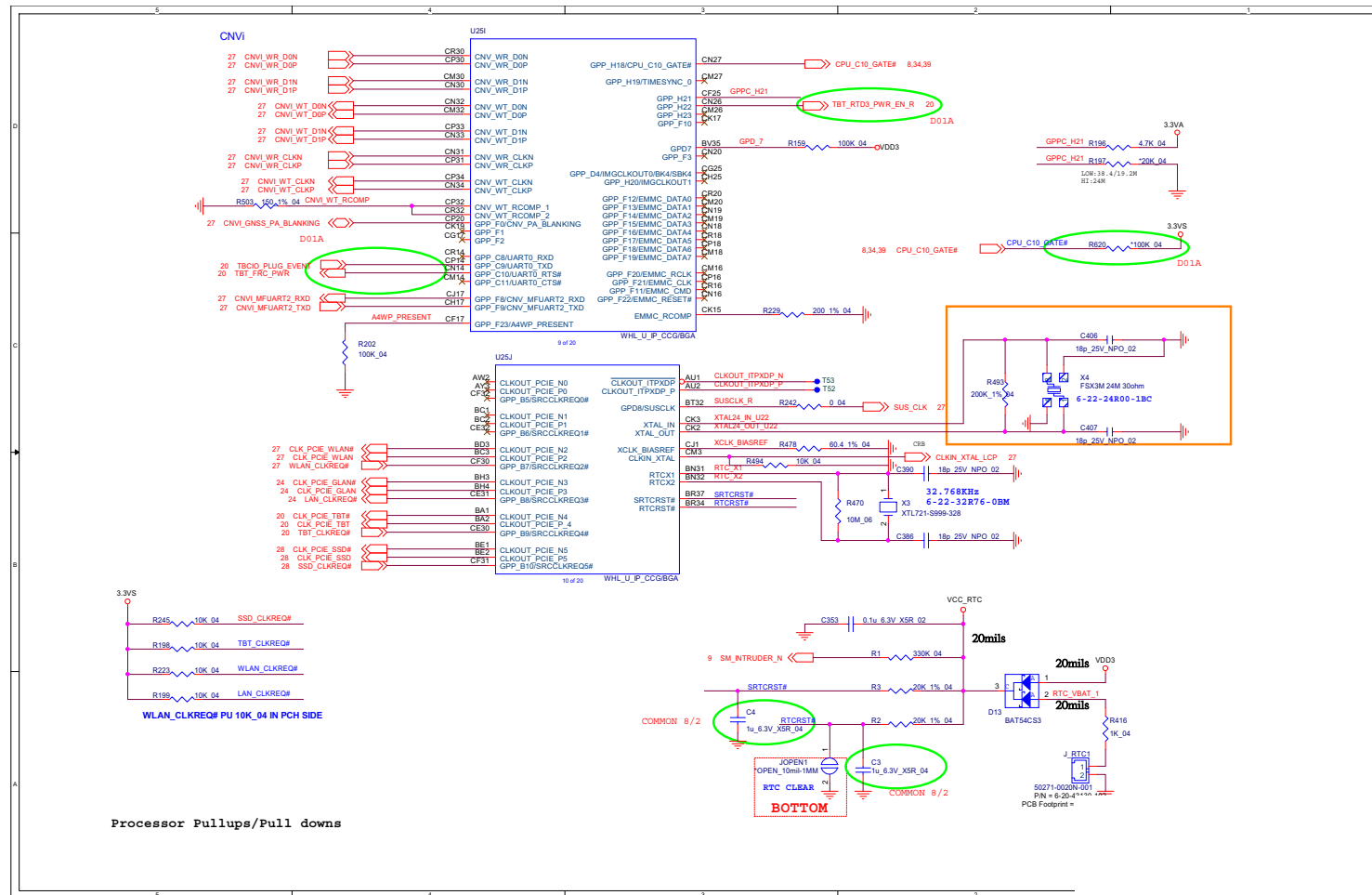
Processor 6/12

B. Schematic Diagrams

Sheet 7 of 46
Processor 6/12



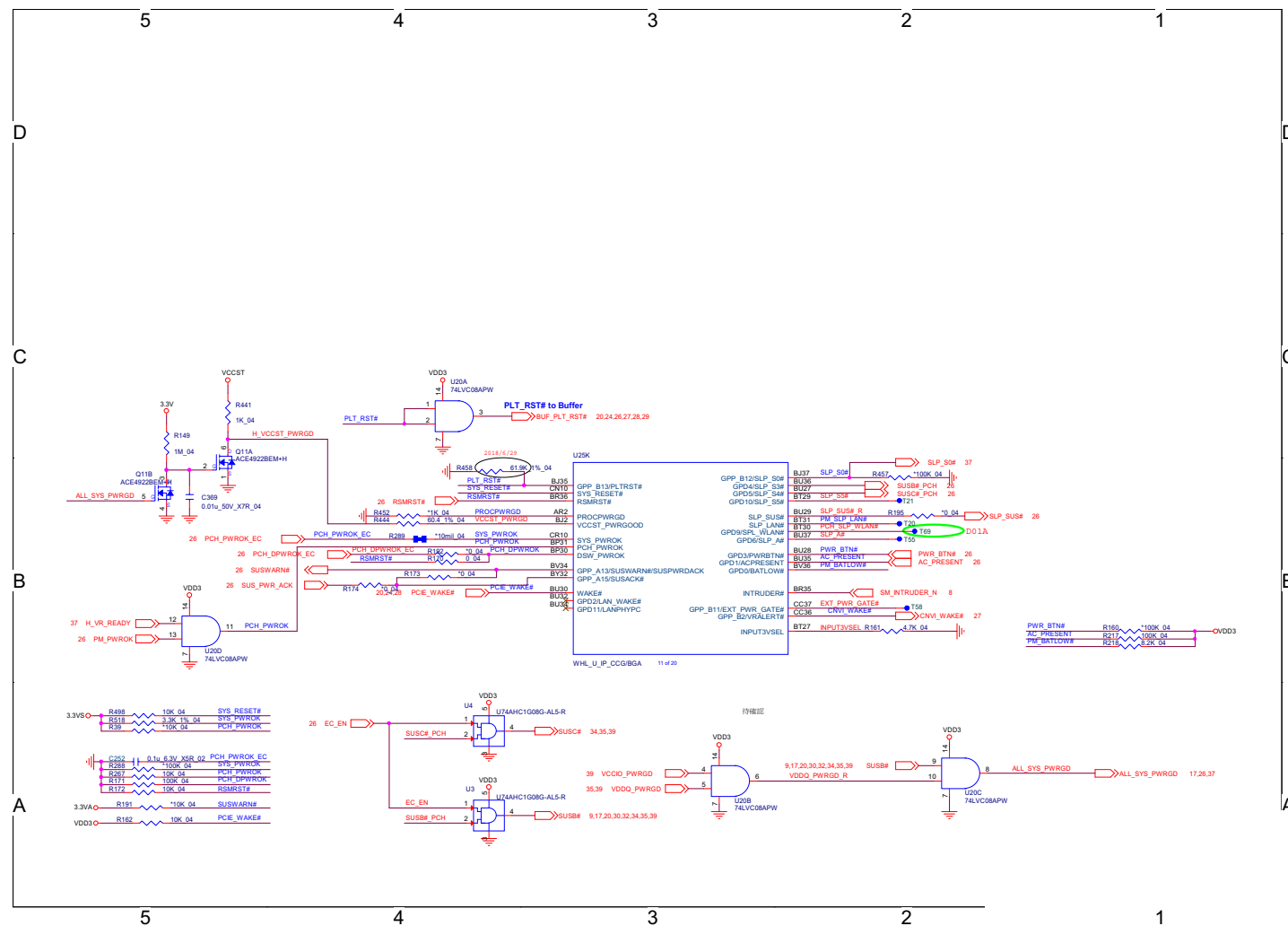
Processor 7/12



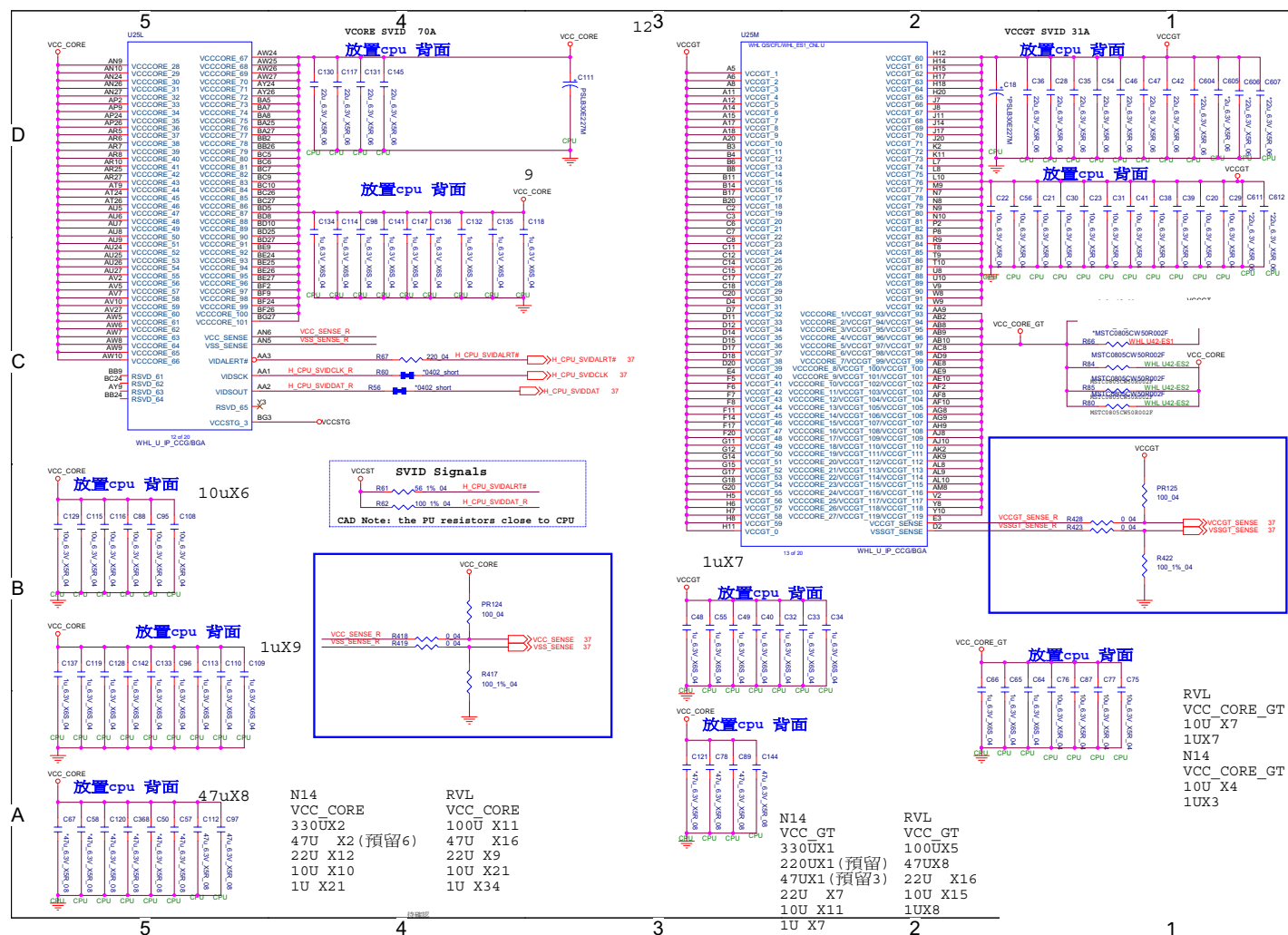
Sheet 8 of 46
Processor 7/12

Processor 8/12

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Processor 8/12



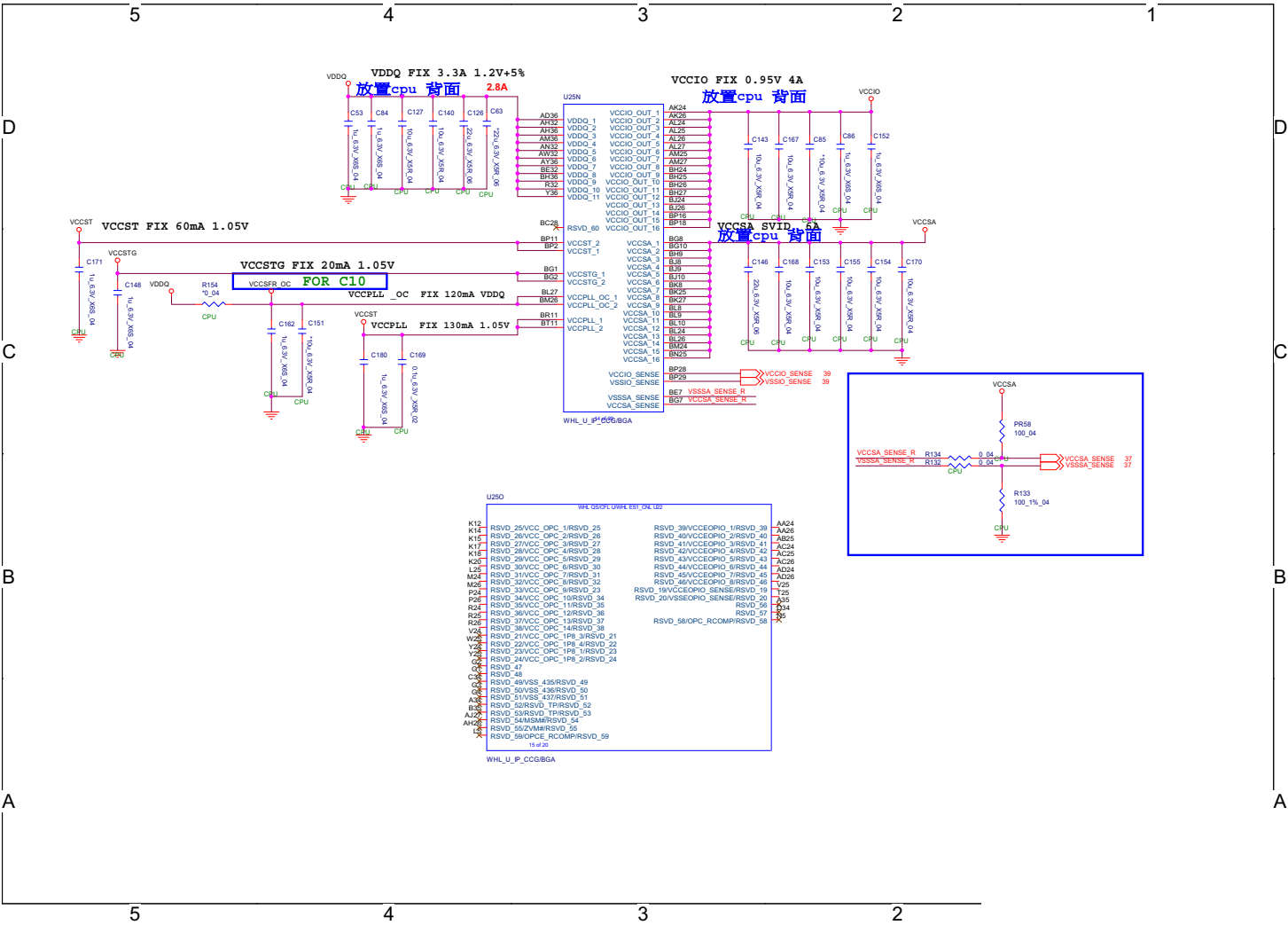
Processor 9/12 B - 11



Schematic Diagrams

Processor 10/12

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Processor 10/12

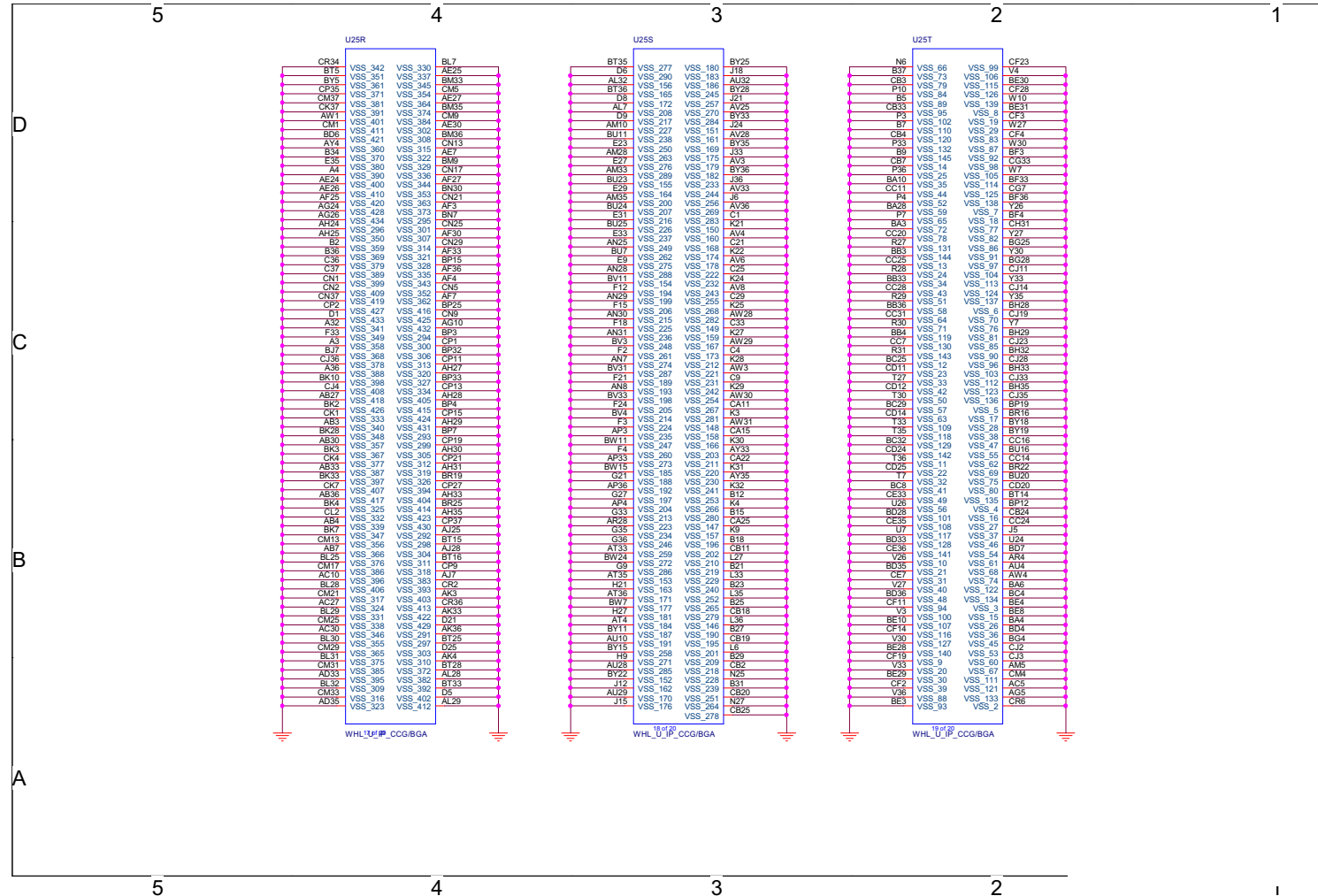


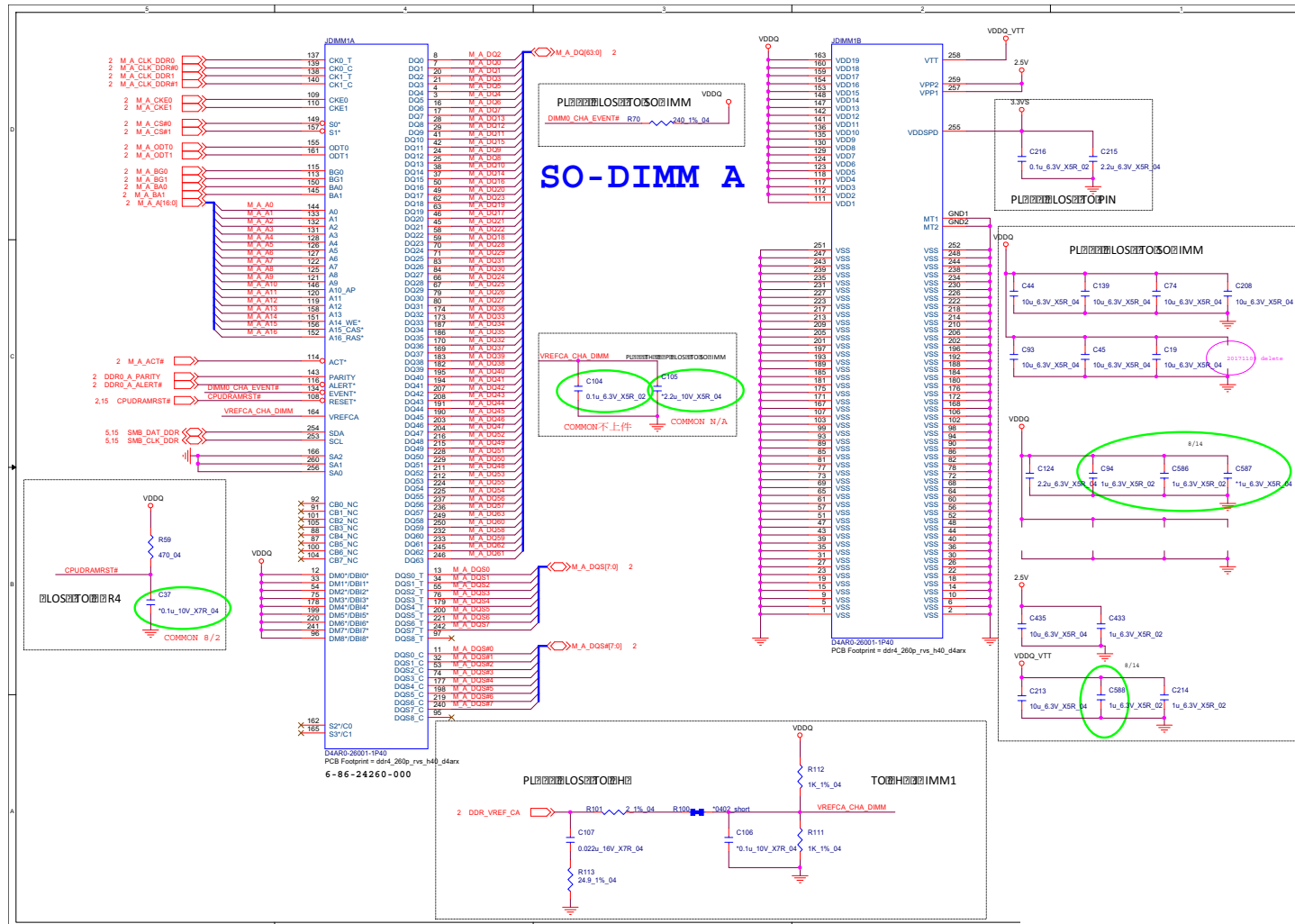
Processor 11/12 B - 13

Schematic Diagrams

Processor 12/12

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Processor 12/12





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DDR4 SO-DIMM_1

B.Schematic Diagrams

DDR4 SO_DIMM_1

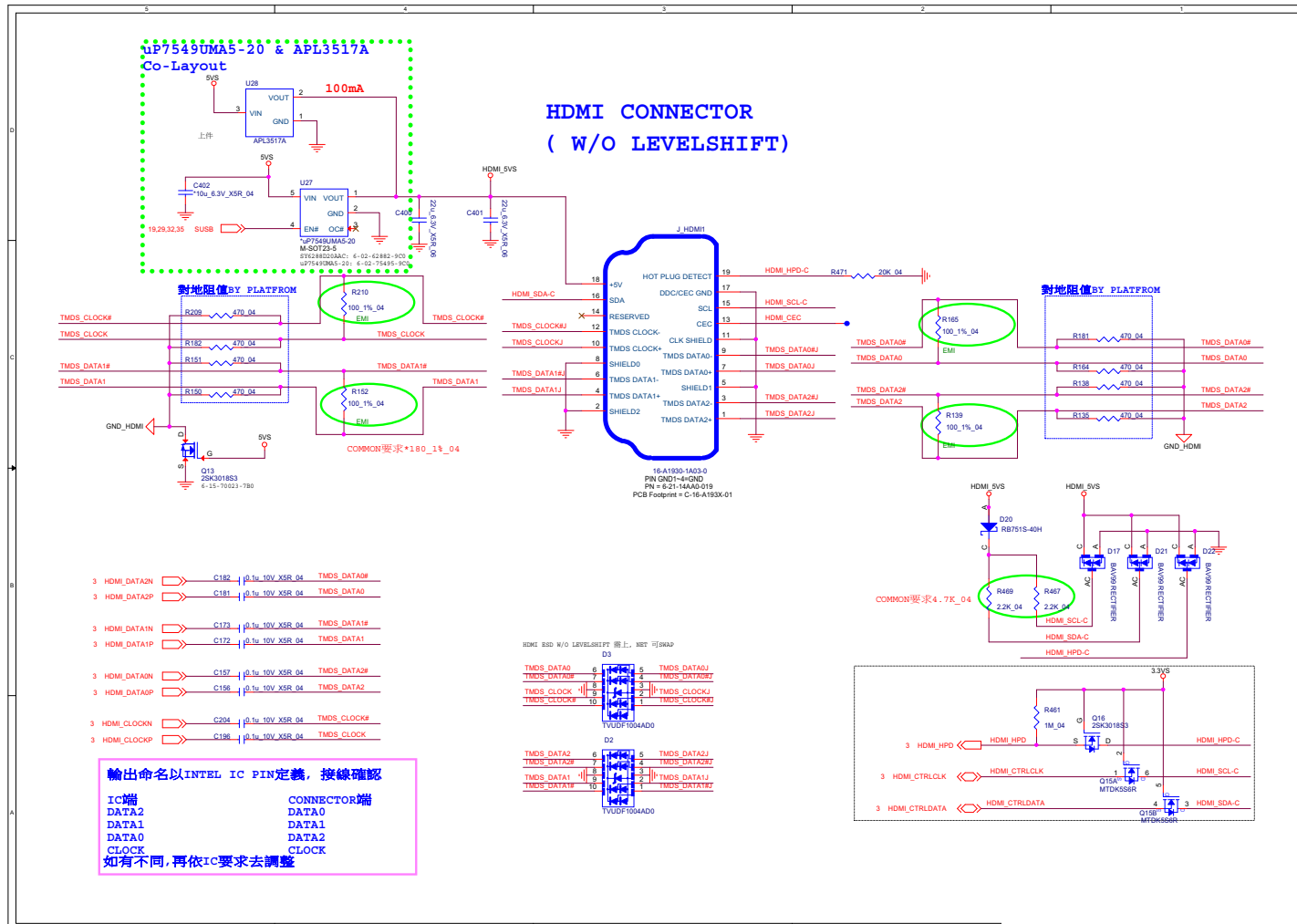
B.Schematic Diagrams

The schematic diagram illustrates the electrical connections for a DDR4 memory module assembly. It shows the interface between a DIMM (Double In-Line Memory Module) and a PCB footprint (DA433-26001-1P40). The diagram is divided into two main sections: the DIMM side and the PCB side.

DIMM Side:

- Signal Pins:** The DIMM has pins for data (DQ0-DQ31), address (A0-A15), and control (CAS, RAS, WE, CS, ACT, PARITY, ALERT, EVENT, RESET, CUDRAMSTB, SDA, SCL, SA0-SA3, CBI0-CB15, CBI16-CBI31, CBI32-CBI47, CBI48-CBI63, CBI64-CBI79, CBI80-CBI95, CBI96-CBI111, CBI112-CBI127, CBI128-CBI143, CBI144-CBI159, CBI160-CBI175, CBI176-CBI191, CBI192-CBI207, CBI208-CBI223, CBI224-CBI239, CBI240-CBI255, CBI256-CBI271, CBI272-CBI287, CBI288-CBI303, CBI304-CBI319, CBI320-CBI335, CBI336-CBI351, CBI352-CBI367, CBI368-CBI383, CBI384-CBI399, CBI400-CBI415, CBI416-CBI431, CBI432-CBI447, CBI448-CBI463, CBI464-CBI479, CBI480-CBI495, CBI496-CBI511, CBI512-CBI527, CBI528-CBI543, CBI544-CBI559, CBI560-CBI575, CBI576-CBI591, CBI592-CBI607, CBI608-CBI623, CBI624-CBI639, CBI640-CBI655, CBI656-CBI671, CBI672-CBI687, CBI688-CBI703, CBI704-CBI719, CBI720-CBI735, CBI736-CBI751, CBI752-CBI767, CBI768-CBI783, CBI784-CBI799, CBI800-CBI815, CBI816-CBI831, CBI832-CBI847, CBI848-CBI863, CBI864-CBI879, CBI880-CBI895, CBI896-CBI911, CBI912-CBI927, CBI928-CBI943, CBI944-CBI959, CBI960-CBI975, CBI976-CBI991, CBI992-CBI1007, CBI1008-CBI1023, CBI1024-CBI1039, CBI1040-CBI1055, CBI1056-CBI1071, CBI1072-CBI1087, CBI1088-CBI1103, CBI1104-CBI1119, CBI1120-CBI1135, CBI1136-CBI1151, CBI1152-CBI1167, CBI1168-CBI1183, CBI1184-CBI1199, CBI1200-CBI1215, CBI1216-CBI1231, CBI1232-CBI1247, CBI1248-CBI1263, CBI1264-CBI1279, CBI1280-CBI1295, CBI1296-CBI1311, CBI1312-CBI1327, CBI1328-CBI1343, CBI1344-CBI1359, CBI1360-CBI1375, CBI1376-CBI1391, CBI1392-CBI1407, CBI1408-CBI1423, CBI1424-CBI1439, CBI1440-CBI1455, CBI1456-CBI1471, CBI1472-CBI1487, CBI1488-CBI1503, CBI1504-CBI1519, CBI1520-CBI1535, CBI1536-CBI1551, CBI1552-CBI1567, CBI1568-CBI1583, CBI1584-CBI1599, CBI1600-CBI1615, CBI1616-CBI1631, CBI1632-CBI1647, CBI1648-CBI1663, CBI1664-CBI1679, CBI1680-CBI1695, CBI1696-CBI1711, CBI1712-CBI1727, CBI1728-CBI1743, CBI1744-CBI1759, CBI1760-CBI1775, CBI1776-CBI1791, CBI1792-CBI1807, CBI1808-CBI1823, CBI1824-CBI1839, 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HDMI B - 17



Sheet 17 of 46
Panel



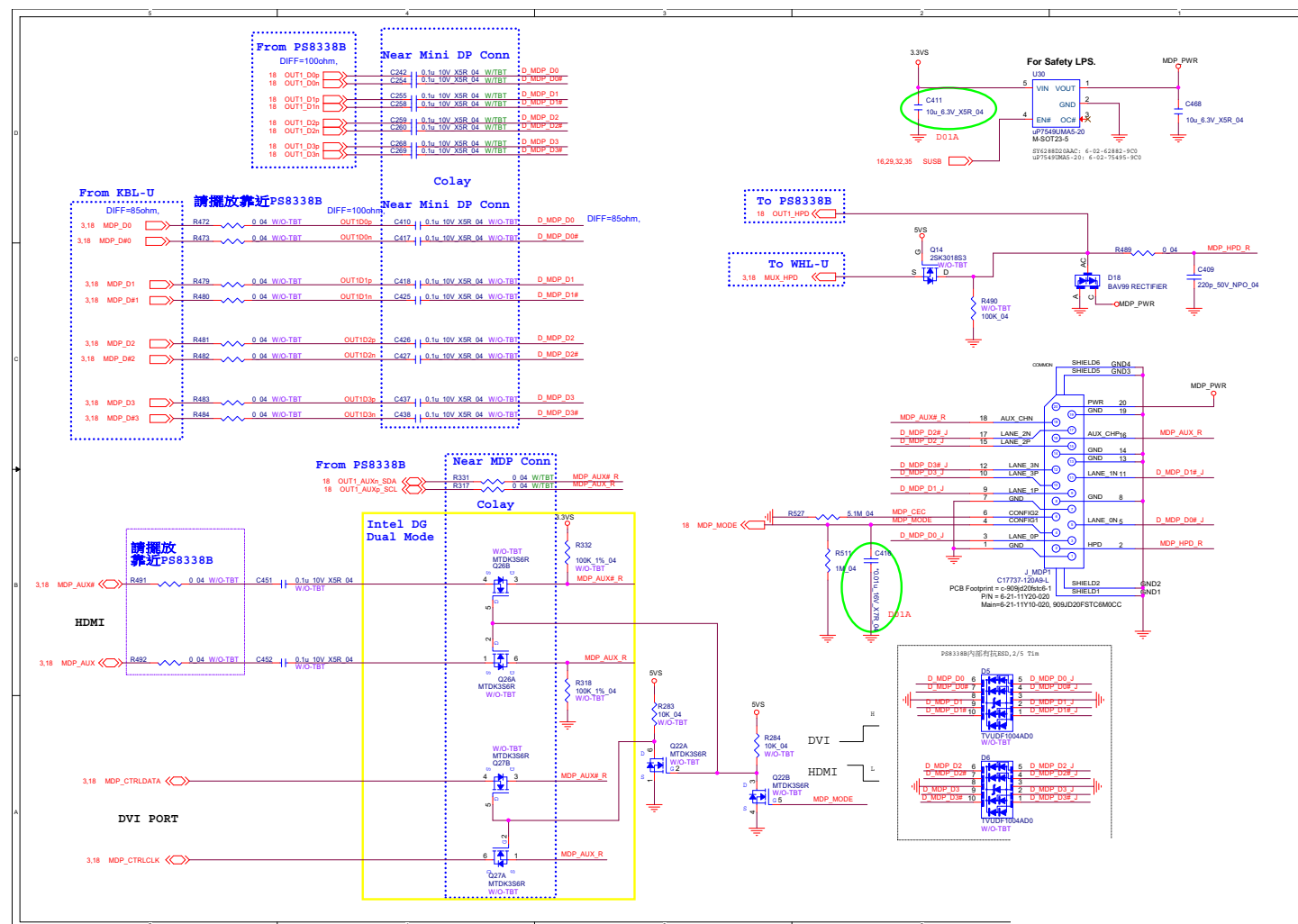
B.Schematic Diagrams

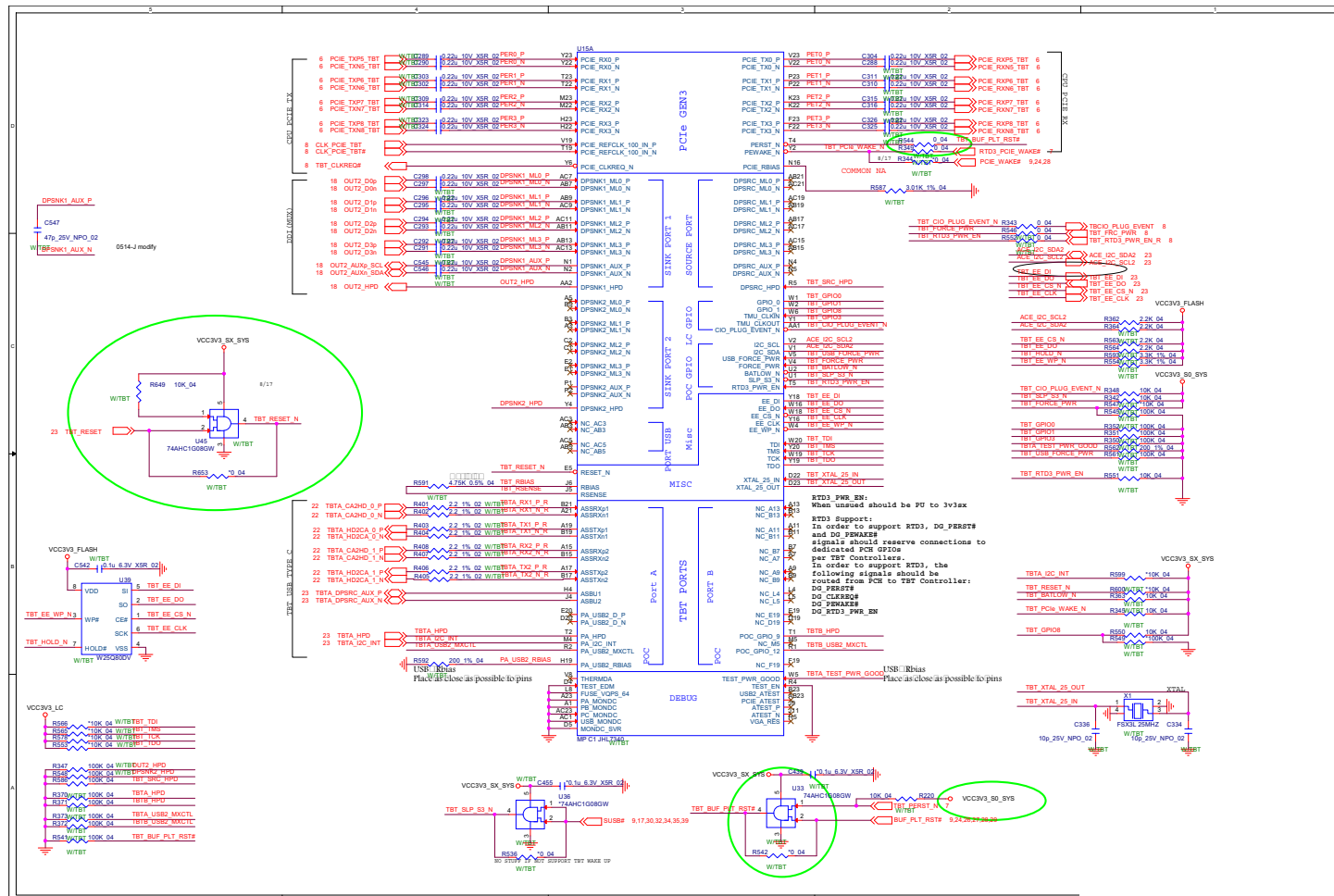
To mDP DIFF=100ohm,

To TBT DIFF=100ohm.

miniDP

Sheet 19 of 46
miniDP

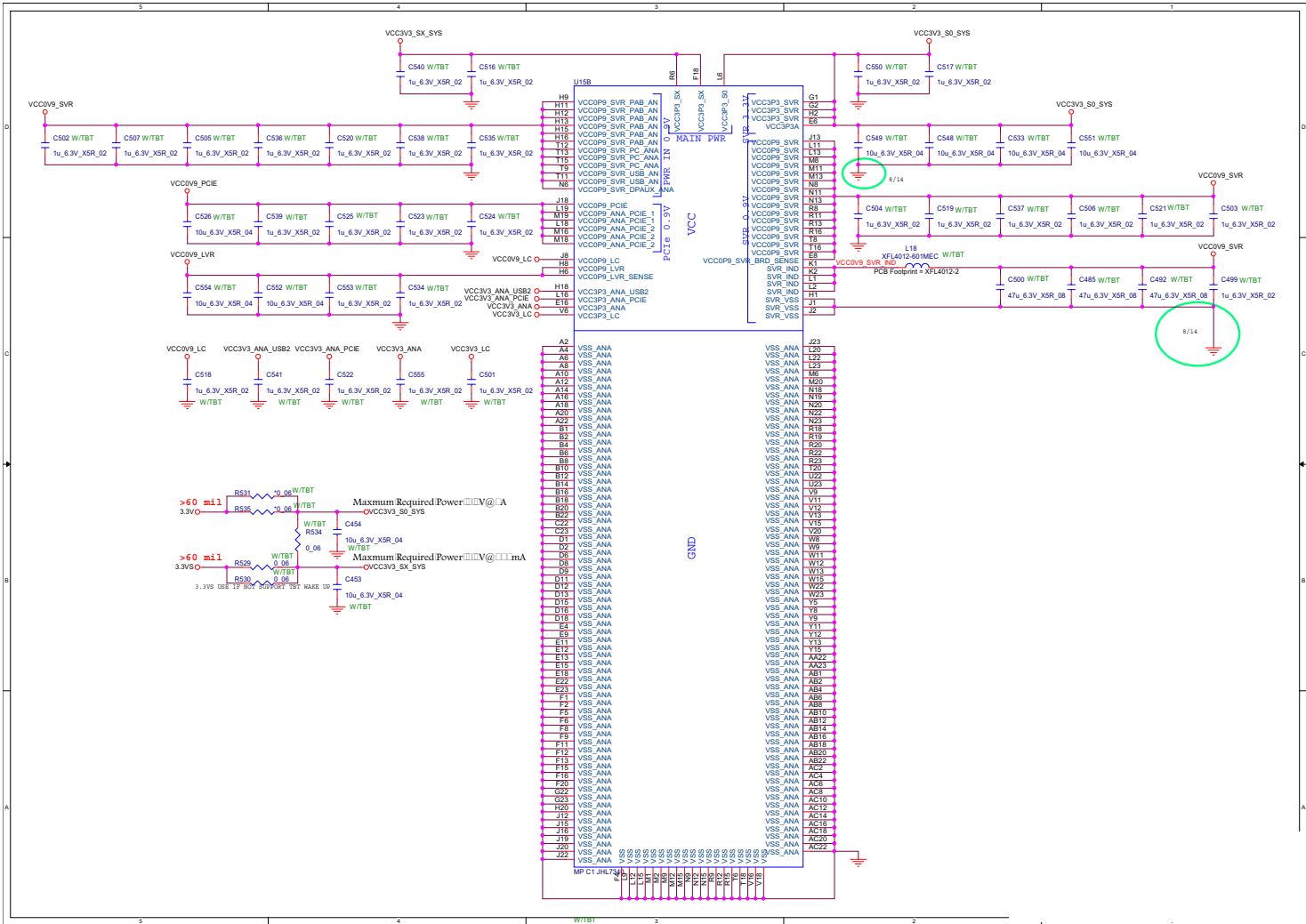




TR Power

B.Schematic Diagrams

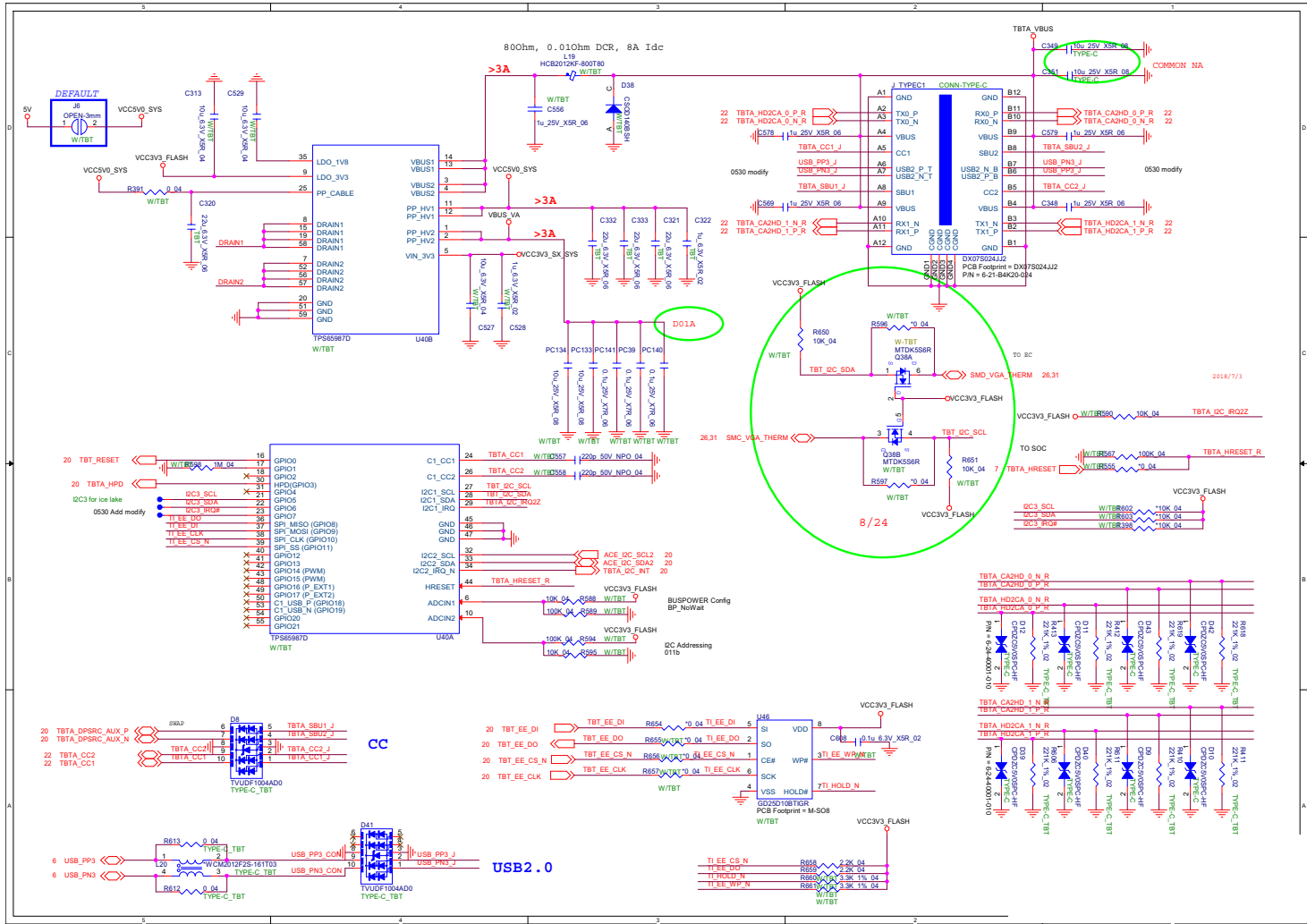
Sheet 21 of 46
TR_Power



Sheet 22 of 46
ASM1543, Redriver



TPS65987D Type C

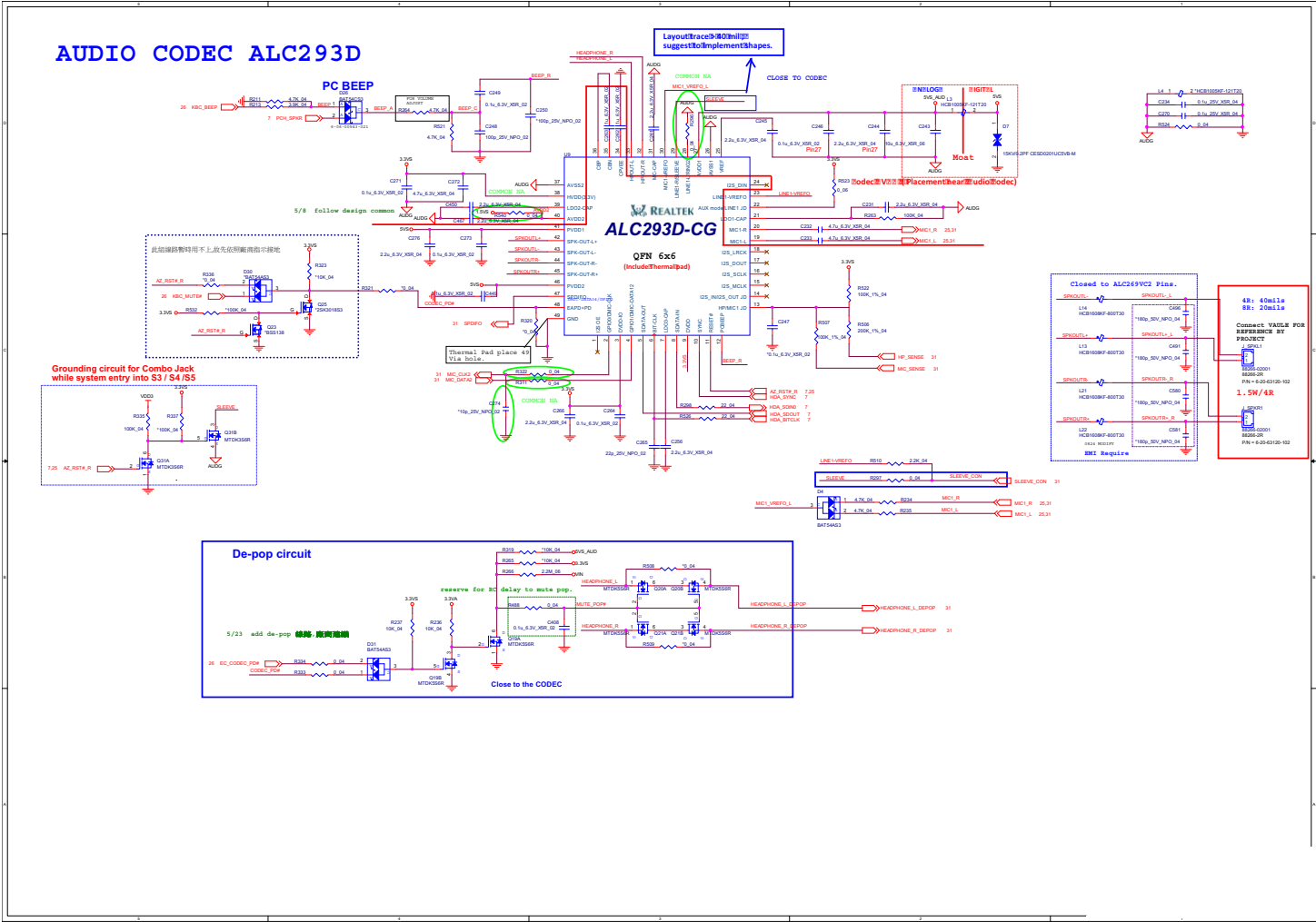


The schematic illustrates the internal connections and external components for a QFN48 package. Key features include:

- Crystal Section:** XTAL1 and XTAL2 pins connected to a crystal circuit with capacitors C364 and C365.
- Power Management:** VDDIO and VDD3 sections showing decoupling capacitors (C69-C70, C71-C72) and connections to the LDO Mode section.
- LDO Mode Section:** A dedicated section for the LDO mode, featuring a switching regulator (R445), feedback network (R446, R447), and output filter capacitor (C377).
- Card Reader Section:** Connections for SD cards, including data lines (SD_D[0:3], SD_C[0:3]), command lines (SD_CMD), and control signals (VCC_CARD, CARD_3V3).
- LAN Section:** LAN_MD[0:3] and LAN_WKUP# pins connected to a LAN controller (QFN48-48X8M).
- BIOS Pull-up:** A note indicating that BIOS pulls high or low to GPO pin, referring to LAN/PHY Disable Application Note.
- Common NA:** Multiple common ground points labeled "COMMON NA" are distributed across the board.
- Component Values:** Various passive components are specified, such as resistors (R436-R447) and capacitors (C364-C377, C69-C72).

Sheet 24 of 46
Card Reader &
LAN RTL8411B

Audio Codec



Sheet 25 of 46
Audio Codec

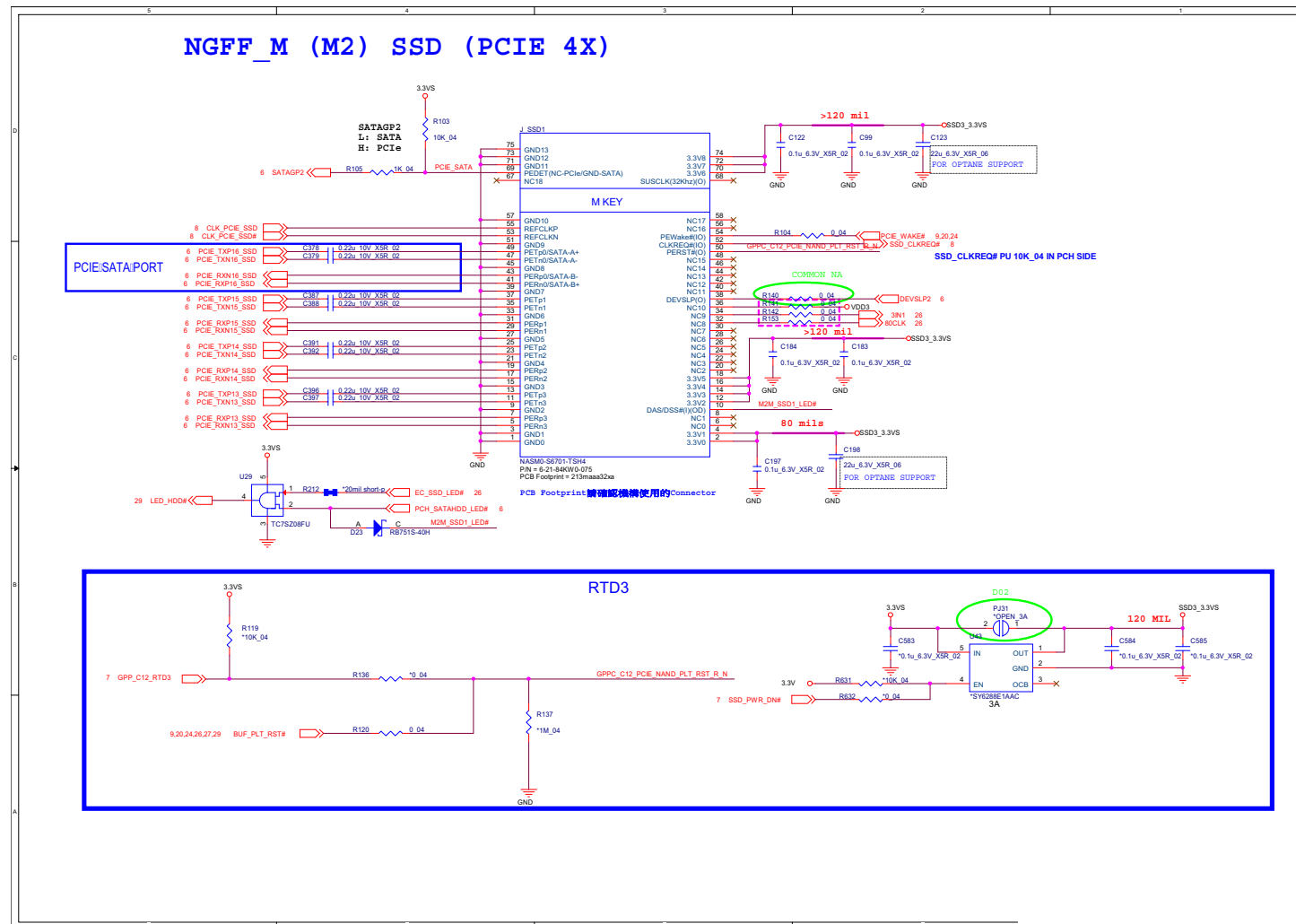
B.Schematic Diagrams



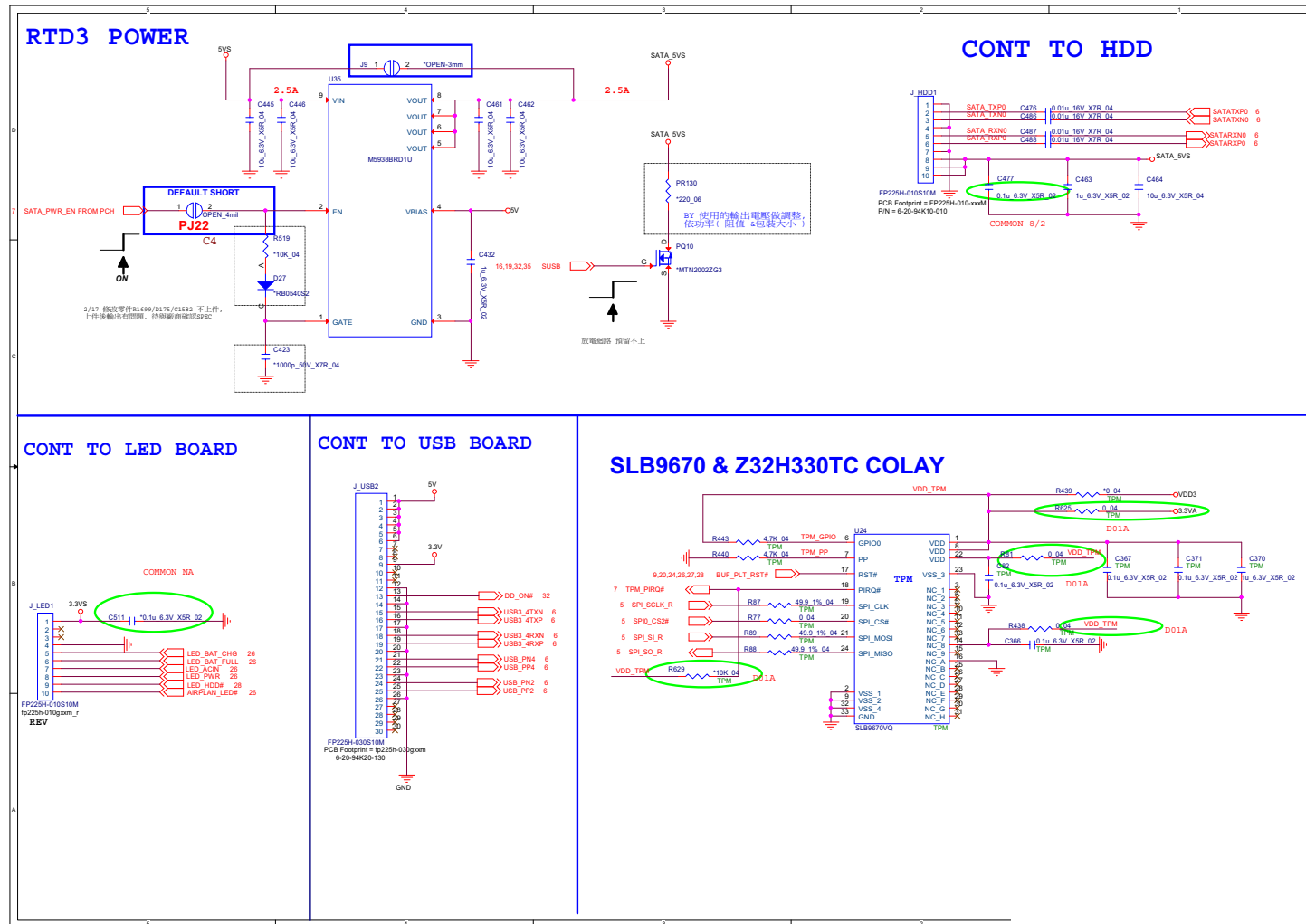
E, B Key

B. Schematic Diagrams

M Key PCIE SSD B - 29

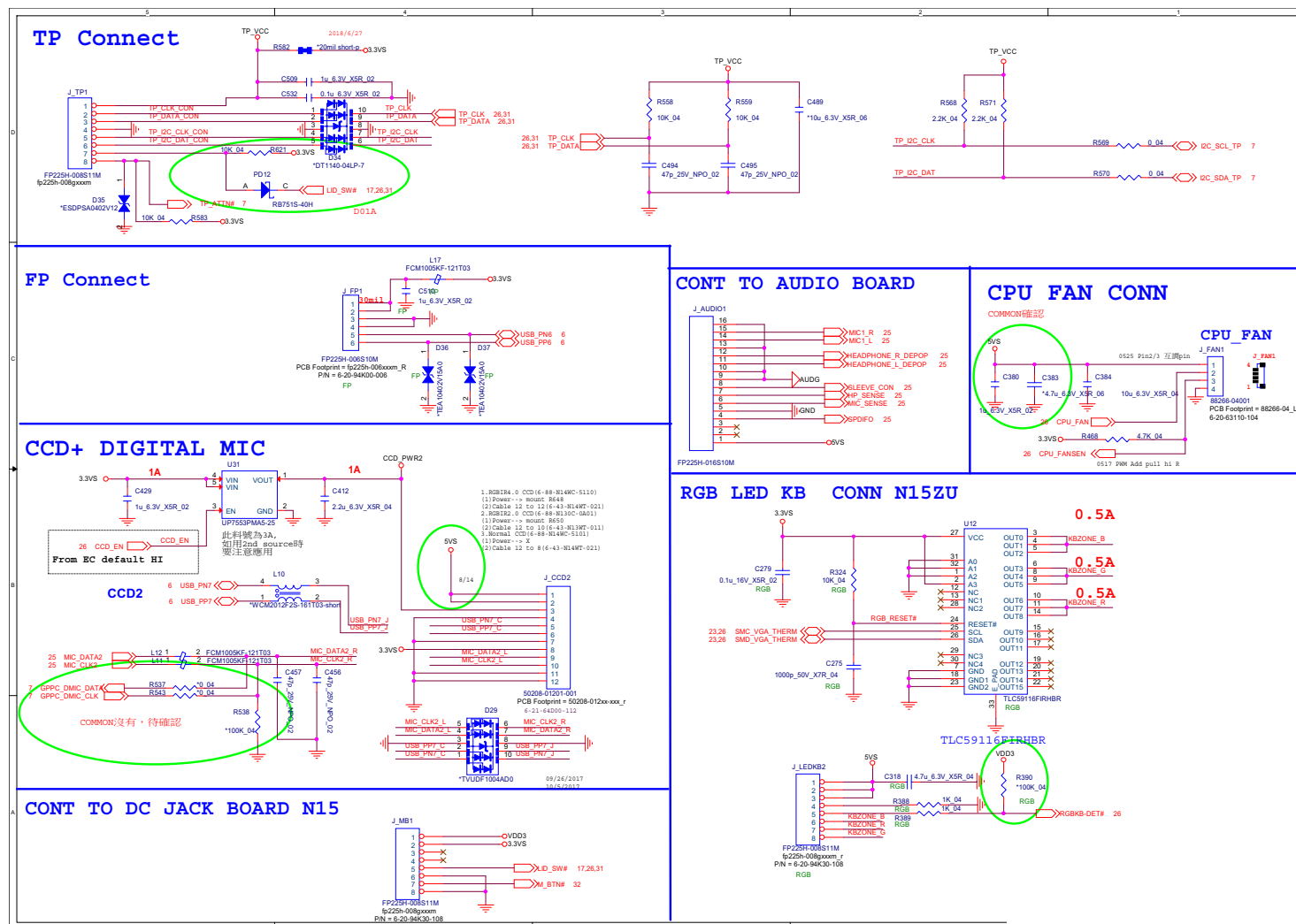


SATA, LED, TPM



B. Schematic Diagrams

Sheet 31 of 46
Conn, CCD, Fan,
TP, LED KB

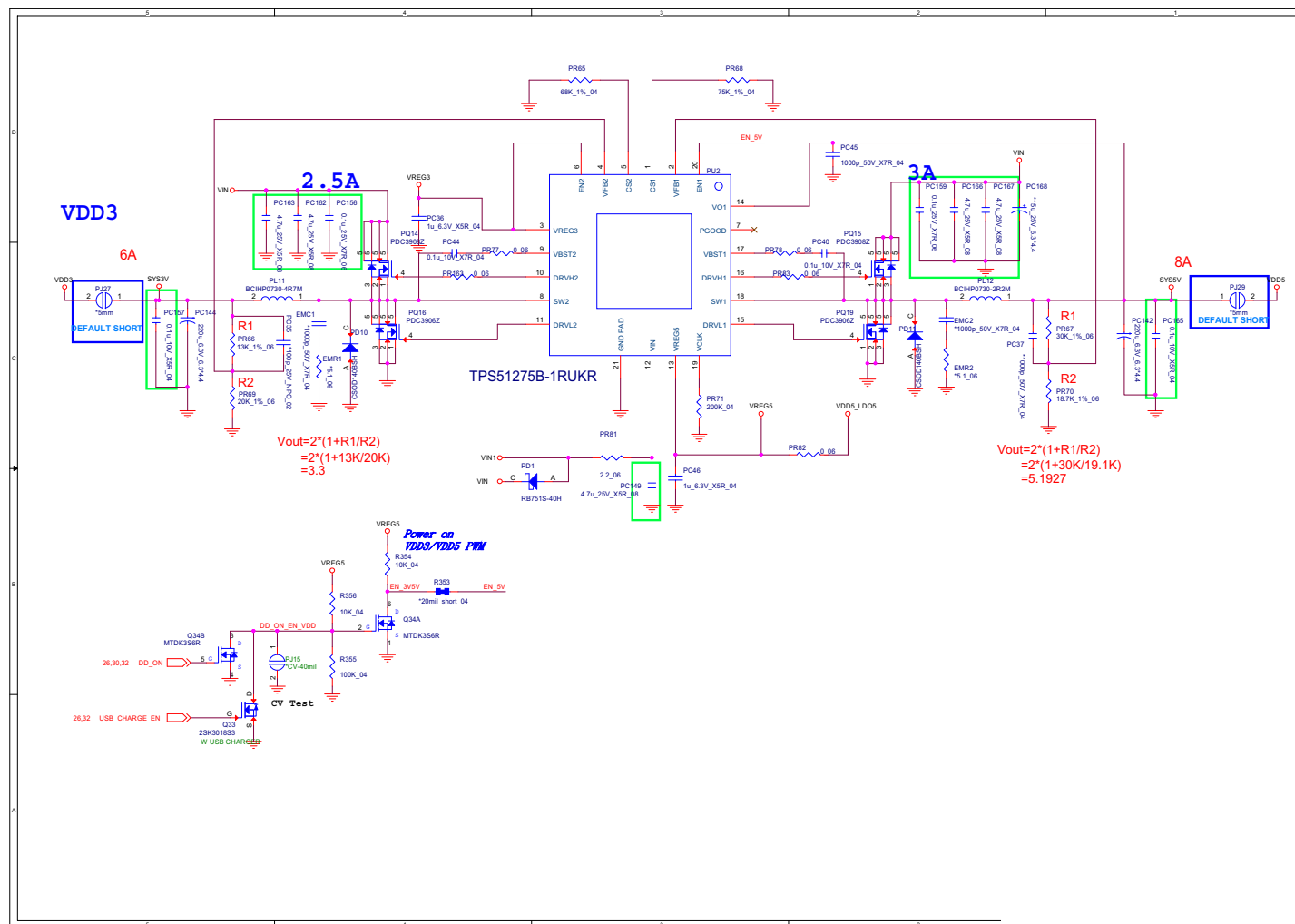


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B.Schematic Diagrams

VDD3, VDD5

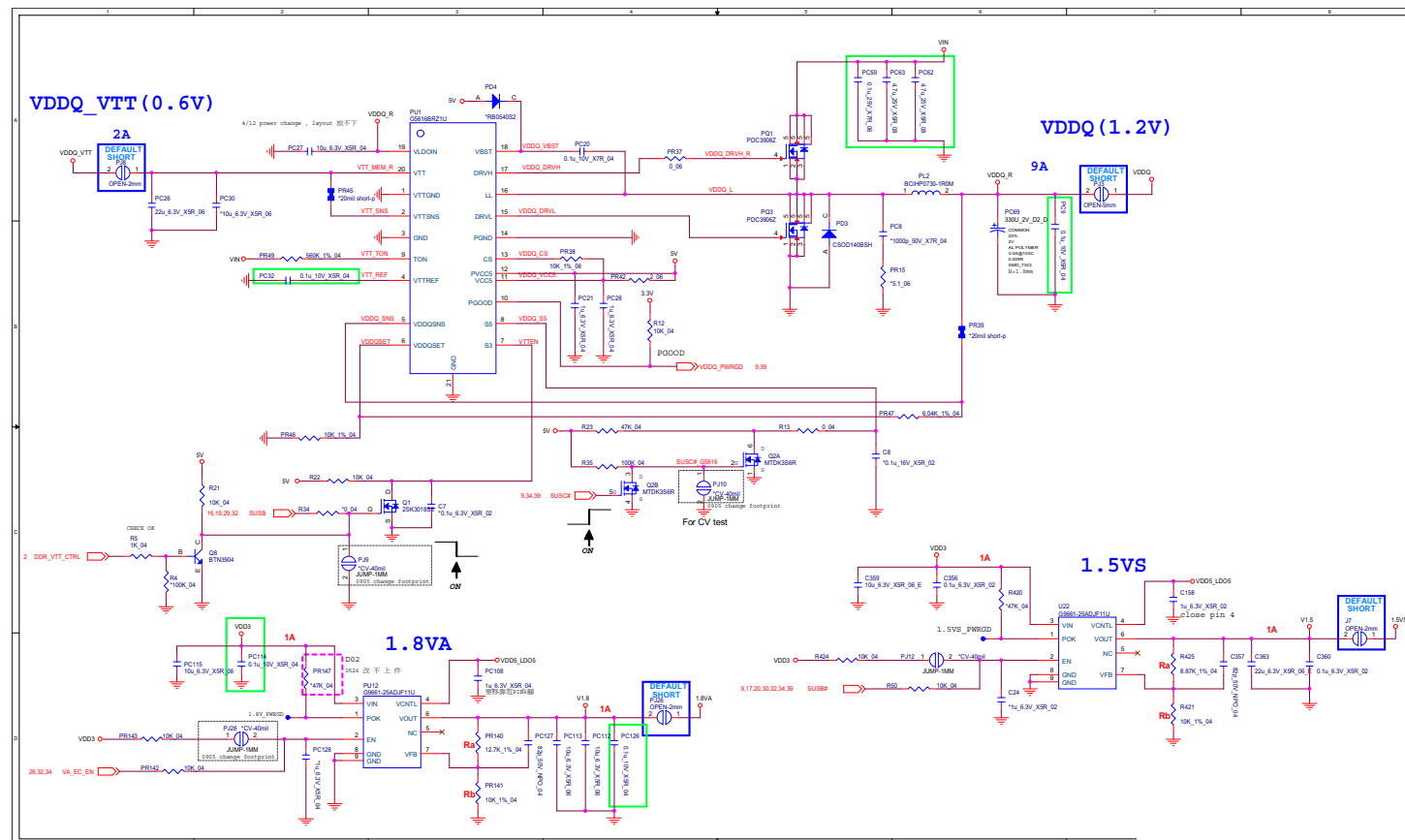
Sheet 33 of 46
VDD3, VDD5



1.05VA, VCCST, VCCSTG B - 35

VDDQ, VDDQ_VTT, 1.5VS, 1.8VA

Sheet 35 of 46
VDDQ, VDDQ_VTT,
1.5VS, 1.8VA



65W Adapter / 19V

EMI Check

2.1A

40W Adapter from Type C 20V

2.1A

DC JACK R

PCB Footprint = 6278-00401-001
6278-00401-001
P/N = 6-21-03100-002

Gary_EMI TEST

DC_N1

JDC_AC

PC51

PC52

PC1

PC7

PC24

PC25

PC19

PC2

PC3

PC4

PC5

PC6

PC8

PC9

PC10

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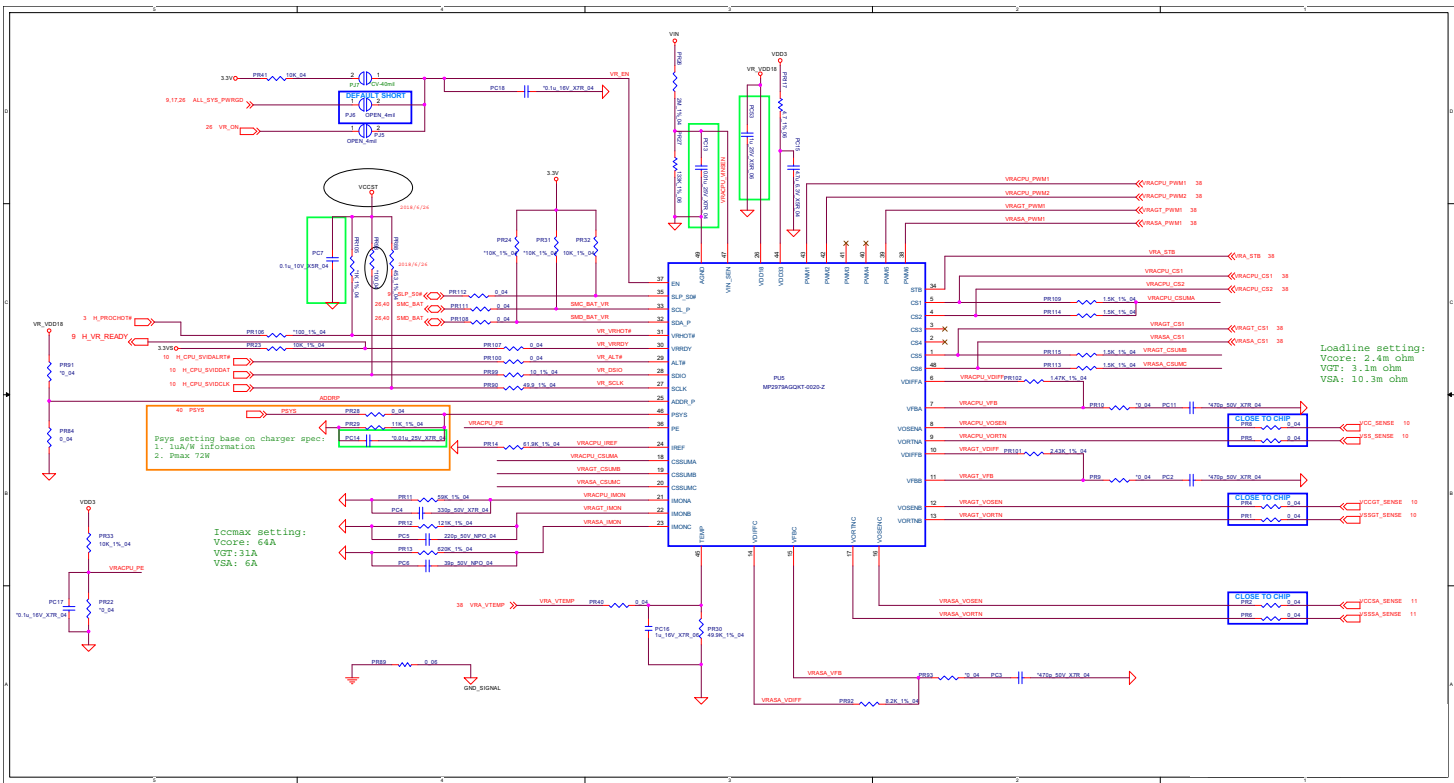
PC381</

AC-In B - 37

Schematic Diagrams

VCore NCP81218

Sheet 37 of 46
VCore NCP81218

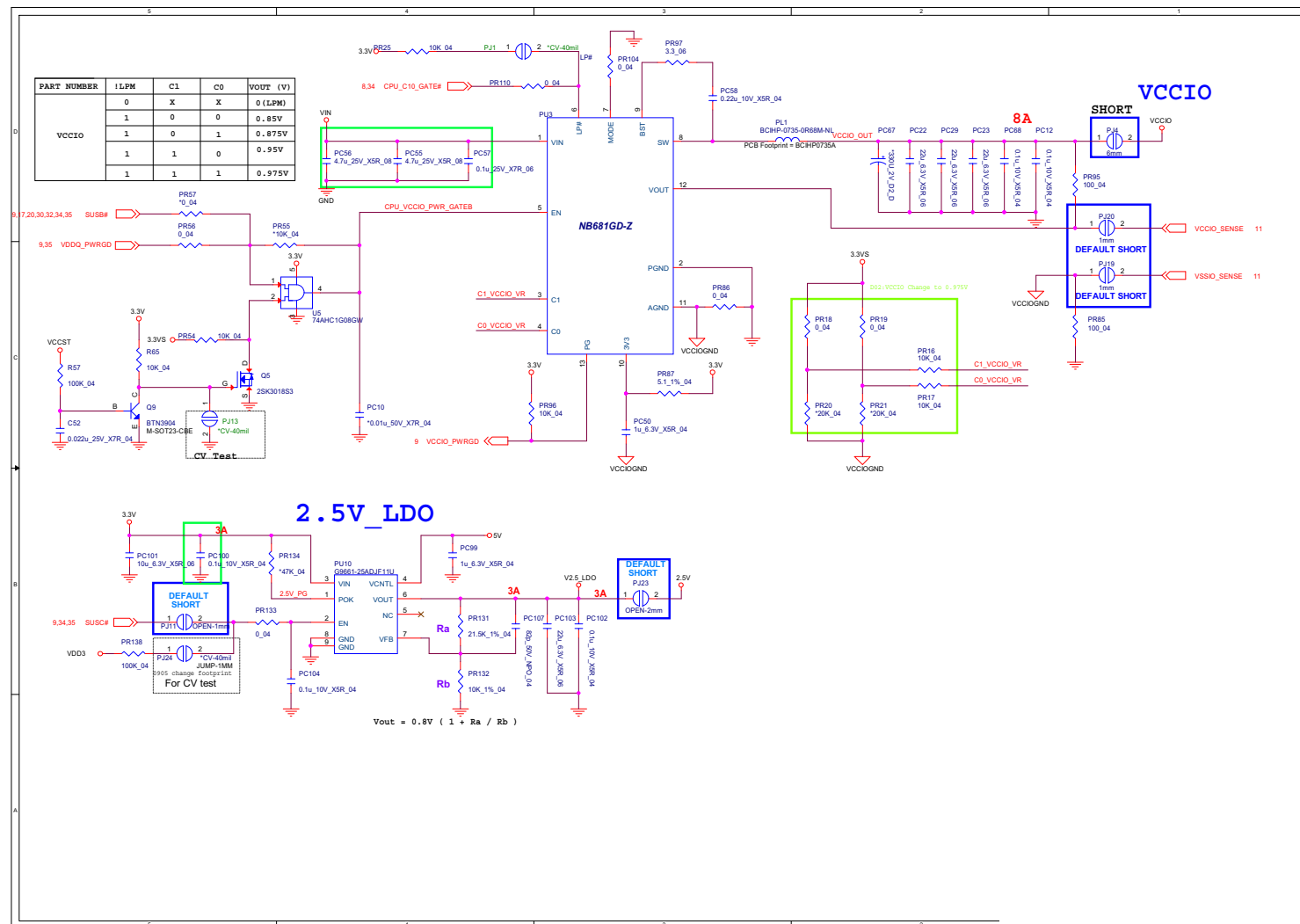


Schematic Diagrams

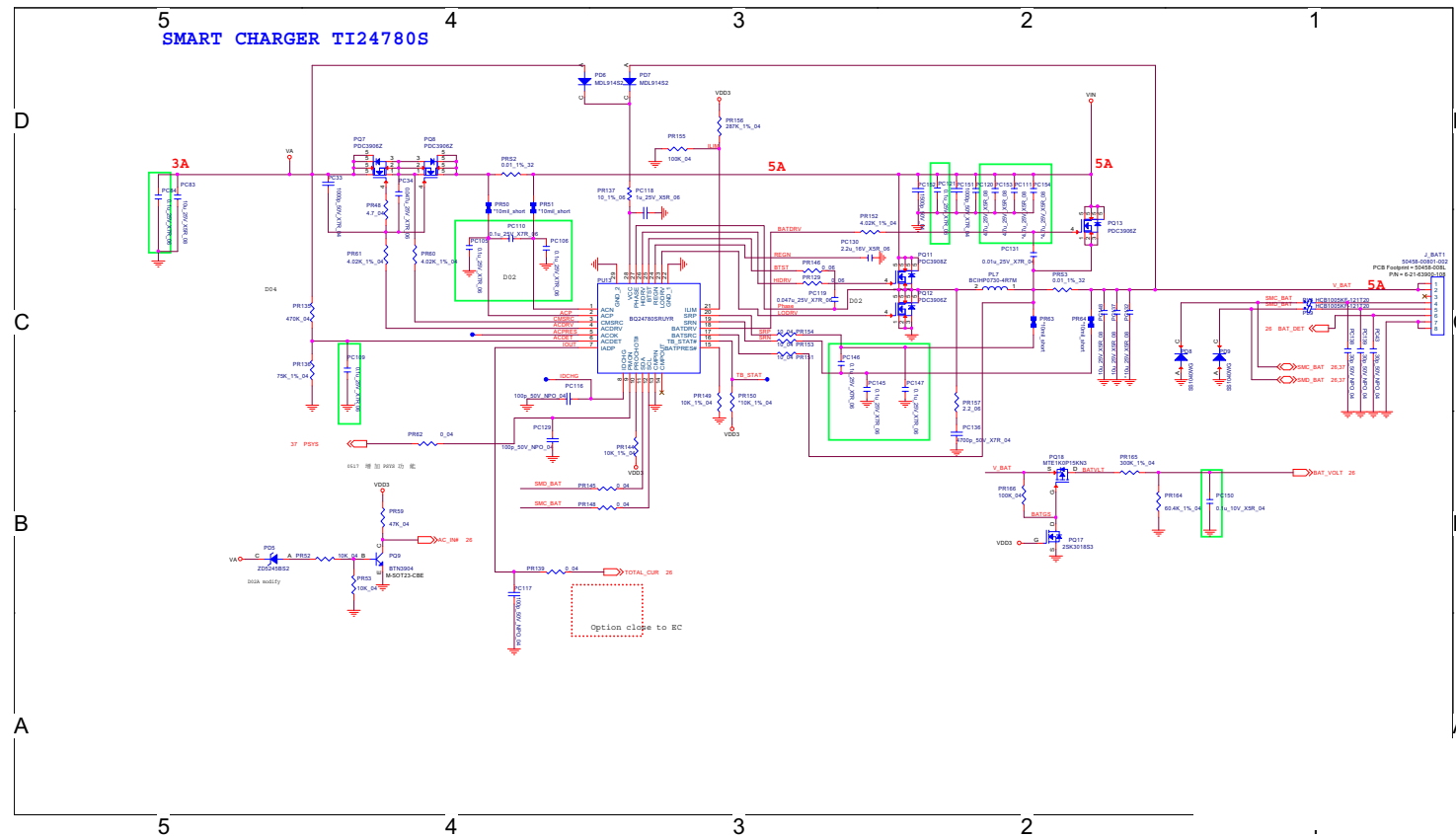


VCCIO, 2.5V

Sheet 39 of 46
VCCIO, 2.5V



Charger, AC IN

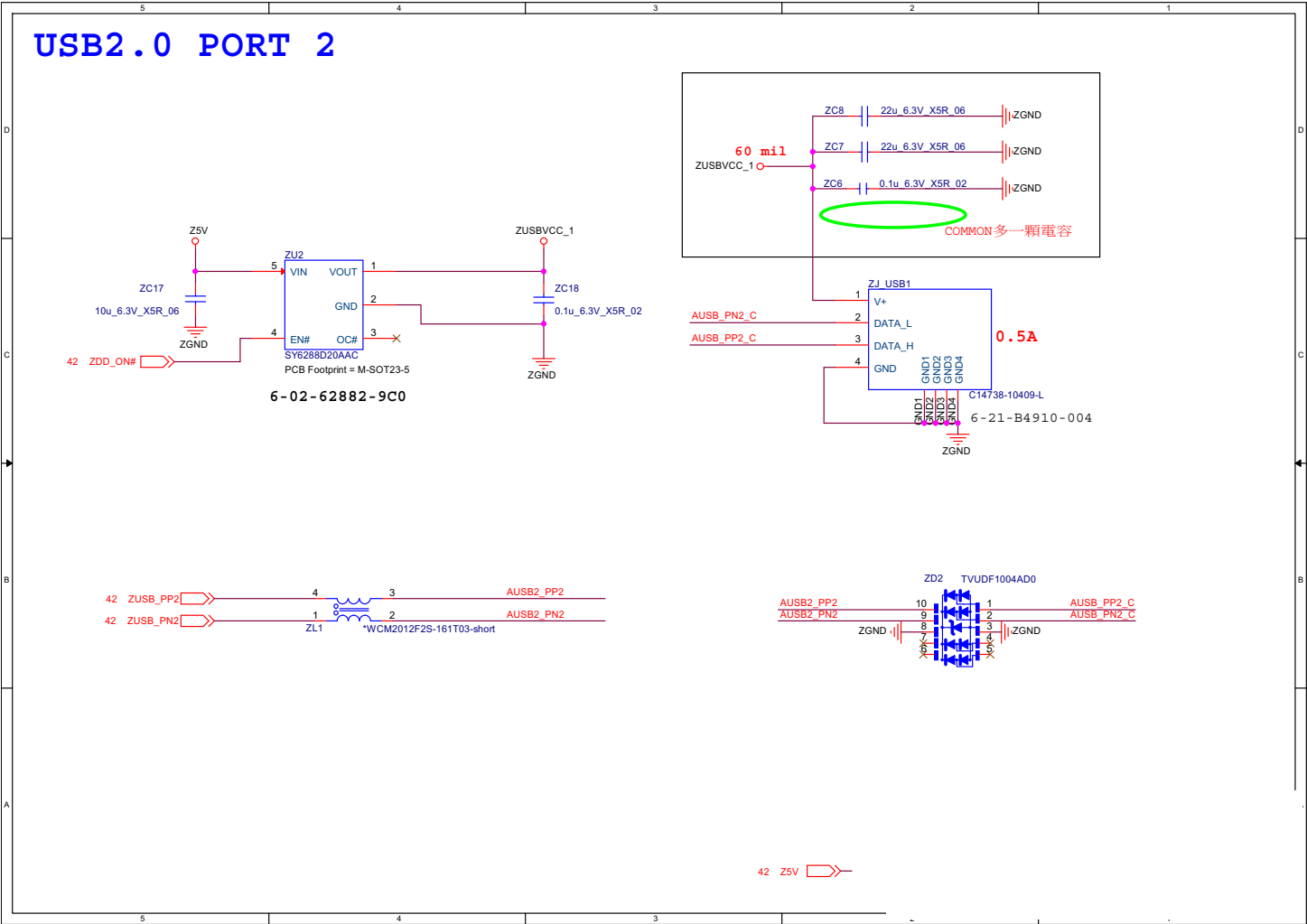


Sheet 40 of 46
Charger, AC IN

Schematic Diagrams

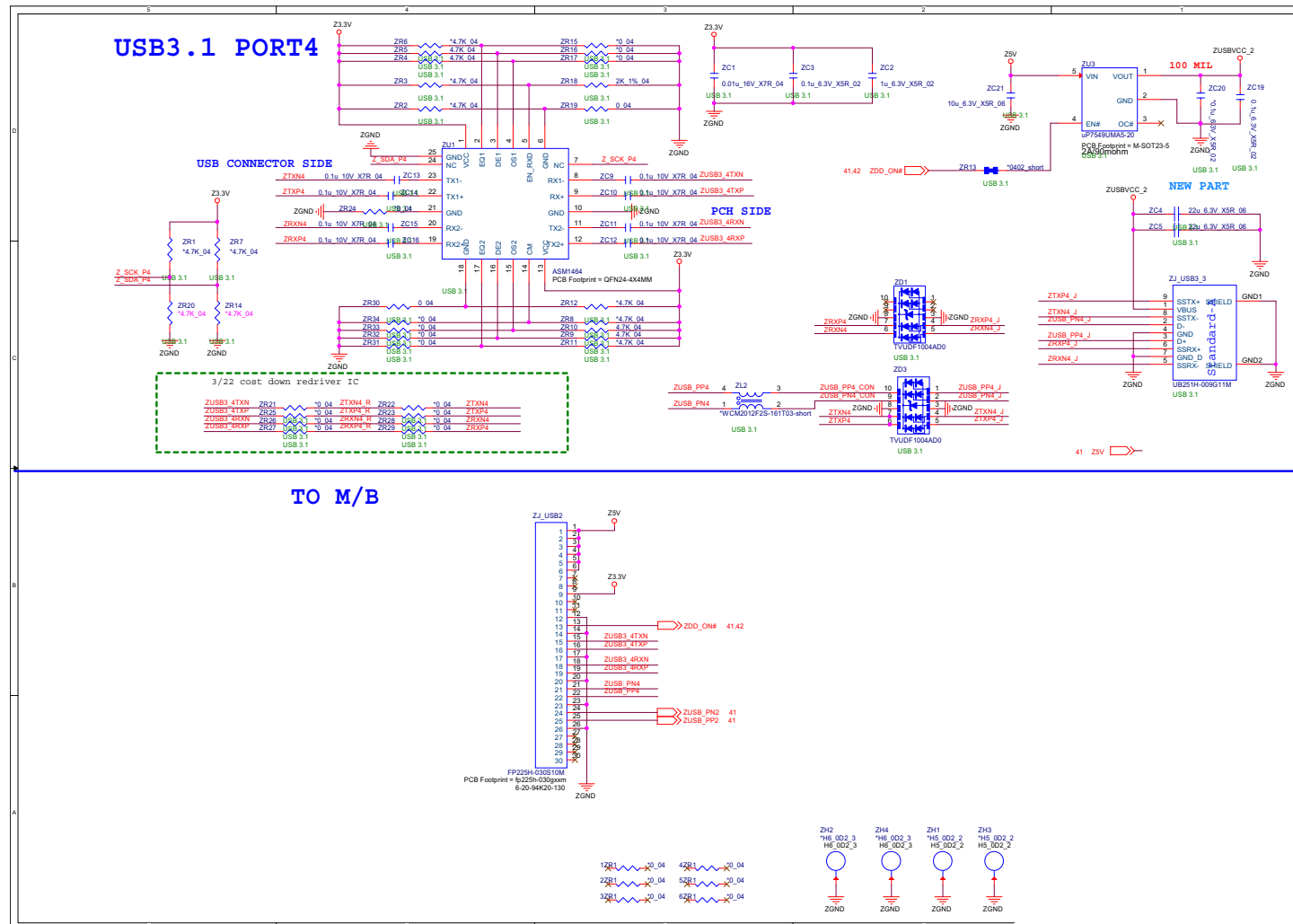
USB Board

Sheet 41 of 46
USB Board



B.Schematic Diagrams

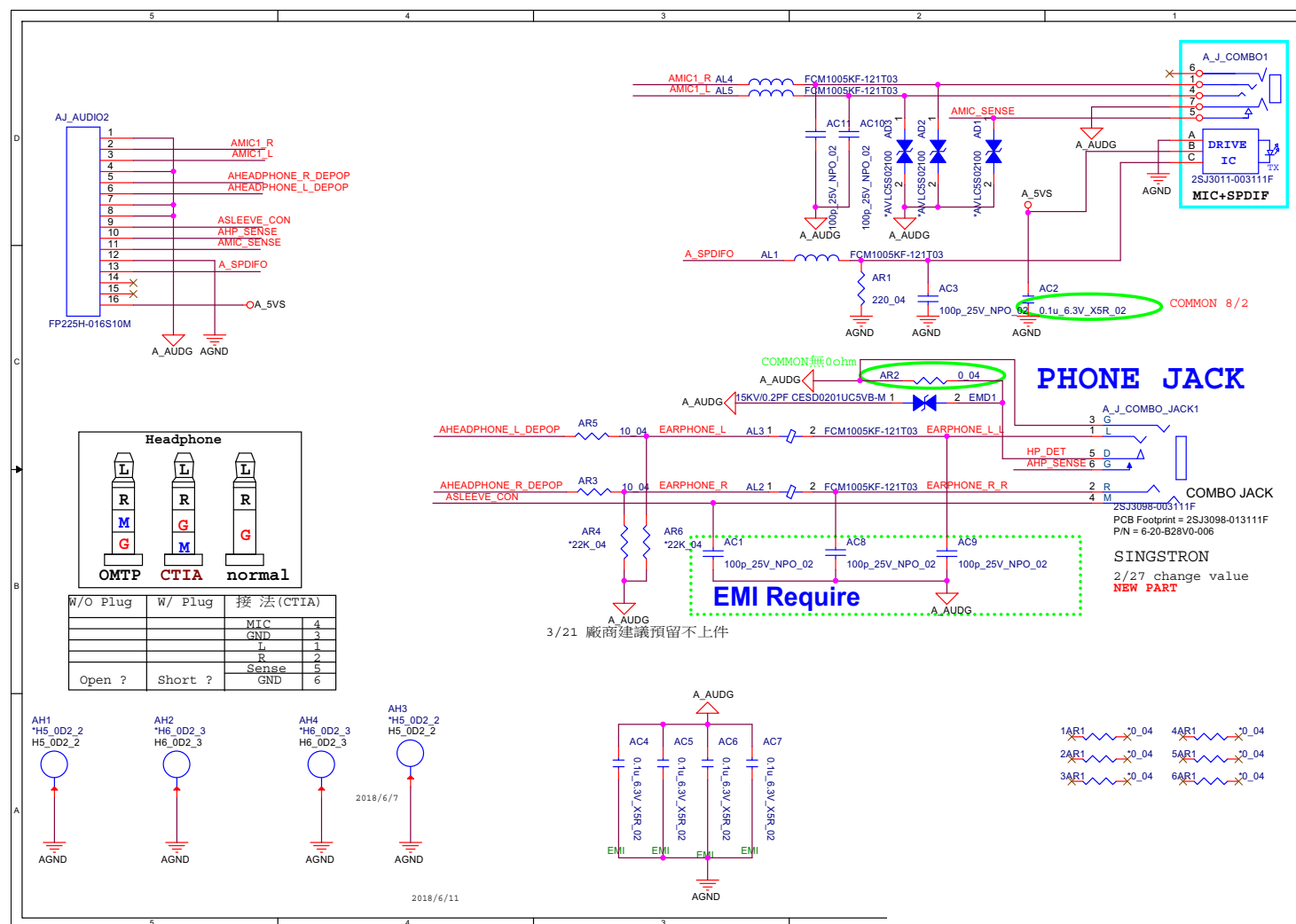
USB Board B - 43



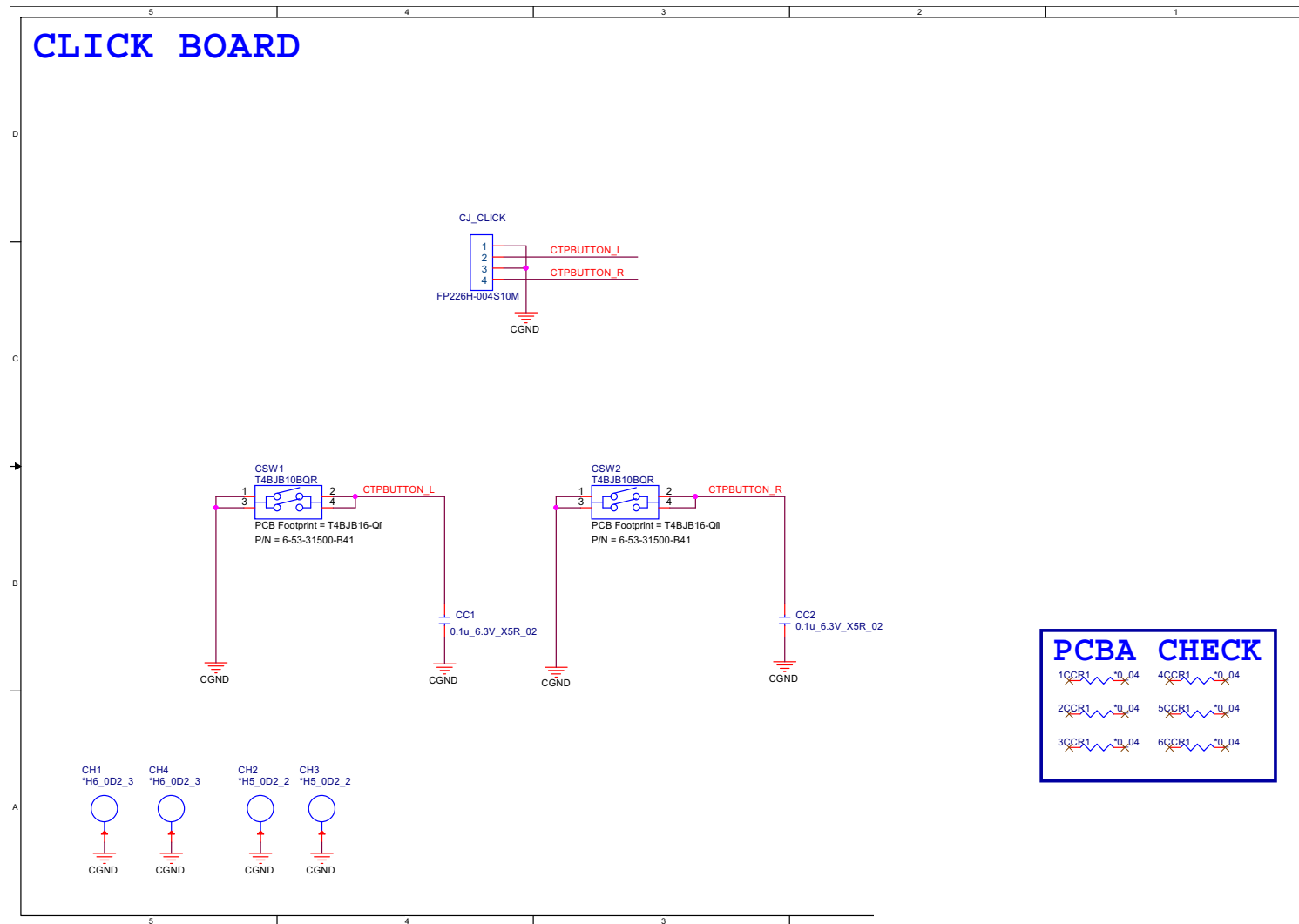
Audio Board

B.Schematic Diagrams

Sheet 43 of 46
Audio Board



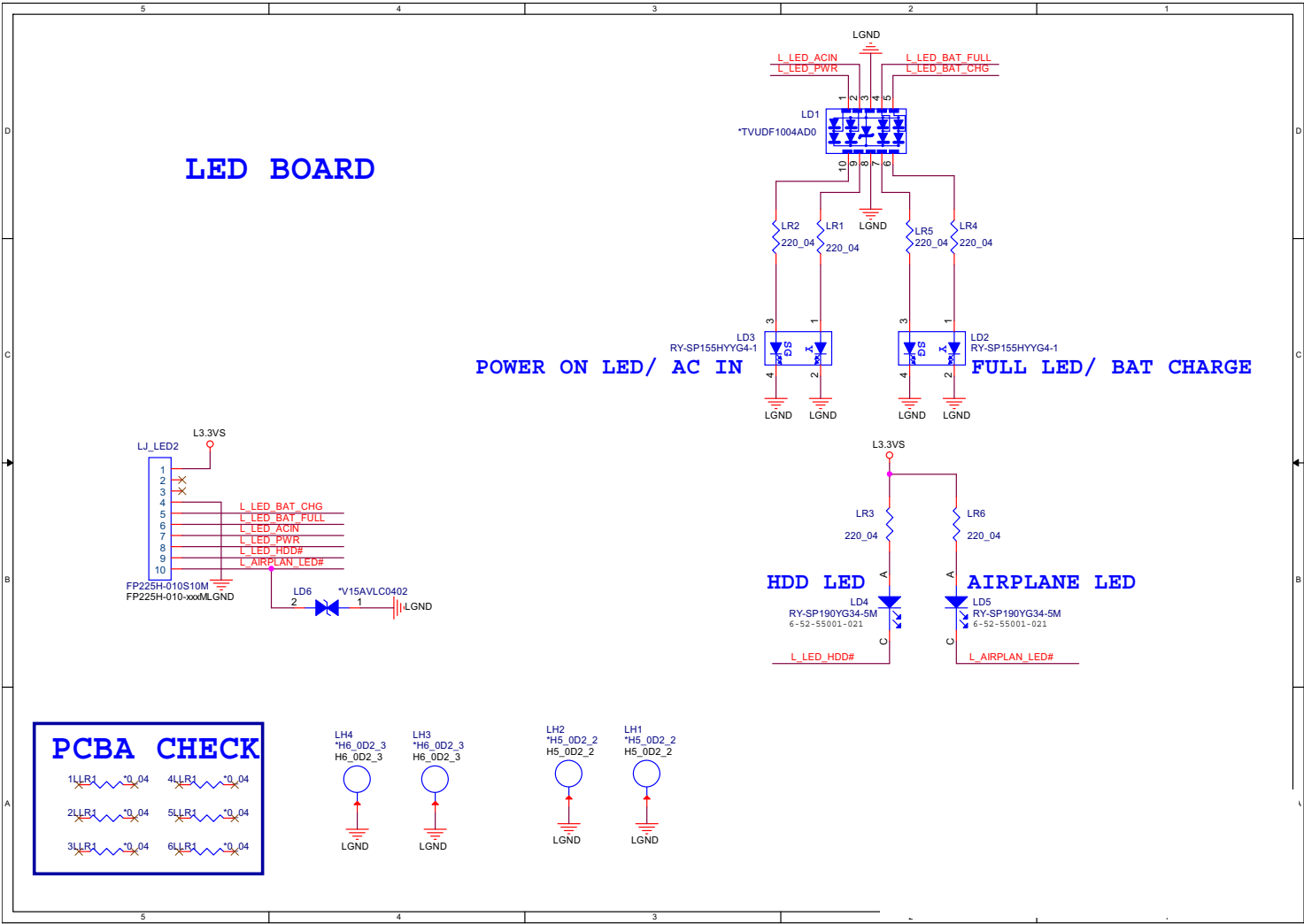
Click Board

Sheet 44 of 46
Click Board

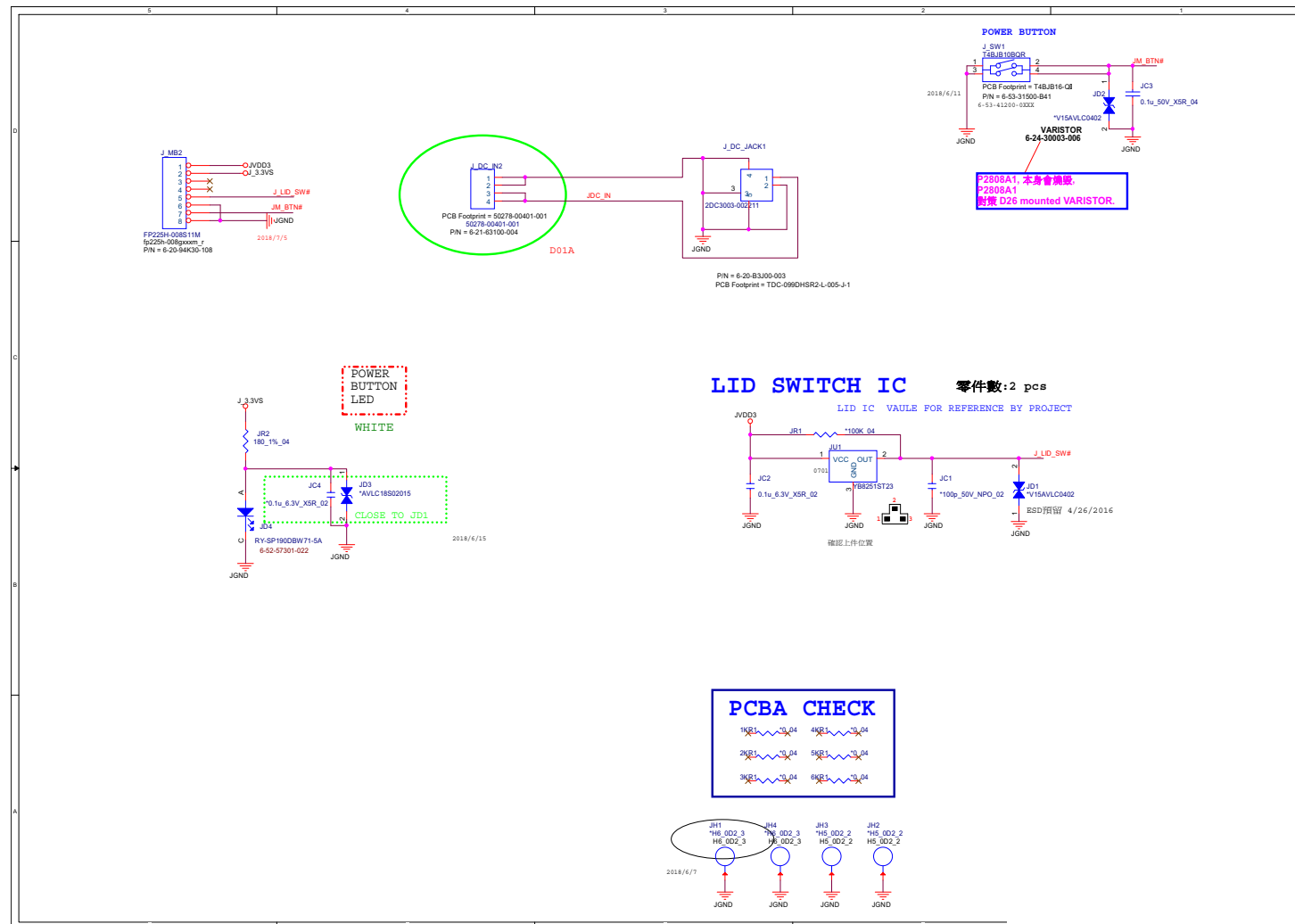
Schematic Diagrams

LED Board

Sheet 45 of 46
LED Board



Power Switch Board



Sheet 46 of 46
Power Switch
Board

