

# SERVICE MANUAL

*notebook*

N130ZU / N131ZU





**Notebook Computer**

**N130ZU / N131ZU**

**Service Manual**

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Version 1.0  
November 2018

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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 *N130ZU* / *N131ZU* series notebook PC.

The following information is included:

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

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

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Updating the FLASH ROM BIOS

### **IMPORTANT SAFETY INSTRUCTIONS**

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

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 2.1A (**40 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:

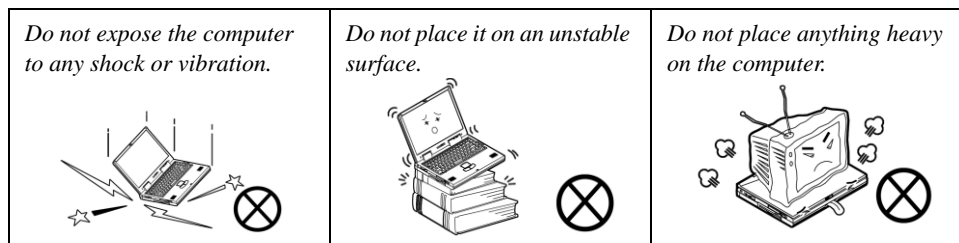
This device may not cause harmful interference.

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

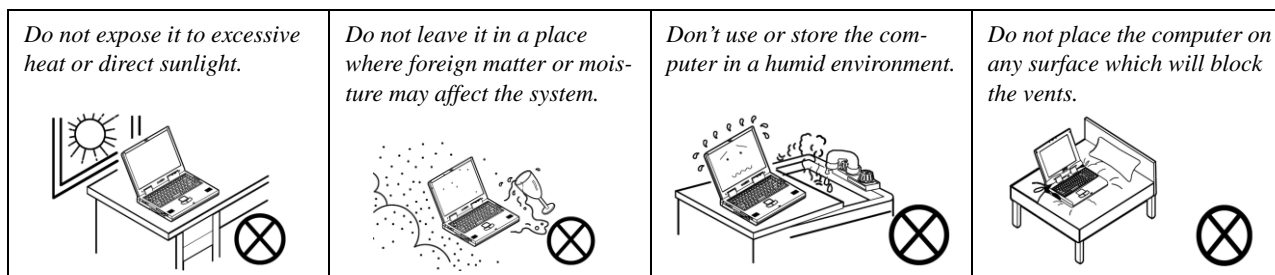
## Instructions for Care and Operation

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

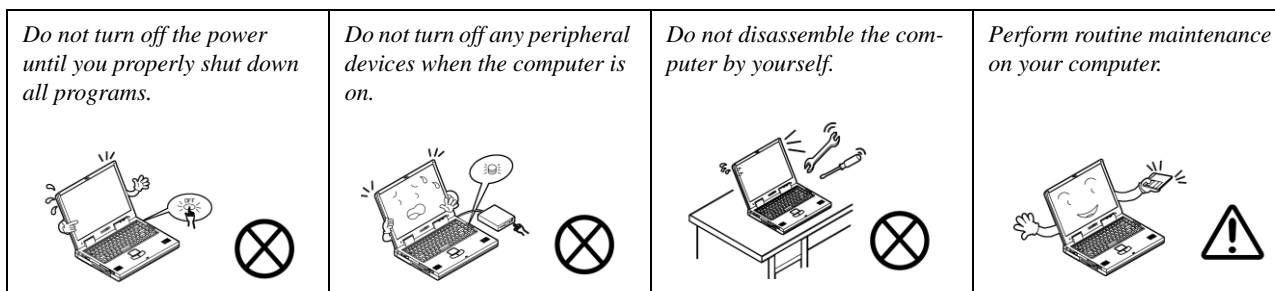
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



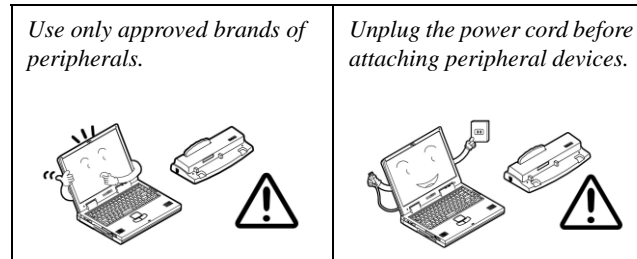
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



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.



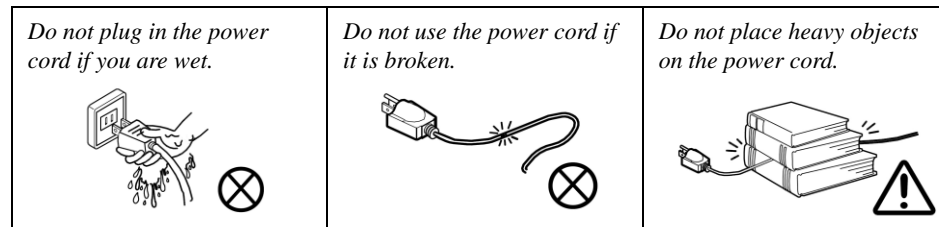
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



## 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.

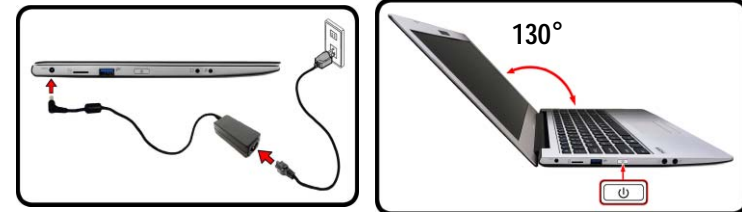
### System Startup

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. Attach the AC/DC adapter 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.
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".

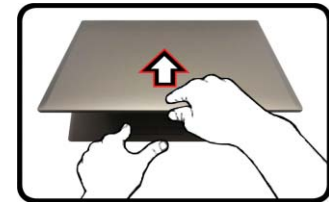


#### Powering the Computer On

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 the **Shut down** command in **Windows** (see below). This will help prevent hard disk or system problems.

Click **Settings** in the **Charms Bar** (use the **Windows Logo Key**  + **C** key combination to access the Charms Bar) and choose **Shut down** from the **Power** menu.

**Or**

Choose **Shut down or sign out** > **Shut down** from the context menu (use the **Windows Logo Key**  + **X** key combination to access the context menu).

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# Chapter 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the *N130ZU / N131ZU* 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 *N130ZU / N131ZU* 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 2400MHz** or **DDR4 666MHz** (Depending on CPU Type) Memory Modules

Memory Expandable up to 32GB

Compatible with 4GB, 8GB or 16GB Modules

### LCD Options

13.3" (33.78cm), 16:9, QHD+ (3200x1800)/FHD (1920x1080)

### Storage

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

**(Factory Option)** One M.2 2280 **SATA/PCIe Gen3 x4** Solid State Drive (SSD)

*(Processor Dependent)*

### Video Adapter

#### Intel UHD Graphics 620

Dynamic Frequency

Intel Dynamic Video Memory Technology

Microsoft DirectX® 12 Compatible

### Pointing Device

Built-in Touchpad

### Keyboard

Keyboard (with embedded numeric keypad)

Or

**(Factory Option)** Illuminated White-LED Keyboard (with embedded numeric keypad)

### Audio

High Definition Audio Compliant Interface

2 \* Built-In Speakers

Built-In Microphone

**(Factory Option)** 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** *(Processor Dependent)*

**(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 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*

*\*\*\*Note: Systems supporting a Thunderbolt/Type-C combo port can be powered by a third party AC/DC adapter plugged into the Thunderbolt/Type-C combo port. However make sure the rating of the Type-C adapter is 20V, 3.25A (65 Watts) and that the Type-C adapter is appropriately certified.*

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

One Mini DisplayPort (1.2)

One HDMI-Out Port

One Microphone-In Jack

One Headphone-Out Jack

One RJ-45 LAN Jack

One DC-in Jack

**USB 3.1 Gen 2**

Note that when a single USB device is plugged in to a USB 3.1 Gen 2 port the data transfer speed will be 10Gbps, however when two devices are plugged in to both USB 3.1 Gen 2 ports, this bandwidth will be shared between the ports.

**Communication**

Built-In 10/100/1000Mb Base-TX Ethernet LAN  
 1.0M HD PC Camera Module  
 Or  
**(Factory Option)** Windows Hello Camera Module  
**(Factory Option)** 4G M.2 Module

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

**(Factory Option)** Intel® Dual Band Wireless-AC 9260 Wireless LAN **(802.11ac)** + Bluetooth

**(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

**Power**

Full Range AC/DC Adapter  
 AC Input: 100 - 240V, 50 - 60Hz  
 DC Output: 19V, 2.1A **(40W)**

Embedded Polymer Smart Lithium Ion Battery Pack, 36WH

**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**

329.8mm (w) \* 225mm (d) \* 17.8mm (h)

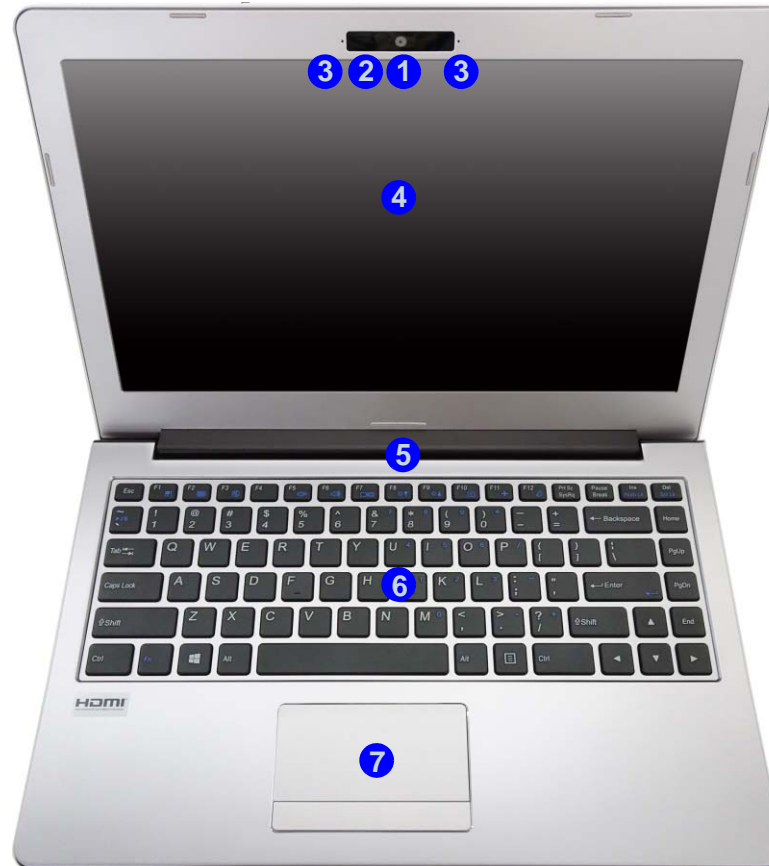
**1.3kg** (Barebone with 36WH Battery)

## Introduction

*Figure 1*  
**Top View**

## External Locator - Top View with LCD Panel Open

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



## External Locator - Front & Right Side Views

FRONT VIEW



RIGHT SIDE VIEW



*Figure 2*  
**Front View**

1. LED Indicator

*Figure 3*  
**Right Side View**

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

## Introduction

### External Locator - Left Side & Rear View

*Figure 4*  
**Left Side View**

1. DC-In Jack
2. USIM Card Reader (for 3G/4G USIM Cards) - Factory Option
3. USB 3.0 (USB 3.1 Gen 1) Type-A Port
4. Power Button
5. Microphone-In Jack
6. Headphone-Out Jack



*Figure 5*  
**Rear View**



## External Locator - Bottom View

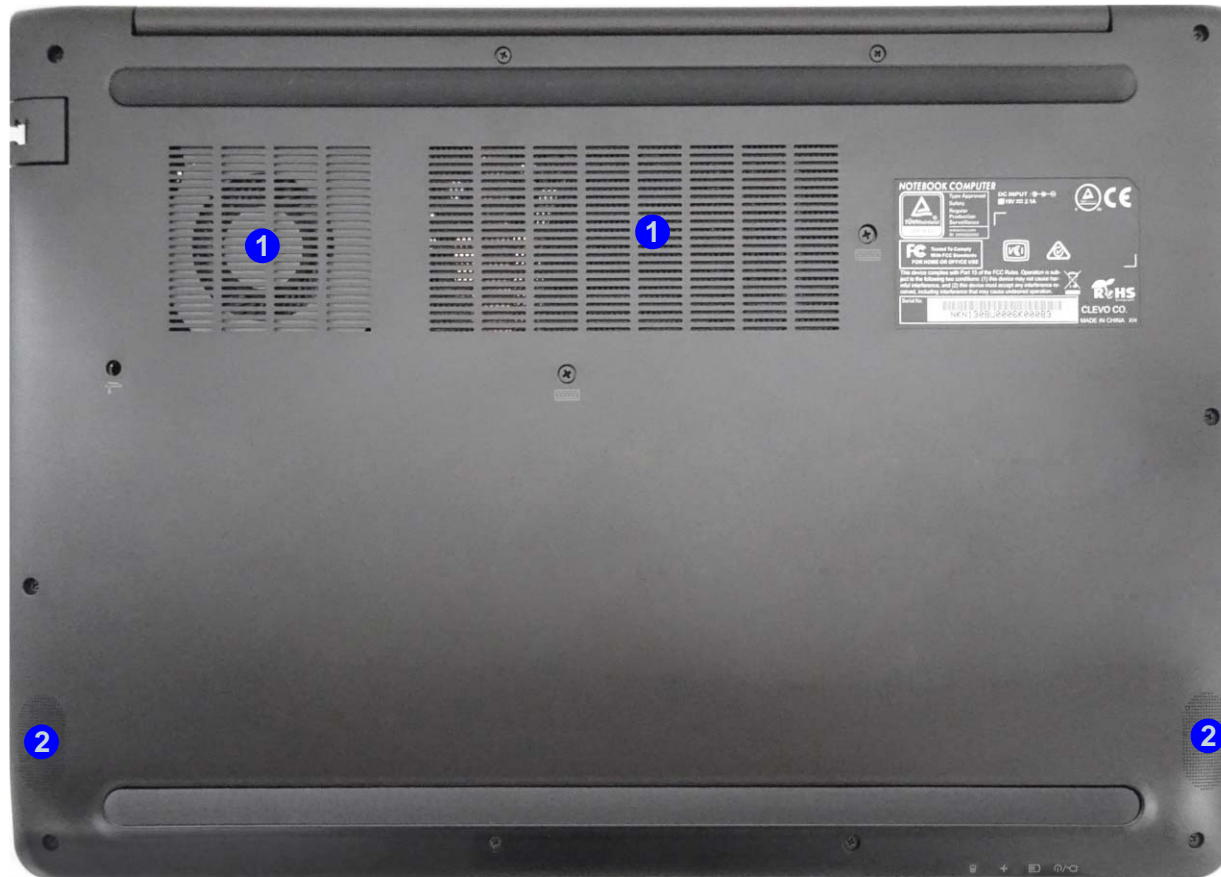


Figure 6  
Bottom View

1. Vent
2. Speakers

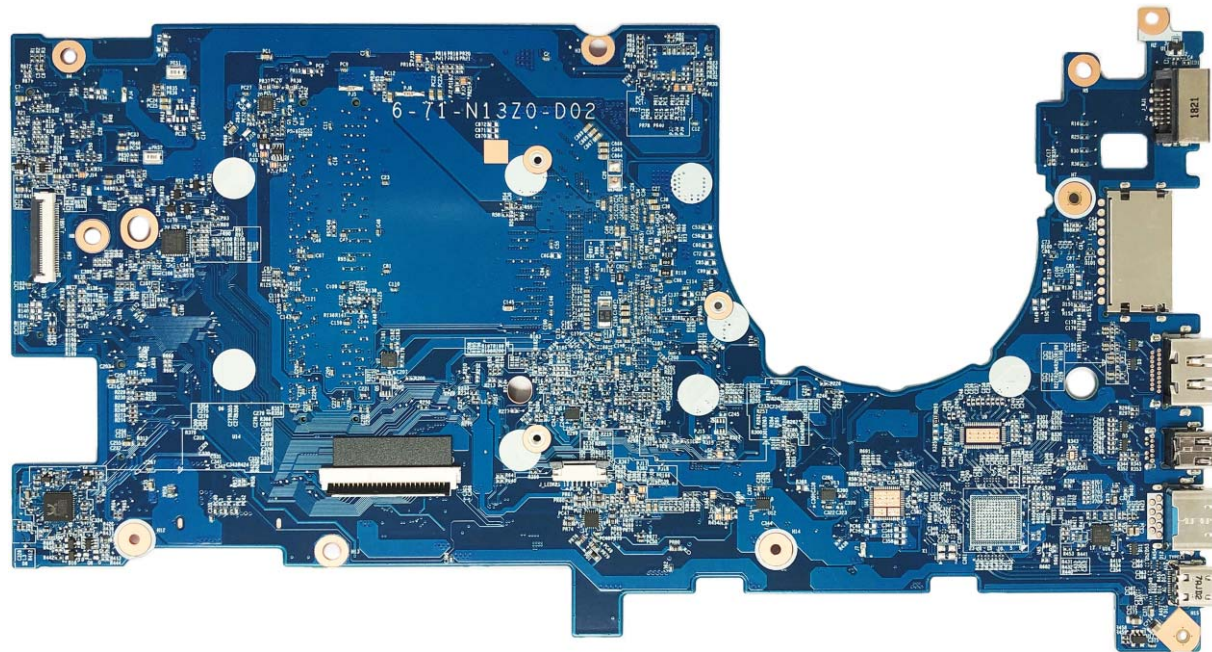
  
**Overheating**

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)

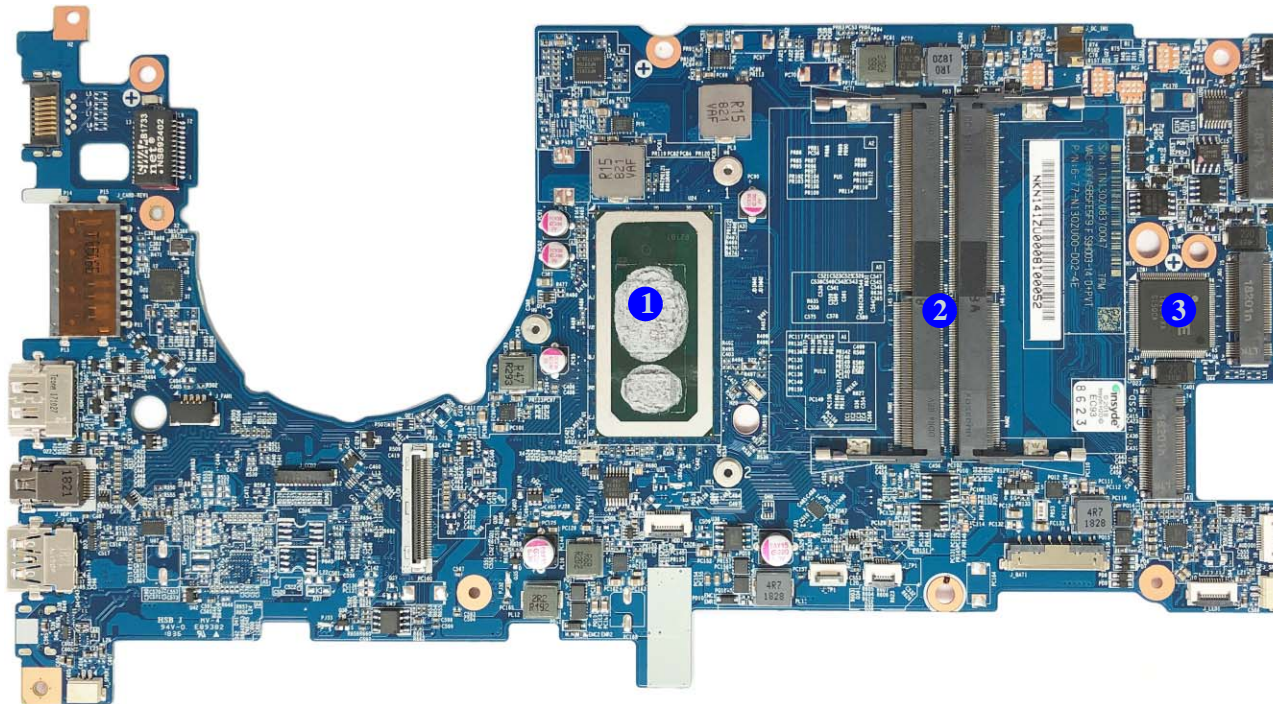




## Mainboard Overview - Bottom (Key Parts)

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

1. CPU
2. Memory Slots  
DDR4 SO-DIMM
3. KBC-ITE IT8587

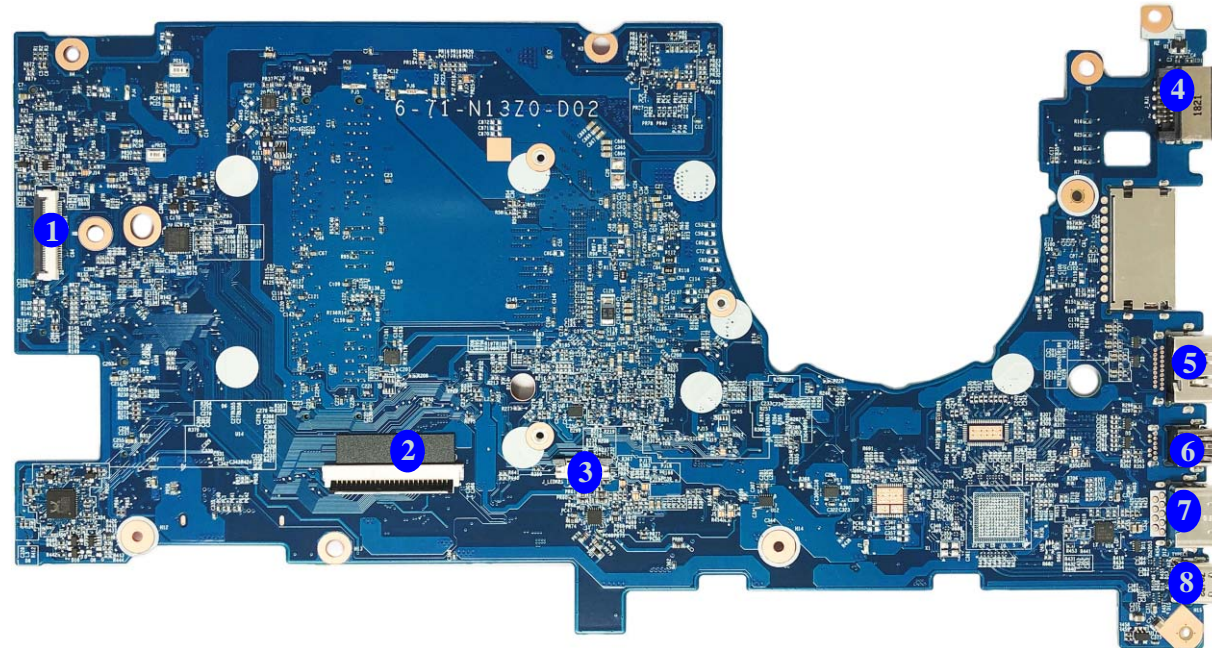


## Introduction

*Figure 9*  
**Mainboard Top  
Connectors**

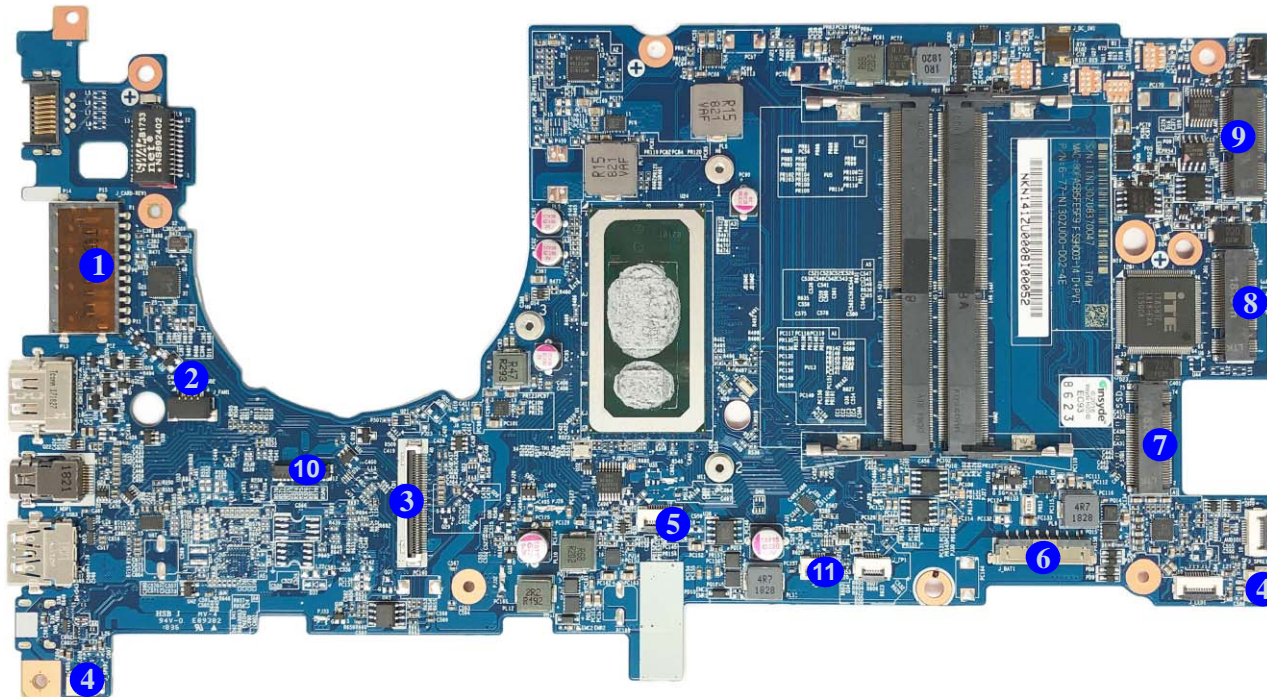
## Mainboard Overview - Top (Connectors)

1. USB Board Connector
2. Keyboard Cable Connector
3. White LED Keyboard Connector
4. RJ-45 LAN Jack
5. HDMI-Out Port
6. Mini Display Port
7. USB Port 3.0/3.1 Type A Port
8. USB Port 3.0/3.1 Type C Port





## Mainboard Overview - Bottom (Connectors)



*Figure 10*  
**Mainboard Bottom  
Connectors**

1. Multi-in-1 Card Reader
2. Fan Connector
3. LCD Cable Connector
4. Speaker Connector
5. HDD Connector
6. Battery Connector
7. M.2 Card Connector (SSD)
8. 3G/4G Connector
9. WLAN Connector
10. CCD Connector
11. Touchpad Connector




# Chapter 2: Disassembly

## Overview

This chapter provides step-by-step instructions for disassembling the *N130ZU* / *N131ZU* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

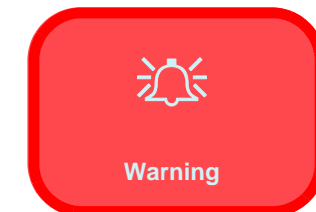
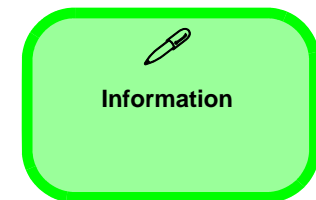
We suggest you completely review any procedure before you take the computer apart.

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

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

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

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



## Disassembly

---

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

### Maintenance Tools

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

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



### Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors

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

Pressure sockets for multi-wire connectors

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

Pressure sockets for ribbon connectors

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

Board-to-board or multi-pin sockets

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

## Maintenance Precautions

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

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

## Cleaning

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

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

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

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



### Power Safety Warning

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

### Disassembly Steps

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

#### To remove the 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 - 7](#)

#### 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 - 9](#)

#### 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 - 11](#)

#### To remove the 3G Module:

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

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

1. Remove the keyboard [page 2 - 5](#)
2. Remove the battery [page 2 - 6](#)
3. Remove the SSD-1 module [page 2 - 14](#)
4. Remove the SSD-2 module [page 2 - 15](#)
5. Install the SSD-2 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 - 17](#)

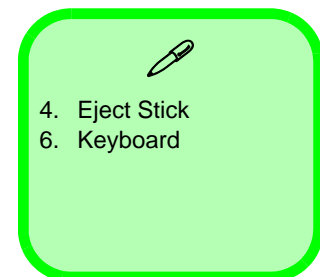
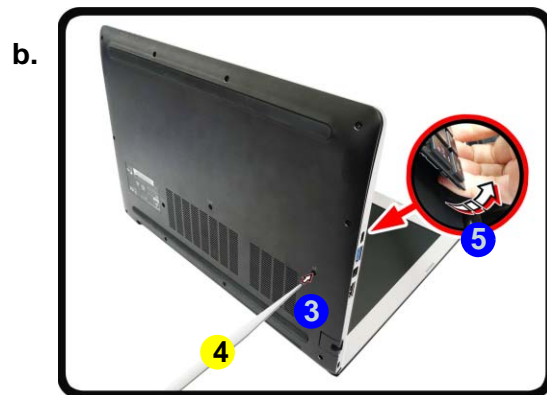
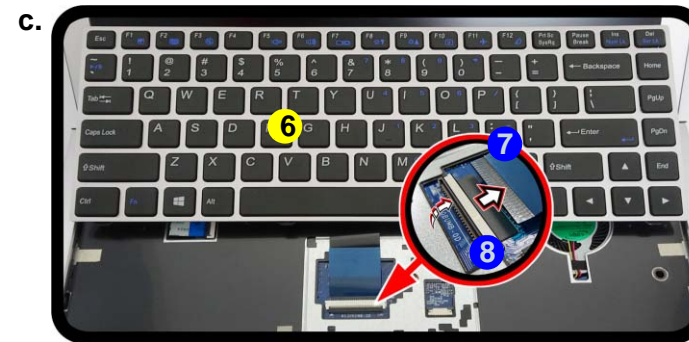
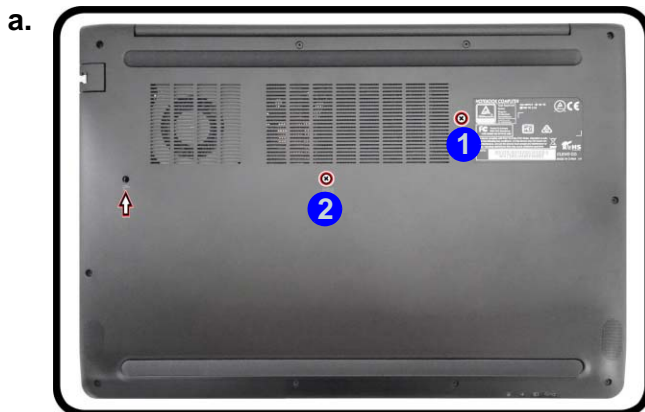


## Removing the Keyboard

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*  
**Battery Removal**

- Remove the screws.
- Remove the screws.
- Remove the bottom case and locate the battery.
- Disconnect the cable and remove the screws.
- Lift the battery off the computer.

### 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.

14. Bottom Case  
22. Battery

- 18 Screws

## Removing the Battery

- Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)).
- Remove screws **1** - **3** ([Figure 2a](#)).
- Remove screws **4** - **13** on the bottom case ([Figure 2b](#)).
- Remove the bottom case **14** up. The battery will be visible at point **15** on the computer ([Figure 2b](#)).
- Carefully disconnect the cable **16**, then remove screws **17** - **21** ([Figure 2c](#)).
- Lift the battery **22** off the computer ([Figure 2d](#)).
- Reverse the process to install a new battery (do not forget to replace all the screws and bottom cover).

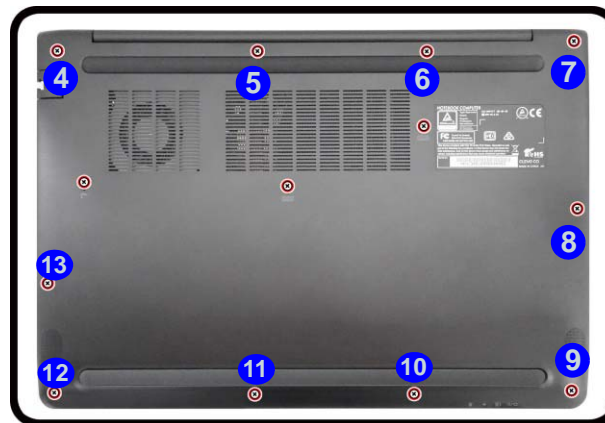
a.



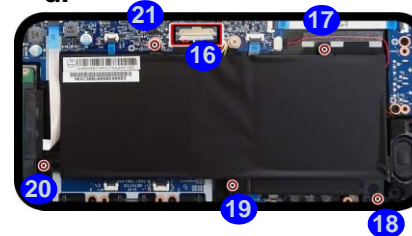
c.



b.



d.



e.

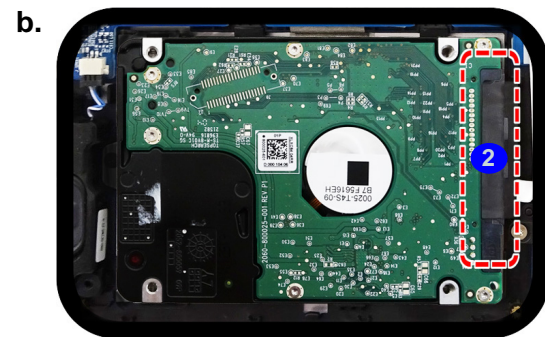


## Removing the Hard Disk Drive

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 3a](#)).
3. Disconnect the cable **2** from the HDD assembly ([Figure 3b](#)).



*Figure 3*  
**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.



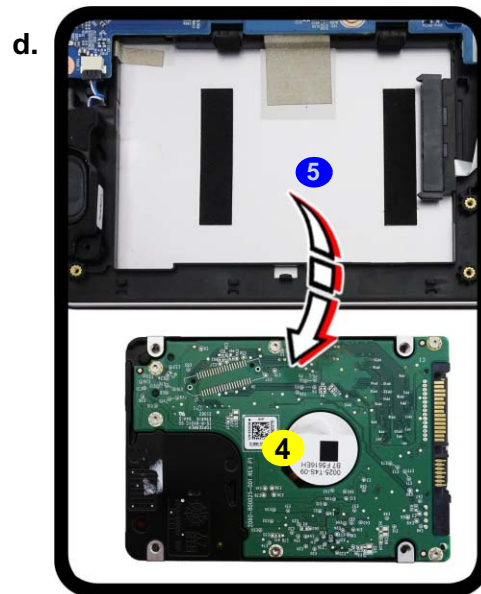
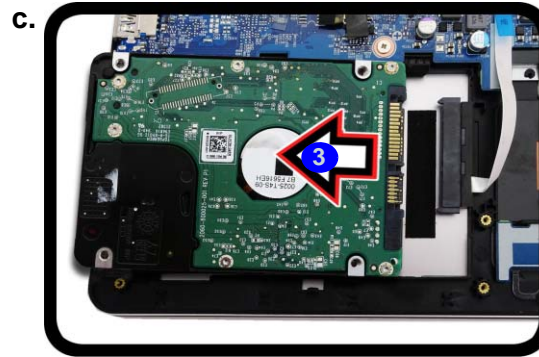
1. HDD Assembly
  - 1 Screw

## Disassembly

*Figure 4*  
**HDD Assembly  
 Removal (cont'd.)**

- c. Slightly lift to pull the HDD assembly in the direction of the arrow.  
 d. Lift the HDD assembly out of the bay.

4. Slightly lift to pull the hard disk assembly in the direction of arrow **3** (*Figure 4c*).  
 5. Lift the hard disk **4** out of the bay **5** (*Figure 4d*).  
 6. Reverse the process to install a new hard disk (do not forget to replace all the screws and bottom cover).



4. HDD



## Removing the System Memory (RAM)

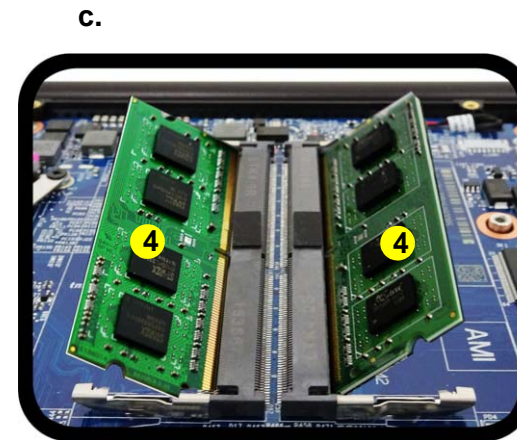
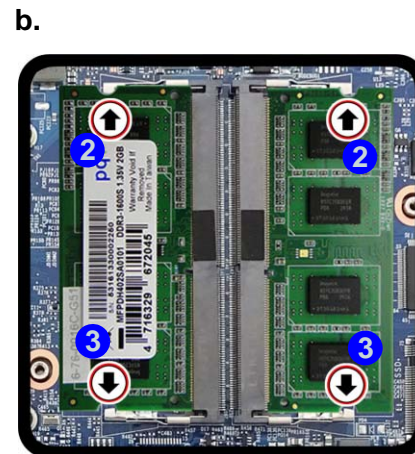
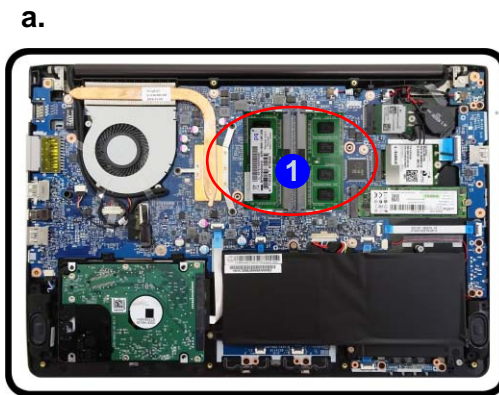
The computer has two memory sockets for 260 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR4 2133MHz. The main memory can be expanded up to 32GB. The total memory size is automatically detected by the POST routine once you turn on your computer.

### 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 5b](#)).
3. Gently pull the two release latches (**2** & **3**) on the sides of the memory socket in the direction indicated by the arrows ([Figure 5b](#)).
4. The RAM module **4** will pop-up ([Figure 5c](#)), and you can then remove it.


*Figure 5*  
**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.



  
**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.

  
**Single Memory Module Installation**

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

  
4. RAM Module

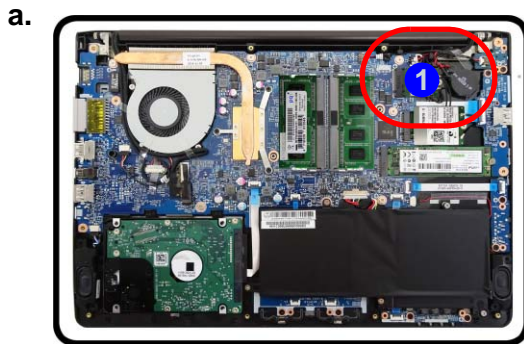
## Disassembly

---

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 6a](#)).
3. Carefully disconnect the cables **2** & **3**, and then remove the screw **4** ([Figure 6b](#)).
4. The Wireless LAN module **5** ([Figure 6c](#)) 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 6*  
**Wireless LAN  
Module Removal**

- a. Locate the WLAN.
- b. Disconnect the cable and remove the screw.
- c. 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 6b](#)).



5. Wireless LAN Module

- 1 Screw

## Wireless LAN, and Combo Module Cables

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

Module Type	Antenna Type	Cable Color	Cable Cover Type
WLAN/WLAN & Bluetooth Combo	WM 1	Black	Transparent
	WM 2	Black	White
LTE Broadband	LTE 1	Black	Black
	LTE 2	Black	

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



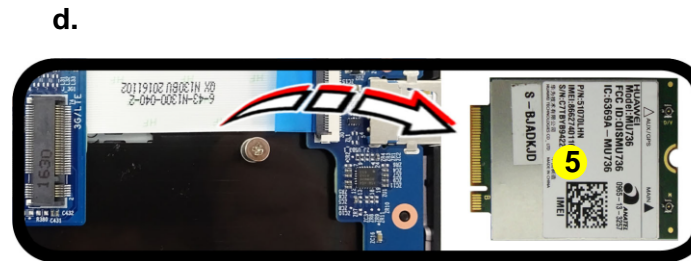
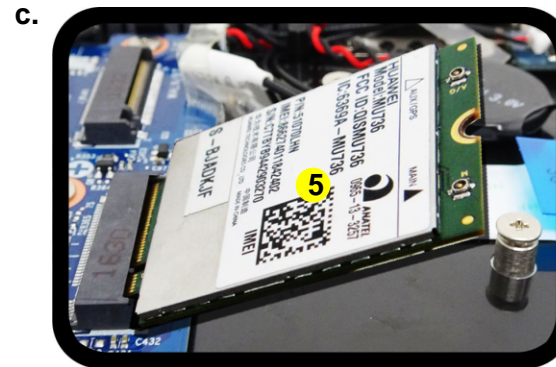
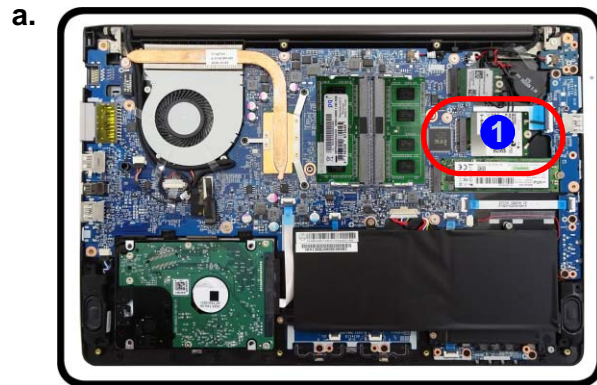
# Removing the 3G Module


## 3G Module Removal Procedure

1. Turn **off** the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
2. Locate the module, it is visible at point **1** ([Figure 7a](#)).
3. Carefully disconnect the cables **2** & **3**, and then remove the screw **4** from the module ([Figure 7b](#)).
4. The module **5** will pop-up ([Figure 7c](#)).
5. Lift the module **5** up and off the computer ([Figure 7d](#)).
6. Reverse the process to install a new module (do not forget to replace all the screws and bottom cover).

*Figure 7*  
**3G Module Removal**

- a. Locate the module.
- b. Disconnect the cables and remove the screw.
- c. The module will pop-up.
- d. Lift the module up off the socket.





5. 3G Module

- 1 Screw

## Disassembly

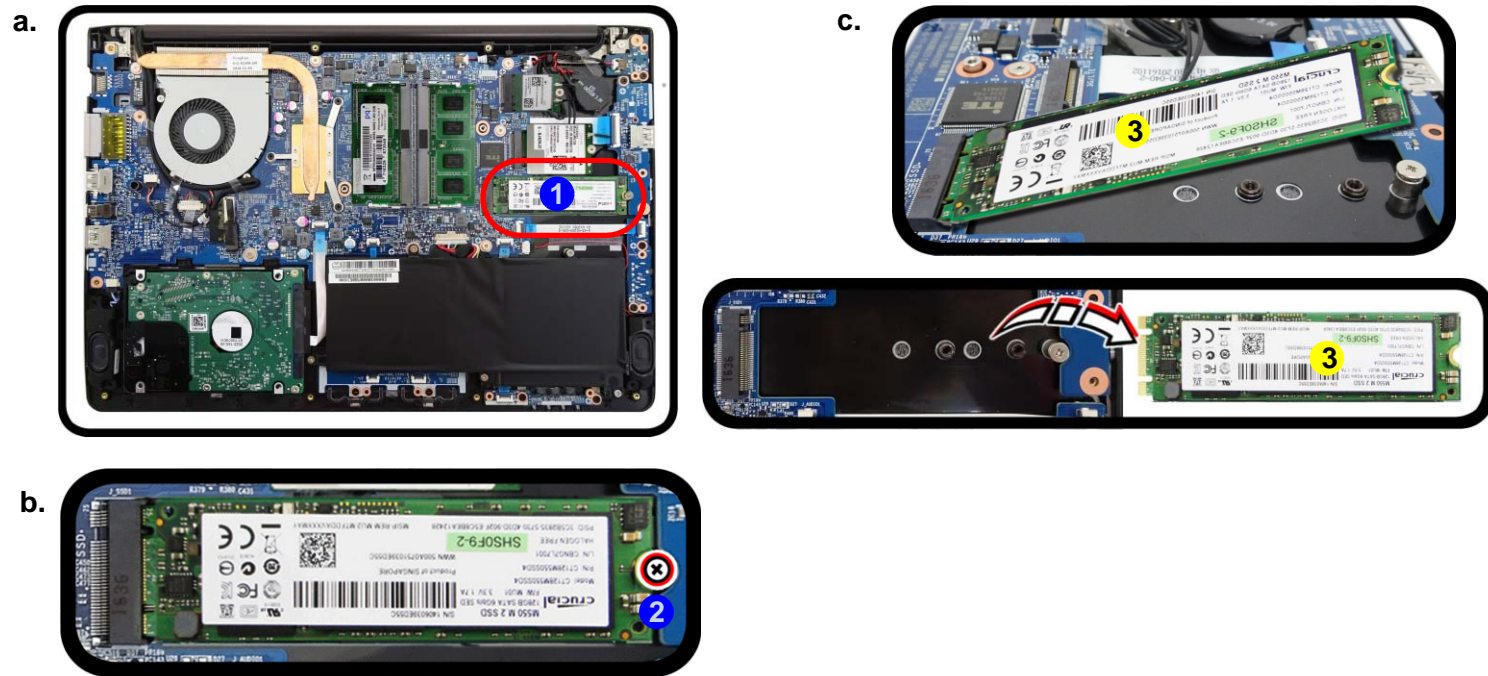
*Figure 8*  
M.2 SSD-1 Module  
Removal

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

## Removing and Installing the M.2 SSD Module

### M.2 SSD-1 Removal Procedure

- Turn off the computer, turn it over to remove the keyboard ([page 2 - 5](#)) and battery ([page 2 - 6](#)).
- The M.2 SSD module will be visible at point **1** on the mainboard ([Figure 8a](#)).
- Remove the screw **2** ([Figure 8b](#)).
- The M.2 SSD module **3** ([Figure 8c](#)) will pop-up, and you can remove it from the computer.

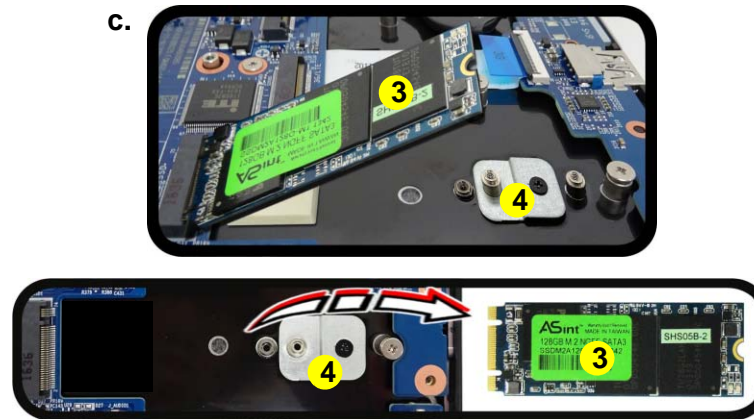
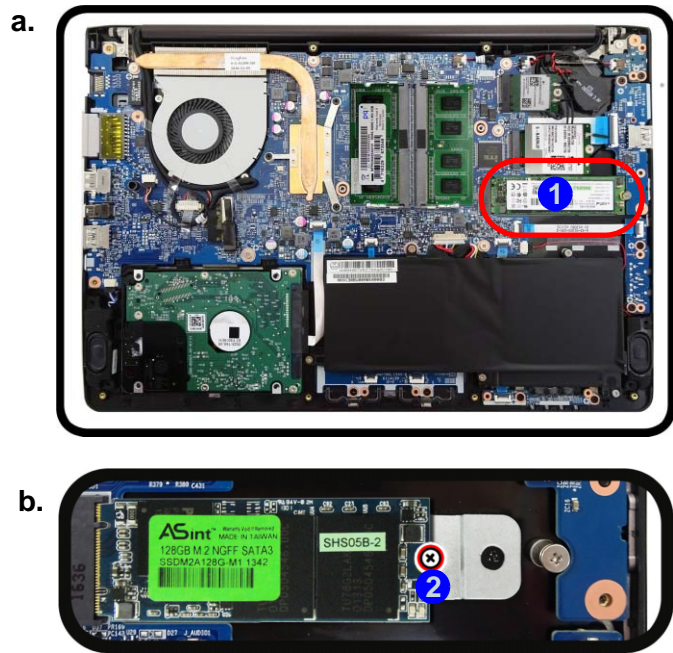


3.M2 SATA Module

- 1 Screw


### M.2 SSD-2 Removal Procedure

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.



*Figure 9*  
**M.2 SSD-2 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  
4.Module Bracket

- 1 Screw

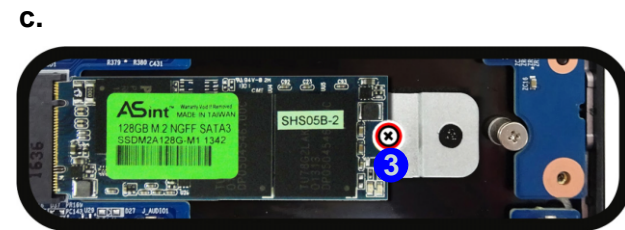
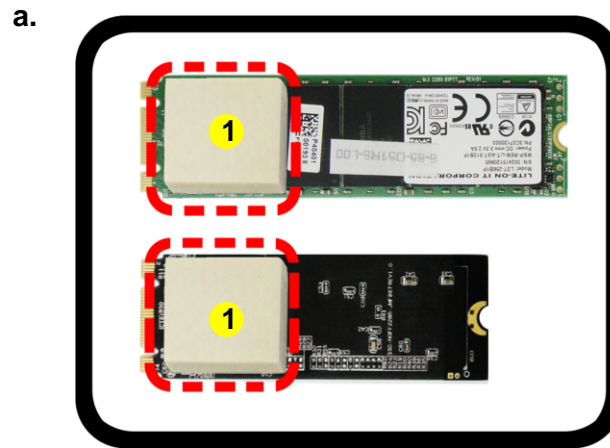
## Disassembly

*Figure 10*  
**M.2 SSD Module Installation**

- Place the thermal pad.
- Insert the module.
- Tighten the screw.

### M.2 SSD Installation Procedure

- Place the thermal pad **1** on the module as shown (*Figure 10a*).
- Insert the module **2** in the computer (*Figure 10b*).
- Tighten the screw **3** to secure the module in place (*Figure 10c*).



#### Thermal Pad

Make sure to place the thermal pad's adhesive side down on the module's surface as illustrated. Insert the module with the thermal pad facing the mainboard.



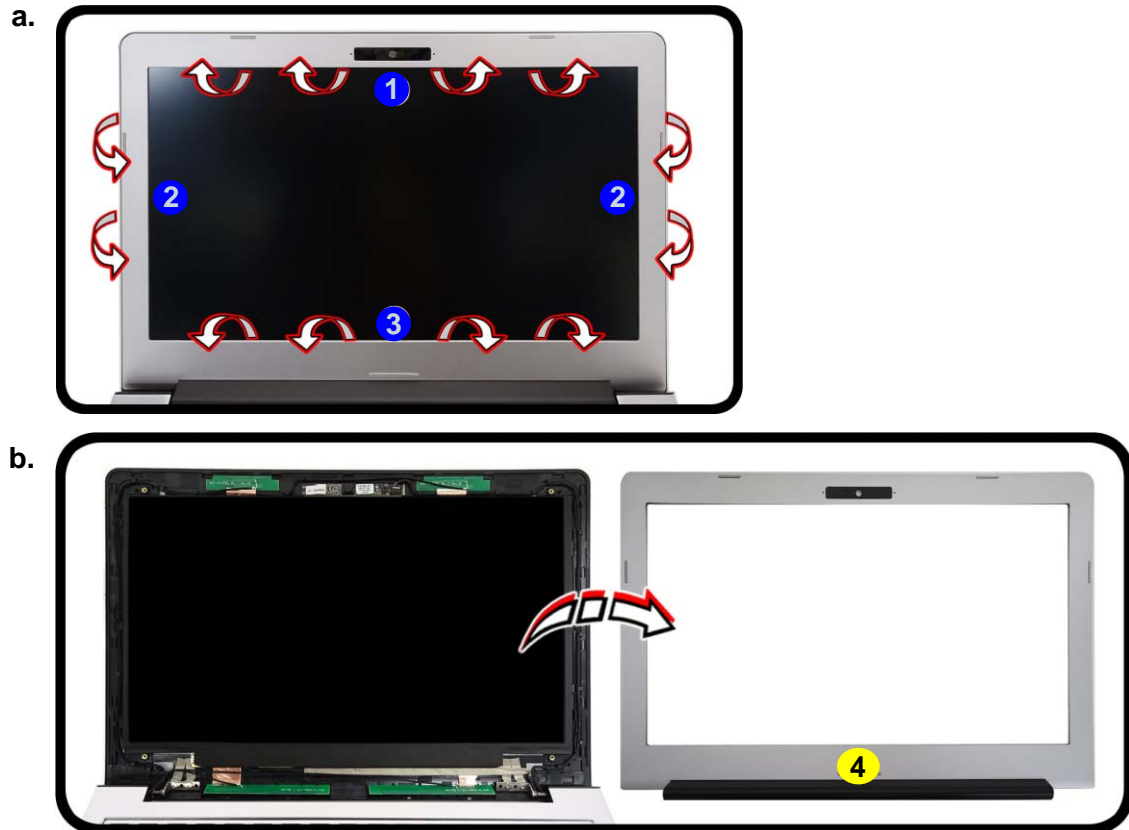
1. Thermal Pad  
2. M.2 SATA Module

- 1 Screw



## Removing the CCD

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 11a](#)).
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 11b](#)).



*Figure 11*  
**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.

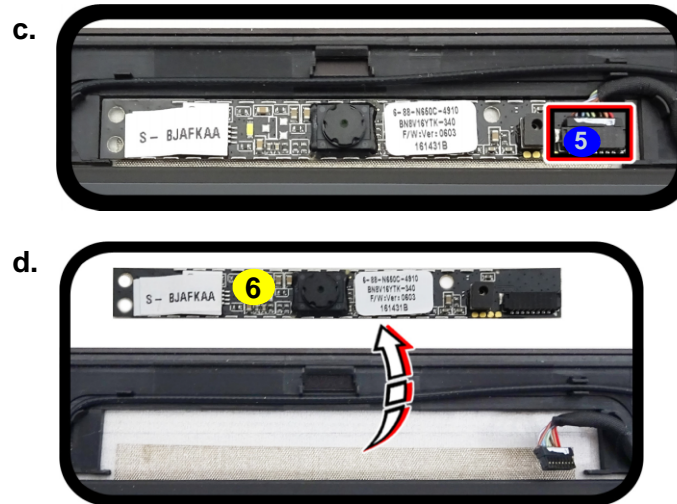


## Disassembly

*Figure 12*  
**CCD Removal**  
 (cont'd.)

4. Disconnect the cable **5** (*Figure 12f*).
5. Remove the CCD module **6** (*Figure 12g*).
6. Reverse the process to install a new CCD module.

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



6. CCD Module







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# Appendix A:Part Lists

This appendix breaks down the *N130ZU/N131ZU* series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

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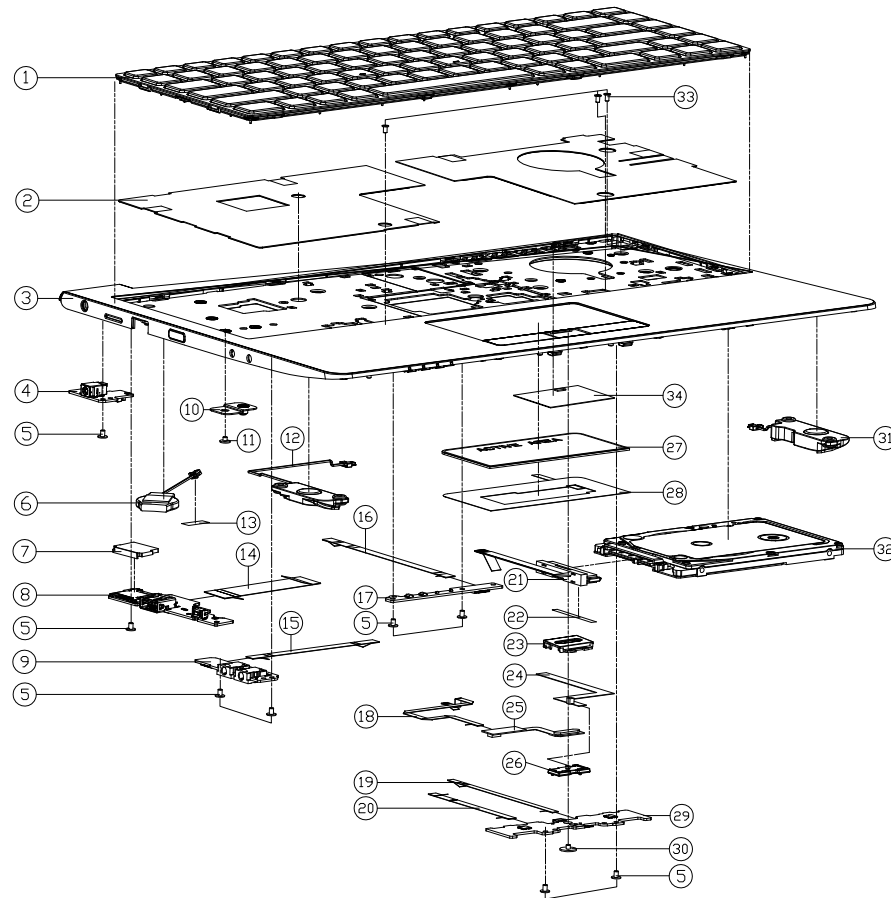
## Part List Illustration Location

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

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

Part	
Top (with Fingerprint)	<i>page A - 3</i>
Top (without Fingerprint)	<i>page A - 4</i>
Bottom	<i>page A - 5</i>
LCD (N130ZU)	<i>page A - 6</i>
LCD (N131ZU)	<i>page A - 7</i>
MB	<i>page A - 8</i>

# Top (with Fingerprint)

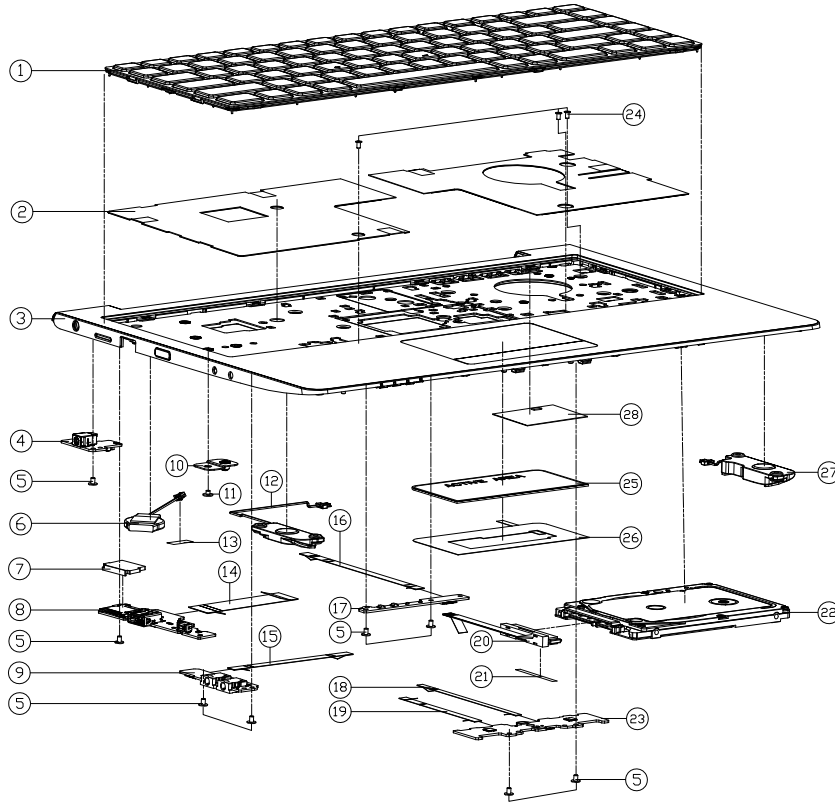


ITEM	PART NAME	PART NO	REMARK
1	W/F R/O GRIP P/SZ282KRB NBRD BLKZ COATD VBR VBR NY + CO FINGERPR HD	6-80-N13B0-012-1	
1	W/HD K/B USAKBLACION FRAMECUSI MODULE FOR N130BU	6-79-N130BU0K-010-W	
2	NON BACK LIGHT KB MYLAR (PET) N130BU	6-40-N1302-012	FOR W/D BL KB.W/FP
3	TDP CASE MODULE N130ZU	6-39-N13Z2-011	
3	TDP CASE MODULE N131ZU	6-39-N13Z2-111	
4	DC JACK BOARD V2.0A N130BU	6-77-N130C-D02A	
5	SCREW M2*3L KT BZ ICT NY (DD=04.5,DT=04)	6-35-B6120-3RD	
6	BAT 2000 3V 200MH V/CABLE SWM N032K2655MHUS (SHND)	6-23-22015-TE0	
7	SIM HOLE RUBBER N130BU	6-47-N1302-0C1	ONLY FOR W/D 3G/LTE
8	USB BOARD V1.0 (W/LTE) N130ZU	6-77-N13Z3-D01	
8	USB BOARD V1.0 (W/D LTE) N130ZU	6-77-N13Z3-D01-1	
9	AUDIO BOARD V2.0A N130BU	6-77-N1308-D02A	
10	SSD BRACKET SGCC N130BU	6-33-N130S-011	FOR W/D ME S3D FOR ME (266/284D) SSD
11	SCREW M2*2L KT NI ICT NY (DD=05, T=05)	6-35-B1120-2R0	
12	SPK+CABLE L 42.45*15.85 95MM 2W 4? SPONGE N130BU	6-23-5N130-0L2	
13	TOP CASE MYLAR FRB3 25*7*0.05 P180HM	6-40-P1802-030	
14	FFC CABLE FOR 3G TO MB L=60MM / 60V / 30PIN QGD N130BU	6-43-N1300-041-2	
15	FFC CABLE FOR AUDIO TO MB L=76MM / 60V / 10PIN QGD N130BU	6-43-N1300-030-2	
16	FFC CABLE FOR LED TO MB L=1025MM / 60V / 10PIN QGD N130BU	6-43-N1300-021-2	
17	LED BOARD V1.0 N130WU	6-77-N13W4-D01	
18	FFC FPR TO MB L=125MM 60V 6PIN N130WU-A (QD)	6-43-N13W0-011-1A	ONLY FOR W/B/ KB.W/FP
19	FFC CABLE FOR CLICK TO MB L=95MM 60V 6PIN QGD N130BU	6-43-N1300-010-2	
20	FFC CABLE FOR CLICK TO TP L=60MM / 60V / 8PIN QGD N130BU	6-43-N1302-010-2	
21	HDD CONSUMY-IND+PCB+W/CABLE+CASE CODE (FC CABLE 7MM) N130BU	6-23-FN130-011	
22	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
23	FPR CAP PC+ABS COVESTRO FR3021+ BK N130ZU	6-42-N13Z2-030	
23	FPR CAP PC+ABS COVESTRO FR3021 N131ZU	6-42-N13Z2-130	
24	FPR ALFIDIL GASKET 69.5*32 MM N130WU-A	6-47-00190-662-A	
25	FINGERPRINT MODULE CRV-CV-N14-F2 FOR N141WU-A	6-88-N14WG-0E01-A	
26	FPR HDLDR N130WU-A	6-33-N13W3-011-A	
27	TOUCH PAD SYNAPTICS 84*42 TM-03175-012 N240BU	6-49-N24J3-010	
28	TP MYLAR FOR ISOLATION N130BU	6-40-N1302-020	
29	CLICK BOARD V5.0 N130ZU	6-77-N13W2-D05-B	FOR NON
30	SCREW M2*2L KT BK/Z ICT NY(08,T=0.6)	6-35-B6120-2RE	
31	SPK+CABLE R 53.5*16.9 15.5MM 2W 4? SPONGE N130BU	6-23-5N130-0R2	
32	W/D HDD ASS'Y N130BU	6-79-N130BU0J-010	
33	SCREW M2*4L KT NI ICT NY (DD=04.5,DT=0.4)	6-35-B1120-4RE	
34	THERMAL TOP MYLAR+SPONGE N130ZU	6-40-N13Z2-010	

Figure A - 1  
Top  
(with Fingerprint)

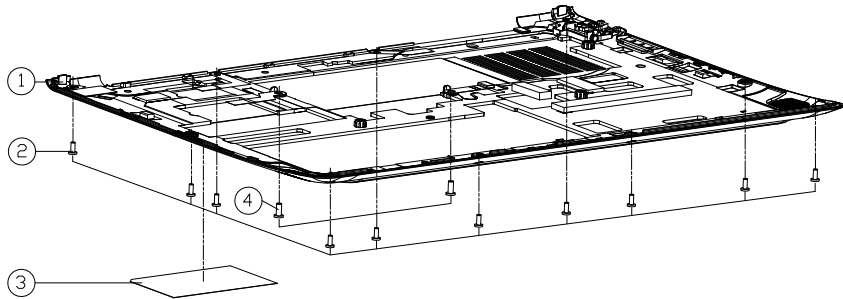
# Top (without Fingerprint)

Figure A - 2  
Top  
(without Finger-  
print)



ITEM	PART NAME	PART NO	REMARK
1	W/O R. TO KEY W/ 3220LX365 NEGRO BLACK COLOATION WITH VINO KEY + K9 FRAME(RED HOLE)	6-80-N13B0-012-1	
1	WINDO K/B USA*BLACK&L FRAME(US) MODULE FOR N130BU	6-79-N130BUOK-010-W	
2	NDN BACK LIGHT KB MYLAR (PET) N130BU	6-40-N1302-012	FOR W/D BL KB,W/D FP
3	TOP CASE MODULE N130BU	6-39-N1302-015	
3	TOP CASE MODULE N131BU	6-39-N1312-014	
4	DC JACK BOARD V2.0A N130BU	6-77-N130C-D02A	
5	SCREW M2*3L KI NI ICT NY (DD=04.5,DT=0.4)	6-35-B6120-3RD	
5	BAT. 20MM 3V 220MH V/CABLE 53MM B03202055VMI0B (SHAND)	6-23-22015-TE0	
7	SIM HOLE RUBBER N130BU	6-47-N1302-0C1	ONLY FOR W/D 3G/LTE
8	USB BOARD V1.0 (W/LTE) N130ZU	6-77-N13Z3-D01	
8	USB BOARD V1.0 (W/D LTE) N130ZU	6-77-N13Z3-D01-1	
9	AUDIO BOARD V2.0A N130BU	6-77-N1308-D02A	
10	SSD BRACKET SGCC N130BU	6-33-N130S-011	FOR W/D M2 SSD FOR M2 (2260/2242) SSD
11	SCREW M2*2L KI NI ICT NY (DD=05 ,T=0.5)	6-35-B1120-2R0	
12	SPK+CABLE L 42.45*15.85 95MM 2W 4? SPONGE N130BU	6-23-5N130-0L2	
13	TOP CASE MYLAR FR83 25*7*0.05 P180HM	6-40-P1802-030	
14	FFC CABLE FOR 3G TO MB L=60MM / 60V / 30PIN (QD) N130BU	6-43-N1300-041-2	
15	FFC CABLE FOR AUDIO TO MB L=76MM / 60V / 10PIN (QD) N130BU	6-43-N1300-030-2	
16	FFC CABLE FOR LED TO MB L=102.5MM / 60V / 10PIN (QD) N130BU	6-43-N1300-021-2	
17	LED BOARD V1.0 N130WU	6-77-N13W4-D01	
18	FFC CABLE FOR CLICK TO MB L=85MM 60V 6PIN (QD) N130BU	6-43-N1300-010-2	
19	FFC CABLE FOR CLICK TO TP L=63MM / 60V / 8PIN (QD) N130BU	6-43-N1302-010-2	
20	HDD CONN3107-100-PE34V/CABLE+DATE CODE (FC CABLE 79MM) N130BU	6-23-FN130-011	
21	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
22	W/O HDD ASS'Y N130BU	6-79-N130BU0J-010	
23	CLICK BOARD (W/D FP) V5.0 N130ZU	6-77-N13W2-D05-C	
24	SCREW M2*4L KI NI ICT NY (DD=04.5,DT=0.4)	6-35-B1120-4RE	
25	TOUCH PAD SYNAPTICS 84*42 TM-03175-002 N240BU	6-49-N24J3-010	
26	TP MYLAR FOR ISOLATION N130BU	6-40-N1302-020	
27	SPK+CABLE R 53.5*16.9 15.5MM 2W 4? SPONGE N130BU	6-23-5N130-0R2	
28	THERMAL TOP MYLAR+SPONGE N130ZU	6-40-N13Z2-010	

# Bottom

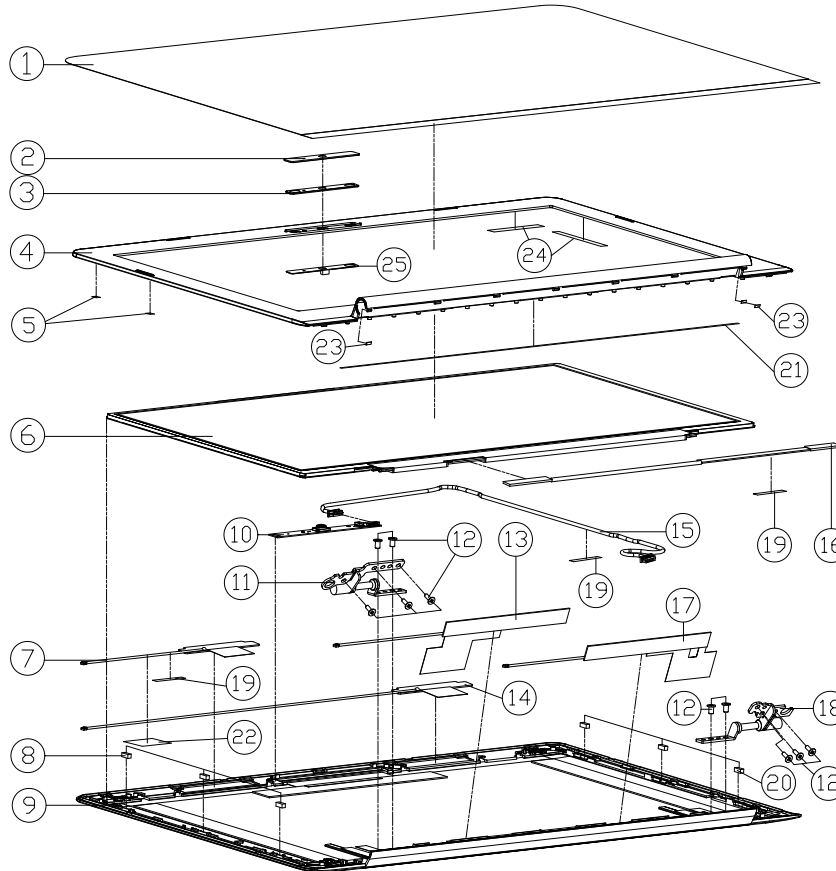


ITEM	PART NAME	PART NO	REMARK
1	BOTTOM CASE MODULE N130BU	6-39-N1303-015	
1	BOTTOM CASE MODULE N131BU	6-39-N1313-014	
2	SCREW M2*5L K1CT=08 D=4.0 BK/Z ICT NY	6-35-B6120-5R0	
3	PRDDUCT LABEL FDR N130ZU	6-45-N130ZU03-010	
3	PRDDUCT LABEL FDR N131ZU	6-45-N131ZU03-010	
3	PRDDUCT LABEL FDR N141ZU	6-45-N141ZU03-010	
4	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	

Figure A - 3  
Bottom

# LCD (N130ZU)

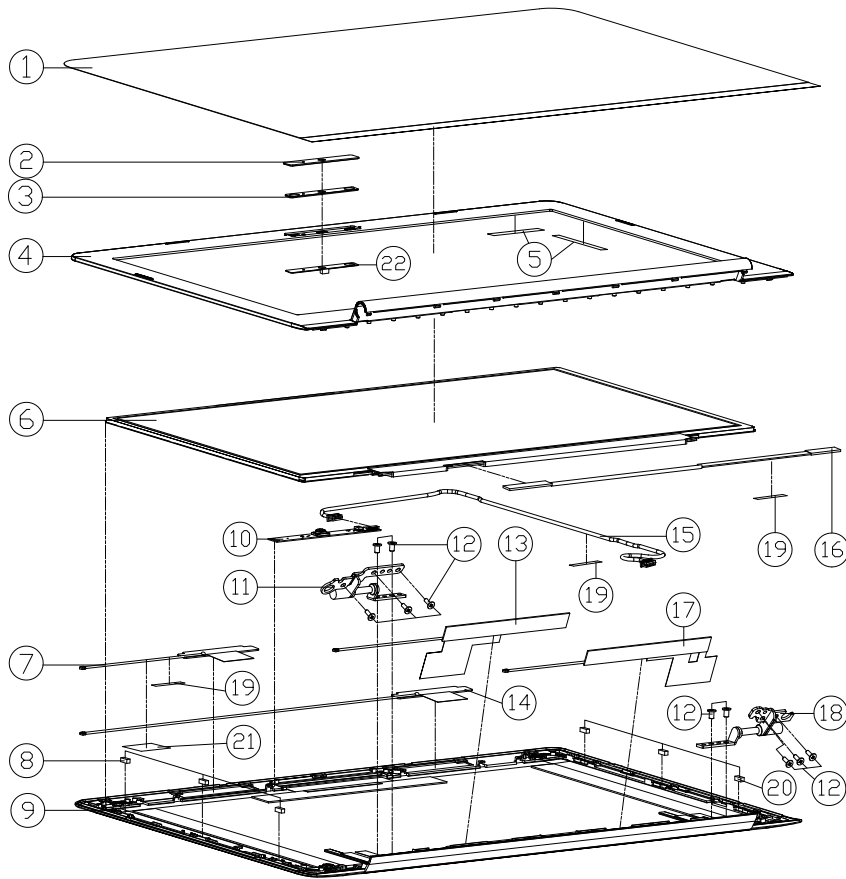
Figure A - 4  
LCD (N130ZU)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP N130BU	6-40-N1308-011	
2	CCD LENS N130BU	6-42-N1301-021	擇一選配
3	CCD W/IR LENS PMMA N140WU	6-42-N14W1-031	擇一選配
4	FRONT COVER MODULE N130WU	6-39-N13W1-010	
5	MYLAR(7*6*0.15MM, BLACK) FDR P640RF	6-40-00150-760	
6	LCD 133" QHD/VPS/N7/ NEN G1/ EDP PANDA LMS3LFS/0R LED 30MM	6-50-GBB30-Y020	
6	LCD 133" QHD/VPS/N7/ NEN G1/ EDP LG LP33001-SP82 QLED 27MM	6-50-GCB27-L020	
6	LCD 133" QHD/VPS/N7/ NEN G1/ EDP LG LP33001-SP83 QLED 27MM	6-50-GCB27-L021	
7	ANTENNA FOR MATEL CASE ONLY PEXA H/LIN WGT W/2 PCB DL 246/55 L= 50MM NCS00	6-23-7N130-011	
8	RUBBER 5.5*2.1*2.3 SILICON FOR SAMSUNG N130BU	6-47-N1301-033	FDR 6-50-GCB27-L020 FDR 6-50-GCB27-L021
9	BACK COVER MODULE N130WU	6-39-N13W1-020	
10	UV COATED POLYIMIDE FILM WITH POLYIMIDE ADHESIVE FOR THE FRONT COVER MODULE WHITE-LED VAP-PC	6-88-N14WC-5111	
10	UV COATED POLYIMIDE FILM WITH POLYIMIDE ADHESIVE FOR THE FRONT COVER MODULE WHITE-LED VAP-PC	6-88-W51PC-5100	
10	UV COATED POLYIMIDE FILM WITH POLYIMIDE ADHESIVE FOR THE FRONT COVER MODULE WHITE-LED VAP-PC	6-88-W51PC-5110	
10	UV COATED POLYIMIDE FILM WITH POLYIMIDE ADHESIVE FOR THE FRONT COVER MODULE WHITE-LED VAP-PC	6-88-N770C-4910	
10	UV COATED POLYIMIDE FILM WITH POLYIMIDE ADHESIVE FOR THE FRONT COVER MODULE WHITE-LED VAP-PC	6-88-N770C-4900	
11	HINGE L (SK7+SUS304) N130BU	6-33-N1301-0L1	
12	SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
13	ANTENNA FOR MATEL CASE ONLY PEXA H/LIN WGT W/2 PCB DL 246/55 L= 50MM NCS00	6-23-7N130-032	
14	ANTENNA FOR MATEL CASE ONLY PEXA H/LIN WGT W/2 PCB DL 246/55 L= 50MM NCS00	6-23-7N130-021	
15	WIRE CABLE FOR IR CCD 500MM 12P TO12P 30V N130WU-A	6-43-N13WT-011-A	ONLY FOR IR CCD
15	WIRE CABLE FOR CCD 500MM 12P TO 8P 3.3V N130WU	6-43-N13WT-020	ONLY CCD FOR D04 MB
16	CORONA CABLE FOR EPSON/DAIICHI 40MM ID 30V 3P 0HT/W CONL VCS240-2E0 NCS00	6-43-N1301-012-1N	FDR 6-50-GBB30-Y020
16	CORONA CABLE FOR EPSON/DAIICHI 30MM ID 30V 4P 0HT/W CONL VCS240-2E0 NCS00	6-43-N1301-070-1N	FDR 6-50-GCB27-L021 6-50-GCB27-L020
17	ANTENNA FOR MATEL CASE ONLY PEXA H/LIN WGT W/2 PCB DL 246/55 L= 50MM NCS00	6-23-7N130-042	
18	HINGE R (SK7+SUS304) N130BU	6-33-N1301-0R1	
19	TAPE MYLAR TRANSPARENT (30*5*0.05) W251HPQ	6-40-W25P3-010	
20	LCD RUBBER FOR PANDA 52*1.7*2.1 SILICON N130BU	6-47-N1301-040	ONLY FOR 6-50-GBB30-Y020
21	FRONT COVER GLUE U&D (NITTD 5000 300*3*0.15) FDR W655SZ	6-40-W6551-030	
22	802.11AD TAPE MYLAR(BLACK)X35*20*0.2(T) P870DM2	6-40-P872S-030	
23	MYLAR 6*2.5*0.5 FDR N131BU	6-40-00150-12F	
24	MYLAR(6*6*0.15MM) FDR P650RG	6-40-P6501-050	
25	GASKET 47.8*9.33*0.25 N130WU	6-47-00190-506	FDR RUBIR40D CCD ASSY N130WU FDR D04 MB



# LCD (N131ZU)



ITEM	PART NAME	PART NO	REMARK
1	LCD PROTECT MYLAR BOPP N130BU	6-40-N1308-011	
2	CCD LENS N130BU	6-42-N1301-021	擇一選配
3	CCD W/IR LENS PMMA N140WU	6-42-N14W1-031	擇一選配
4	FRONT COVER MODULE N131WU	6-39-N13W1-110	
5	MYLAR(6*60*0.15MM) FDR P650RG	6-40-P6501-050	
6	LCD 13.3" FHD/VVA/ N7/ NON GT/ EDP PANDA LME33LFSU01 LED 30MM	6-50-GBB30-Y020	
6	LCD 13.3" QHD+/PS/N7/ NON GT/ EDP LG LP133001-SPR2 QLED 2.7MM	6-50-GCB27-L020	
6	LCD 13.3" QHD+/PS/N7/ NON GT/ EDP LG LP133001-SPR3 QLED 2.7MM	6-50-GCB27-L021	
7	ANTENNA FOR MATEL CASE ONLY PEPA W/LAN WGT 14.1 PCB DL 2.6/5/6 L= 40MM NCSBU	6-23-7N130-011	
8	RUBBER 5.5*2.1*2.3 SILICON FOR SAMSUNG N130BU	6-47-N1301-033	FDR 6-50-GCB27-L021 6-50-GCB27-L020
9	BACK COVER MODULE N131WU	6-39-N13W1-120	
10	UVC CAMERA CHROMY FIBER OPTIC/CMOS/CMOS/CMOS IN HD DISPLAY W/IR/IR W/WHITE-LED W/PS-INC	6-88-N14WC-5111	
10	UVC CAMERA CHROMY FIBER OPTIC/CMOS/CMOS/CMOS IN HD DISPLAY W/IR/IR W/WHITE-LED W/PS-INC	6-88-W51PC-5100	
10	UVC CAMERA CHROMY FIBER OPTIC/CMOS/CMOS/CMOS IN HD DISPLAY W/IR/IR W/WHITE-LED W/PS-INC	6-88-W51PC-5110	
10	UVC CAMERA CHROMY FIBER OPTIC/CMOS/CMOS/CMOS IN HD DISPLAY W/IR/IR W/WHITE-LED W/PS-INC	6-88-N770C-4910	
10	UVC CAMERA CHROMY FIBER OPTIC/CMOS/CMOS/CMOS IN HD DISPLAY W/IR/IR W/WHITE-LED W/PS-INC	6-88-N770C-4900	
11	HINGE L (SK7+SUS304) N130BU	6-33-N1301-0L1	
12	.SCREW M2.5*4L KI NI ICT NY	6-35-21125-4R0	
13	ANTENNA FOR MATEL CASE ONLY PEPA W/LAN WGT 14.2 PCB DL 2.6/5/6 L= 50MM NCSBU	6-23-7N130-032	
14	ANTENNA FOR MATEL CASE ONLY PEPA W/LAN WGT 14.2 PCB DL 2.6/5/6 L= 50MM NCSBU	6-23-7N130-021	
15	WIRE CABLE FOR CCD 500MM 12P TO 8P 3.3V N130WU	6-43-N13WT-020	ONLY FOR CCD D04 MB
15	WIRE CABLE FOR IR CCD 500MM 12P TO12P 3.0V N130WU-A	6-43-N13WT-011-A	ONLY FOR RGB(R4.0) CCD
16	CENTRAL CABLE FOR EXP(PANDA) 40MM (D) 30V 30P 0HT/LV CONLV3030-2E2 NCSBU	6-43-N1301-012-1N	FDR 6-50-GBB30-Y020
16	CENTRAL CABLE FOR EXP(LD) 300MM (D) 30V 40P 0HT/LV CONLV3030-2E2 NCSBU	6-43-N1301-070-1N	FDR 6-50-GCB27-L021 6-50-GCB27-L020
17	ANTENNA FOR MATEL CASE ONLY PEPA W/LAN WGT 14.2 PCB DL 2.6/5/6 L= 50MM NCSBU	6-23-7N130-042	
18	HINGE R (SK7+SUS304) N130BU	6-33-N1301-0R1	
19	TAPE MYLAR TRANSPARENT (30*5*0.05) W25HPQ	6-40-W25P3-010	
20	LCD RUBBER FDR PANDA 5.2*1.7*2.1 SILICON N130BU	6-47-N1301-040	ONLY FOR 6-50-GBB30-Y020
21	802.11AD TAPE MYLAR(DLACK)X35*20*0.2(T) P870DM2	6-40-P872S-030	
22	GASKET 47.8*9.33*0.25 N130WU	6-47-00190-506	FDR RGB(R4.0) CCD ASSY N130WU FDR D04 MB

Figure A - 5  
LCD (N131ZU)

# MB

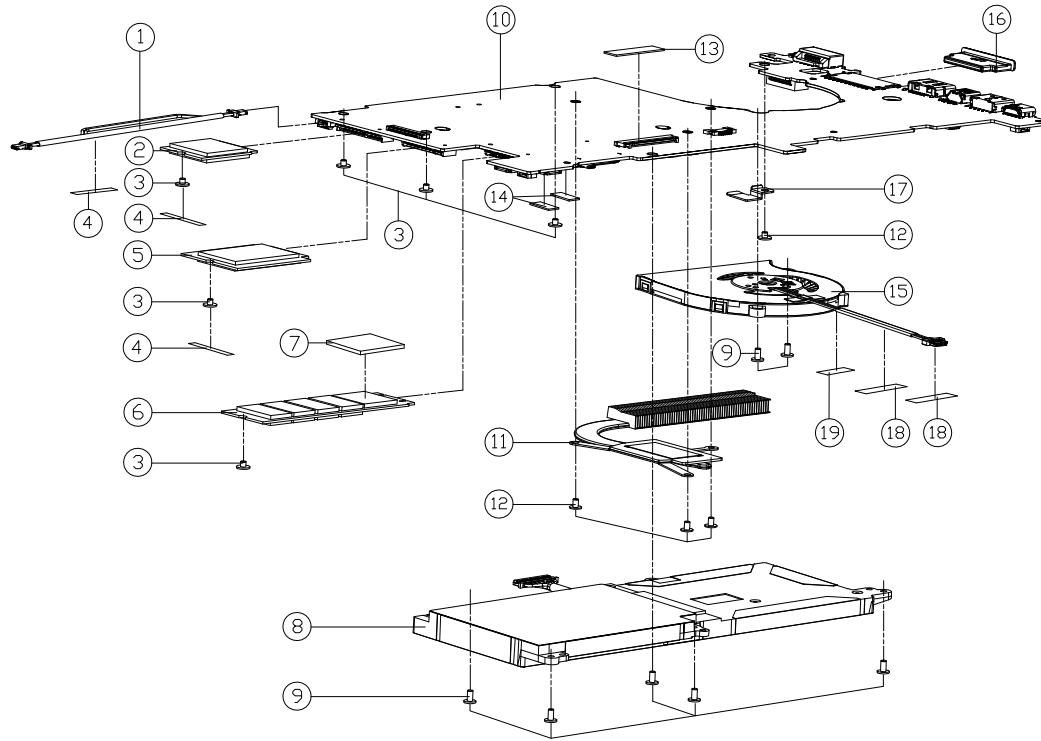


Figure A - 6  
MB

ITEM	PART NAME	PART NO	REMARK
1	DC CABLE TO RE POWER BY 2P BLUE (MOROS/200-RECH-001) (MOROS)	6-43-N1300-051-1	
2	RAM DIMM 1GB DDR2 800MHz (MOROS) (MOROS)	6-88-N24GF-4220	OPTION
2	RAM DIMM 1GB DDR2 800MHz (MOROS) (MOROS)	6-88-P75FF-4210	OPTION
2	RAM DIMM 1GB DDR2 800MHz (MOROS) (MOROS)	6-88-N24GF-4200	OPTION
3	SCREW METAL KI NI ICT NY (GD#45, T#45)	6-35-B1120-2R0	
4	TOP CASE MYLAR FR83 25*7*0.05 P180M	6-40-P1802-030	
5	DC CABLE (MOROS) (MOROS) (MOROS)	6-88-N5506-8802	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D511T-200	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51R6-200	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51S8-208	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D5164-200	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51R6-101	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51R6-S08	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51R6-H05	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51C8-K00	OPTION
6	SSD M.2 2280 (MOROS) (MOROS) (MOROS)	6-85-D51C8-K00	OPTION
7	THERMAL PAD R5300X30X20(L5) N1300J	6-48-N1302-010	
8	DRIVE BAY (MOROS) (MOROS) (MOROS)	6-87-N14WS-31A00-A	
8	DRIVE BAY (MOROS) (MOROS) (MOROS)	6-87-N14WS-32B00-A	
8	DRIVE BAY (MOROS) (MOROS) (MOROS)	6-87-N130S-31A01	
8	DRIVE BAY (MOROS) (MOROS) (MOROS)	6-87-N130S-3U9A1	
9	SCREW METAL KI NI ICT NY (GD#45, DT#04)	6-35-B1120-4RE	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-3C	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-4E	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-5E	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-1D	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-1C	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-C	
10	HEAT SINK (MOROS) (MOROS) (MOROS)	6-77-N1302U00-D02-2E	
11	CPU HEATSINK MODULE N140WU	6-31-N14WN-102	
12	SCREW METAL KI RZ ICT NY (GD#45, DT#04)	6-35-B6120-3RD	
13	KB CONNECTOR MYLAR 25*6.5*0.5T FR83 N1300J	6-40-N1303-011	
14	DRY SOCKET RUBBER(DRY) SILICONE P65RS6	6-47-P65RS-011	
15	FAN MODULE (WINMA) PWM N141WU	6-31-N14WS-102-1	
16	DUMMY SD RUBBER (SILICON RUBBER) N130BU	6-47-N130B-012	
17	CABLE FIX BKT(SGCC) N130BU	6-33-N130B-011	
18	TAPE MYLAR (C)MYLAR M550J	6-40-M55J2-030	
19	TAPE MYLAR TRANSPARENT (20*10*0.05) P180M	6-40-P1803-020	

# Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *N130ZU / N131ZU* 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>Panel - Page B - 18</i>	<i>VDD3, VDD5 - Page B - 34</i>
<i>Processor 1/12 - Page B - 3</i>	<i>PS8338B - Page B - 19</i>	<i>1.5VA, 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>ASMI543, Redriver - Page B - 23</i>	<i>VCCIN, VCCGT, VCCSA Output - Page B - 39</i>
<i>Processor 6/12 - Page B - 8</i>	<i>TPS65987D Type C - Page B - 24</i>	<i>VCCIO, 2.5V - Page B - 40</i>
<i>Processor 7/12 - Page B - 9</i>	<i>Card Reader &amp; 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>Audio Board - Page B - 43</i>
<i>Processor 10/12 - Page B - 12</i>	<i>WLAN/BT, 4G - Page B - 28</i>	<i>Click Board - Page B - 44</i>
<i>Processor 11/12 - Page B - 13</i>	<i>M Key PCIE SSD - Page B - 29</i>	<i>LED Board - Page B - 45</i>
<i>Processor 12/12 - Page B - 14</i>	<i>SATA, LED, LID, SW - Page B - 30</i>	<i>DC Jack Board - Page B - 46</i>
<i>DDR4 SO-DIMM_0 - Page B - 15</i>	<i>USB / TPM - Page B - 31</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>	

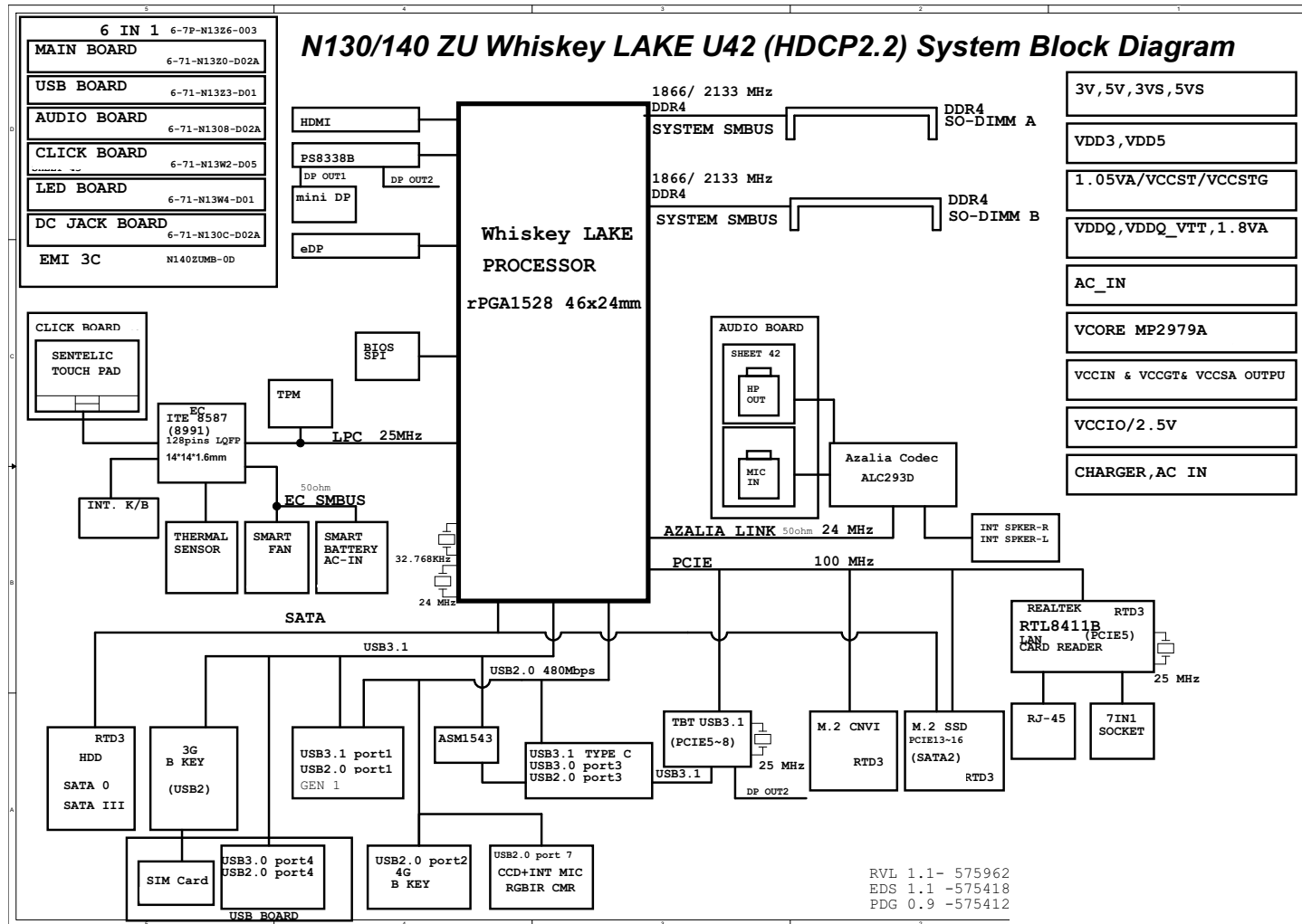
*Table B - 1*  
**SCHEMATIC  
DIAGRAMS**



**Version Note**

The schematic diagrams in this chapter are based upon version 6-7P-N13Z6-003. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

# System Block Diagram

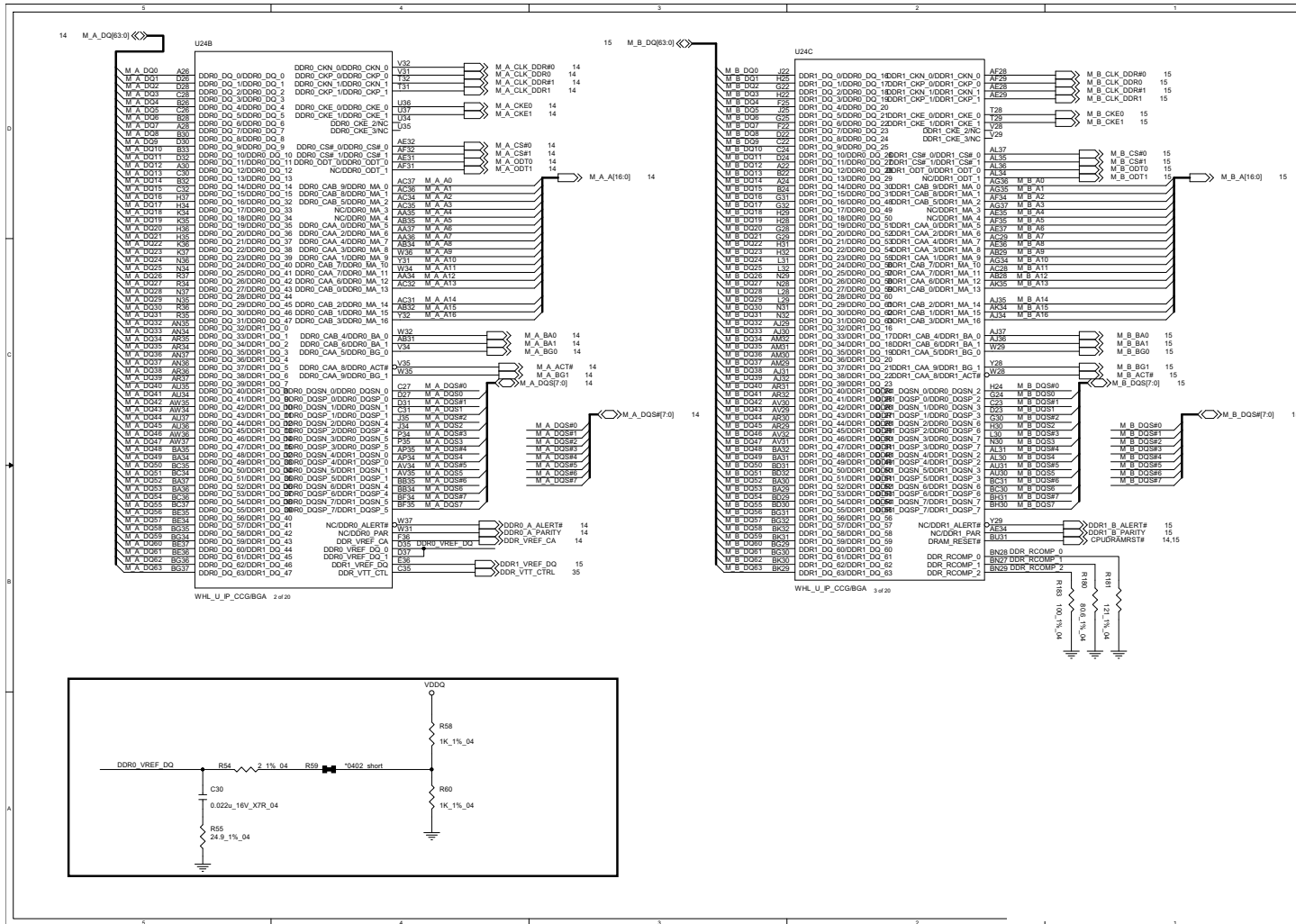


Sheet 1 of 45  
System Block  
Diagram

# Processor 1/12

B.Schematic Diagrams

Sheet 2 of 45  
Processor 1/12

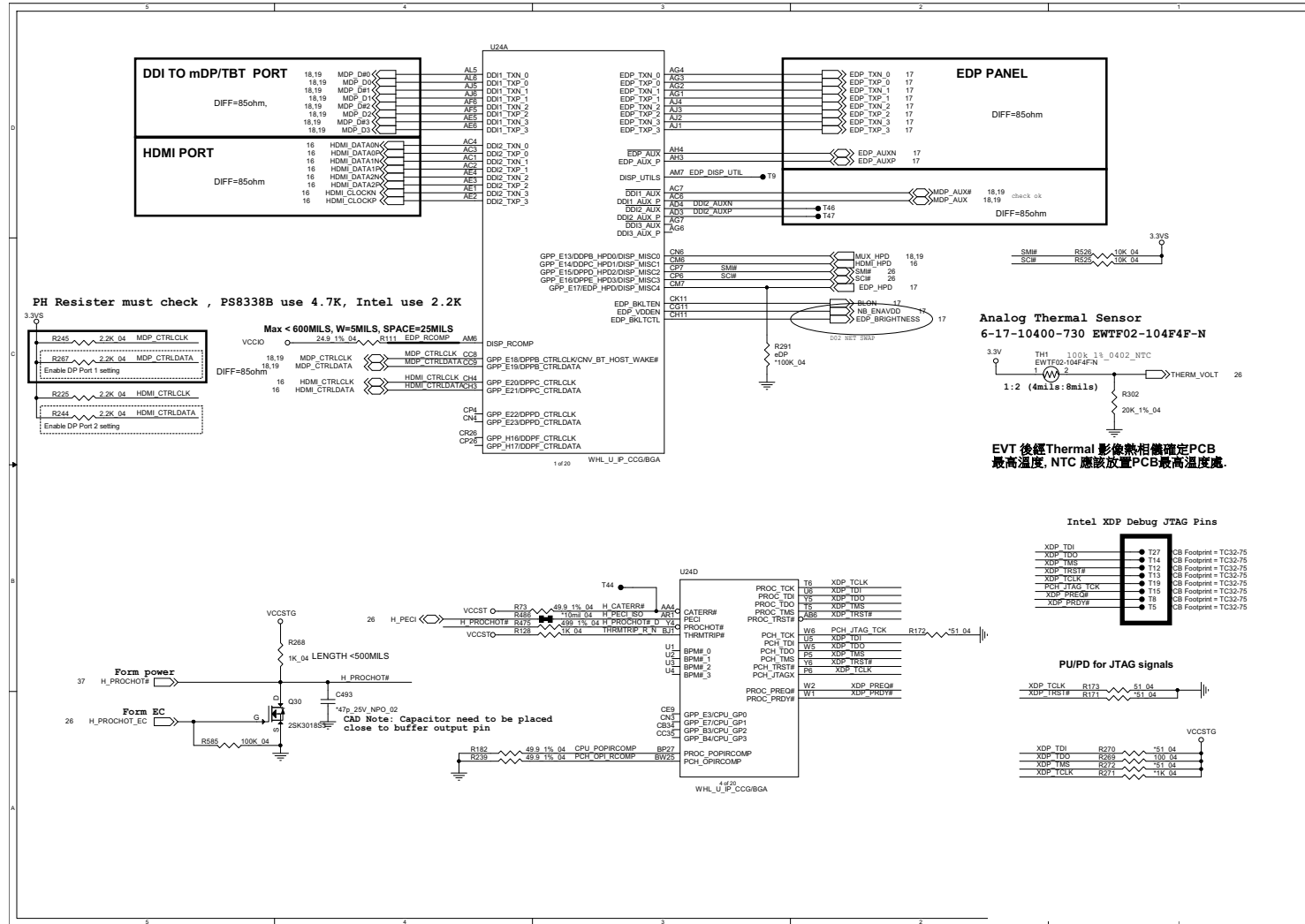


Schematic Diagrams

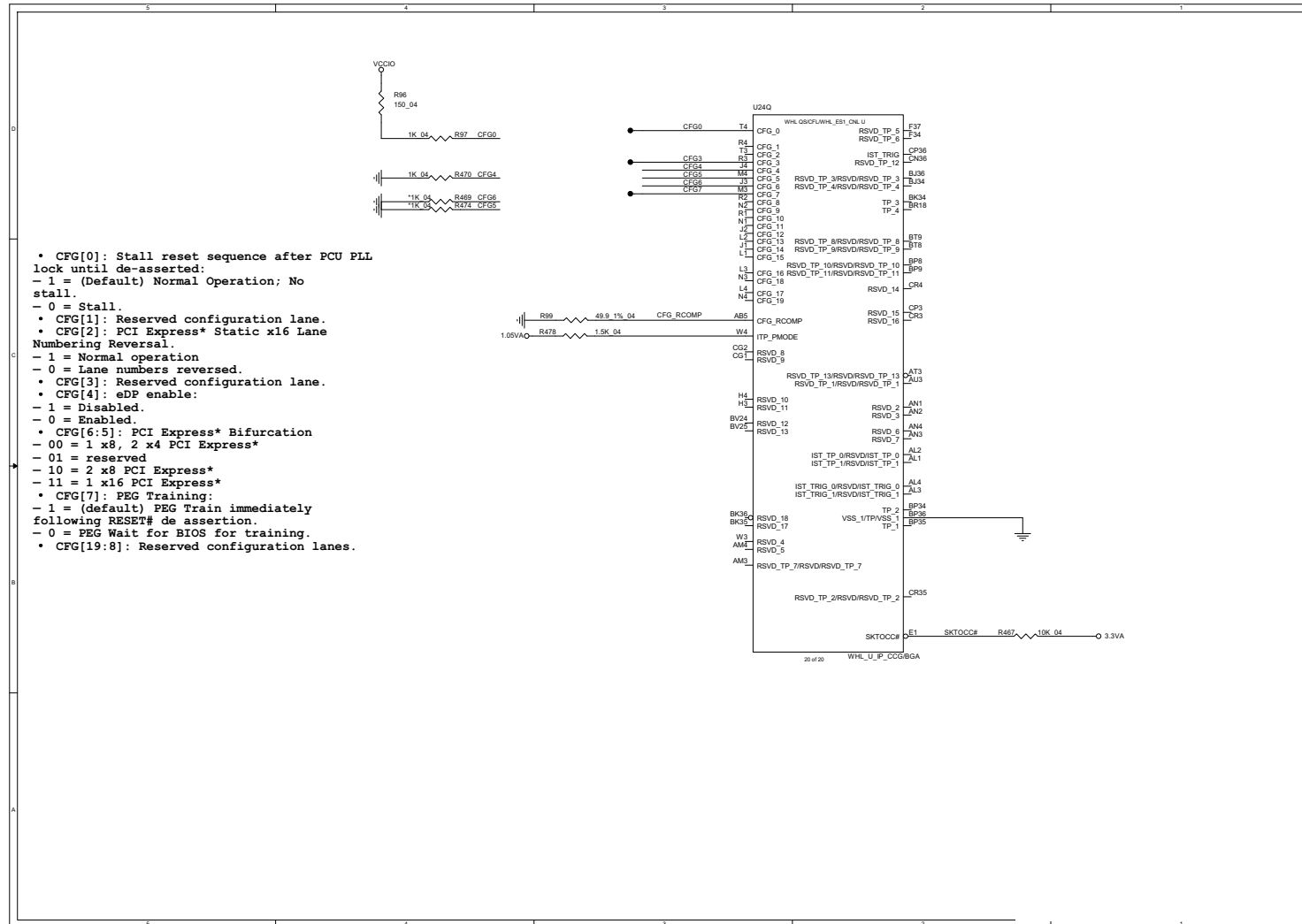
Processor 2/12

B.Schematic Diagrams

Sheet 3 of 45  
Processor 2/12



# Processor 3/12



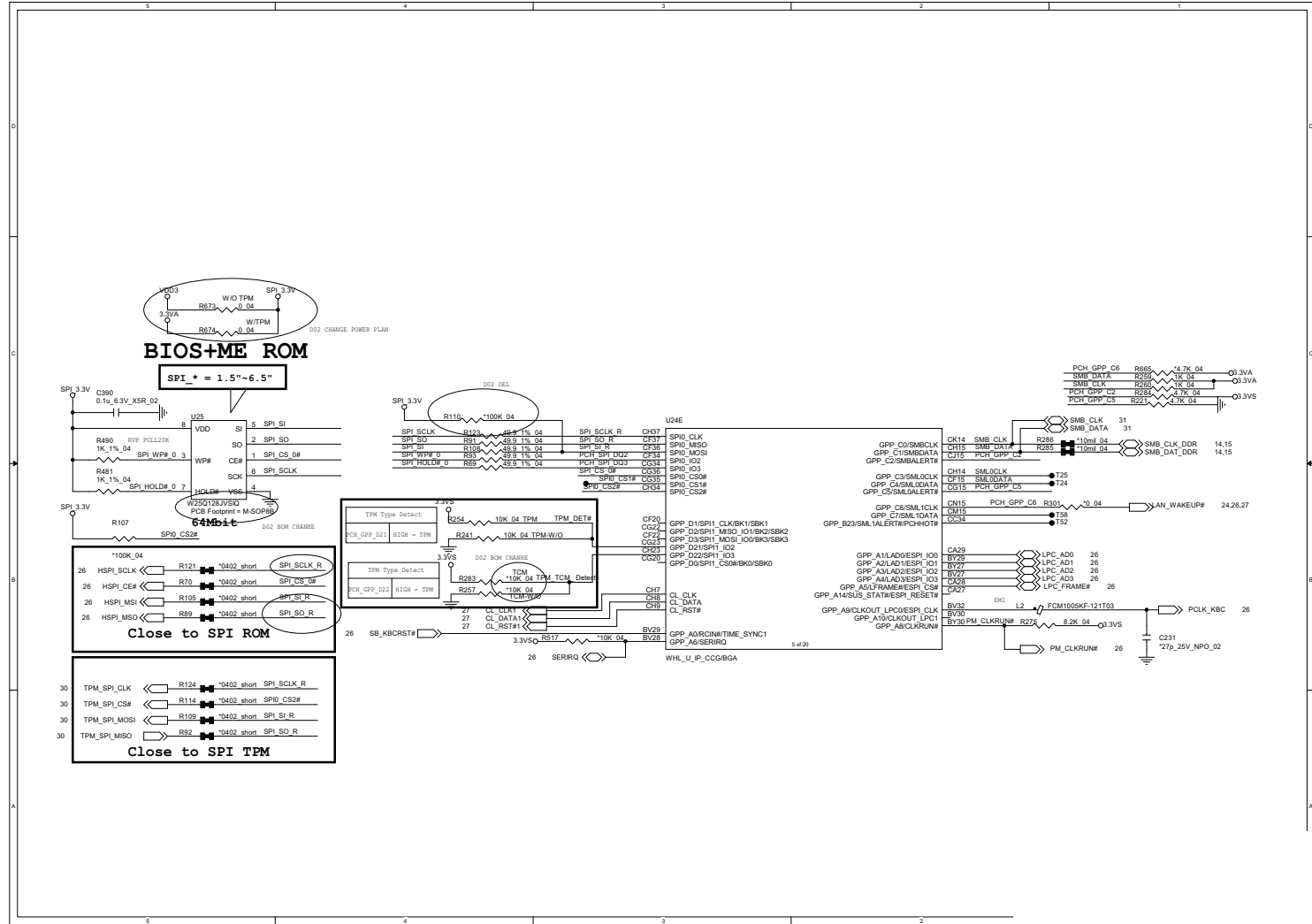
- CFG[0]: Stall reset sequence after PCU PLL lock until de-asserted:
  - 1 = (Default) Normal Operation; No stall.
  - 0 = Stall.
- CFG[1]: Reserved configuration lane.
- CFG[2]: PCI Express\* Static x16 Lane Numbering Reversal.
  - 1 = Normal operation
  - 0 = Lane numbers reversed.
- CFG[3]: Reserved configuration lane.
- CFG[4]: eDP enable:
  - 1 = Disabled.
  - 0 = Enabled.
- CFG[6:5]: PCI Express\* Bifurcation
  - 00 = 1 x8, 2 x4 PCI Express\*
  - 01 = reserved
  - 10 = 2 x8 PCI Express\*
  - 11 = 1 x16 PCI Express\*
- CFG[7]: PEG Training:
  - 1 = (default) PEG Train immediately following RESET# de assertion.
  - 0 = PEG Wait for BIOS for training.
- CFG[19:8]: Reserved configuration lanes.

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Processor 3/12

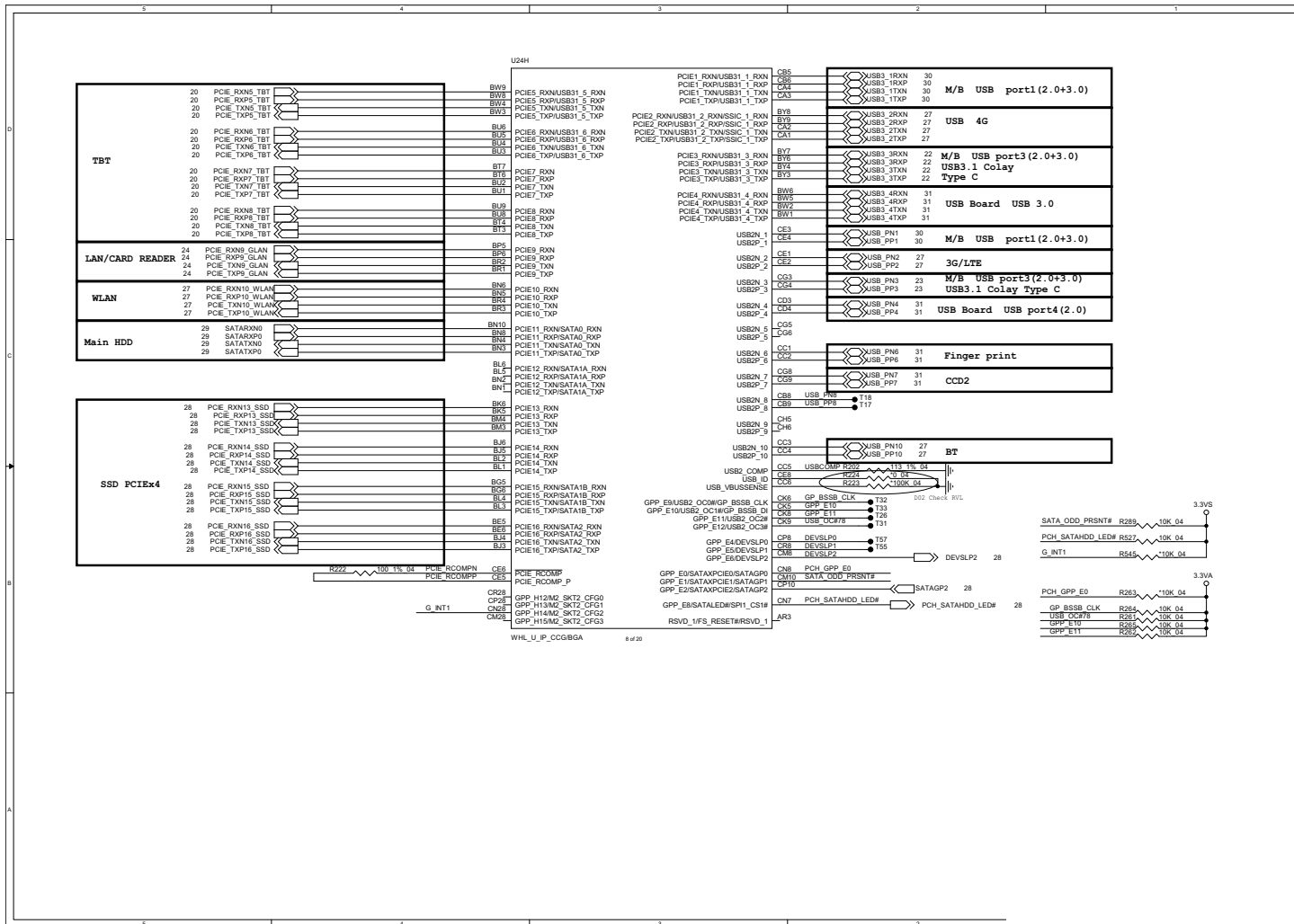


# Processor 4/12

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Processor 4/12



# Processor 5/12

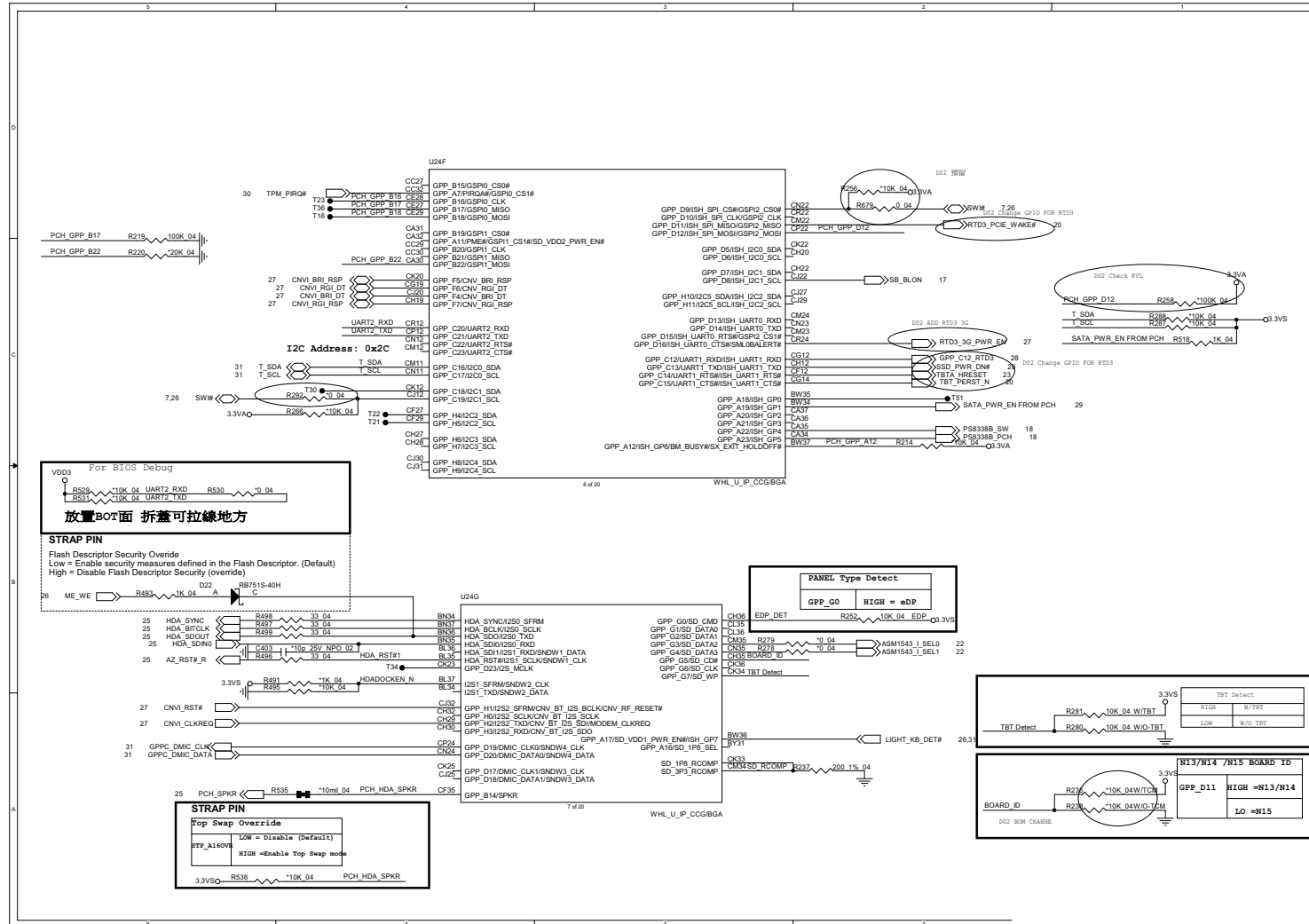


Sheet 6 of 45  
Processor 5/12

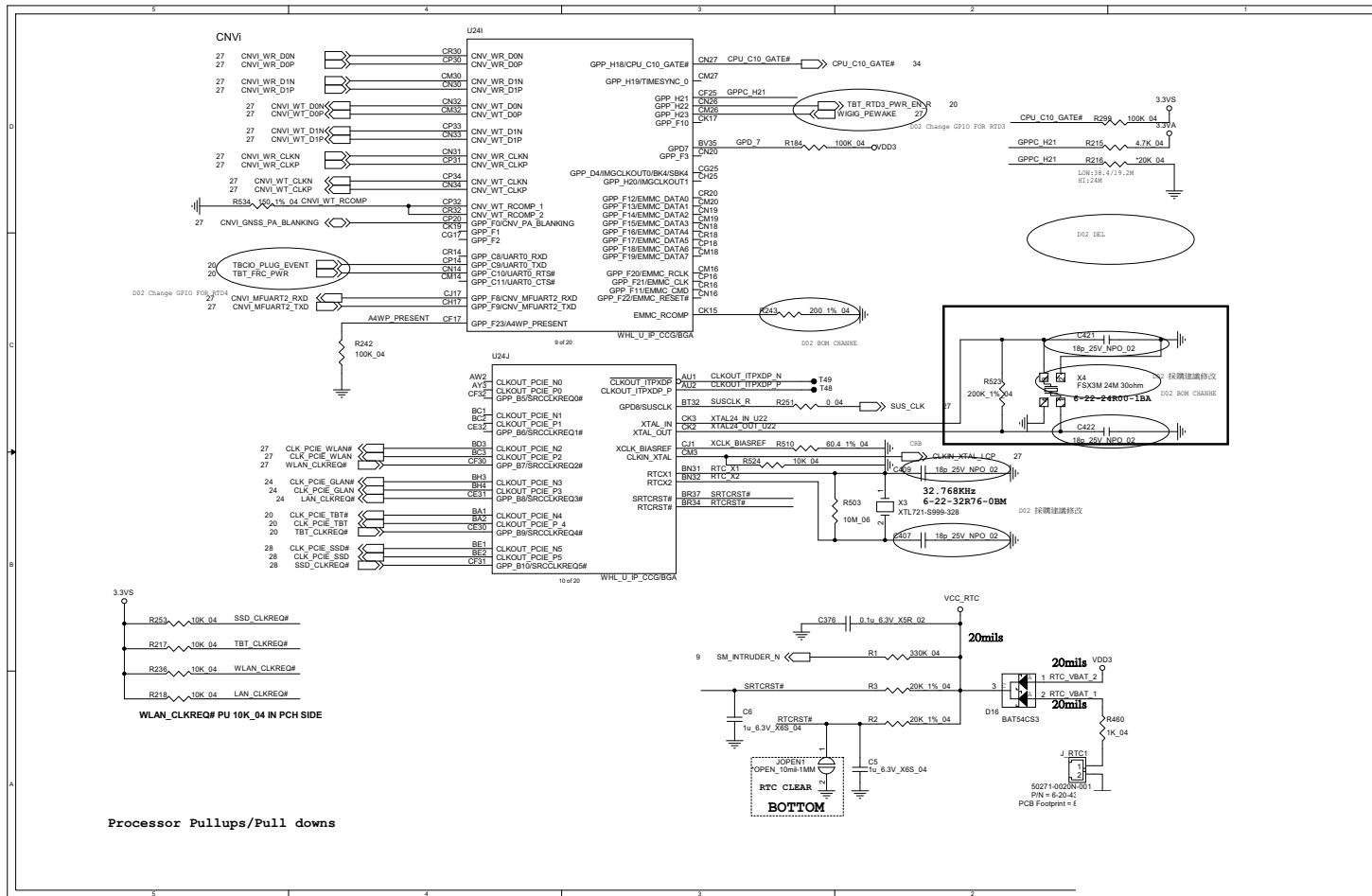
B.Schematic Diagrams

# Processor 6/12

Sheet 7 of 45  
Processor 6/12



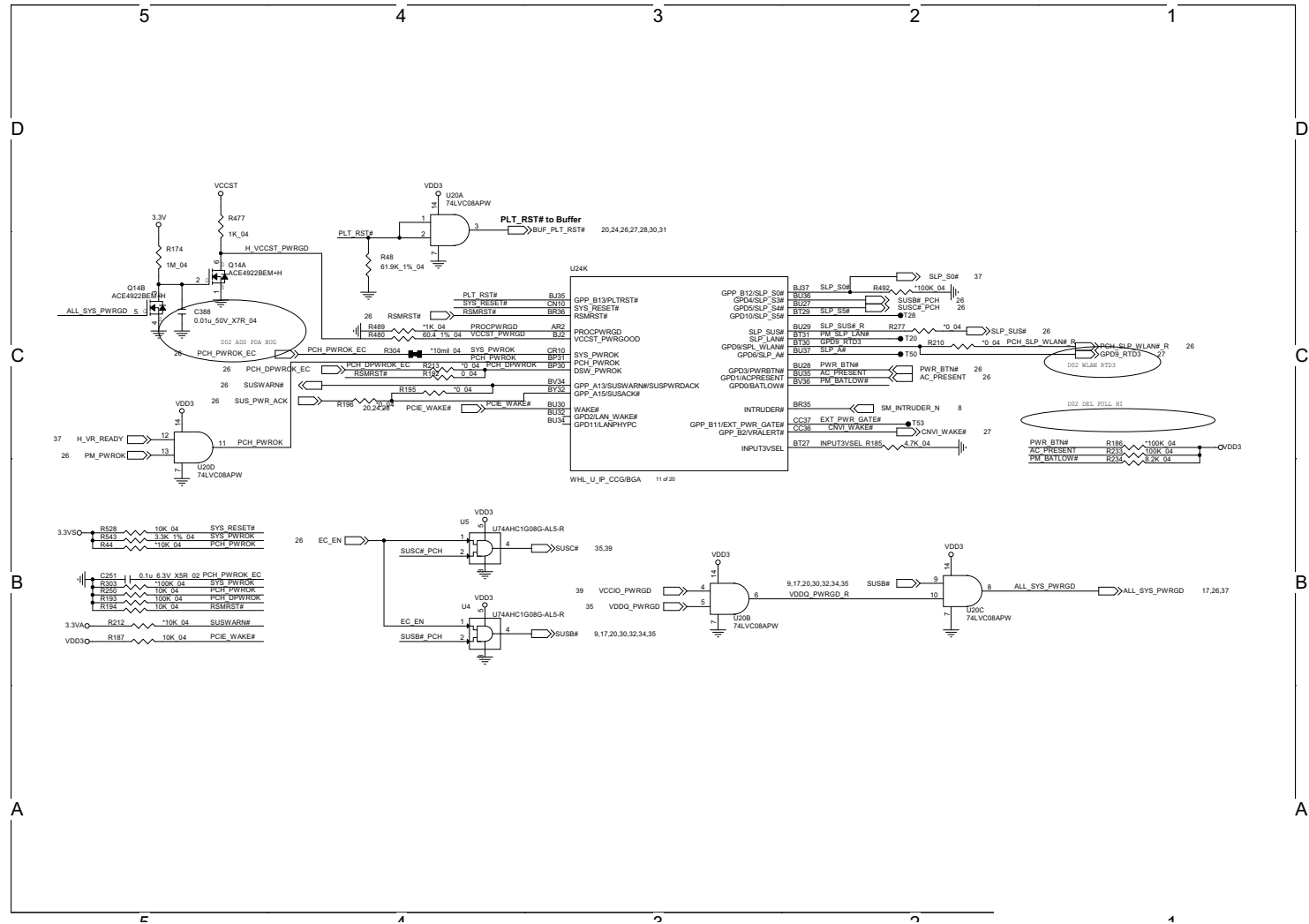
# Processor 7/12



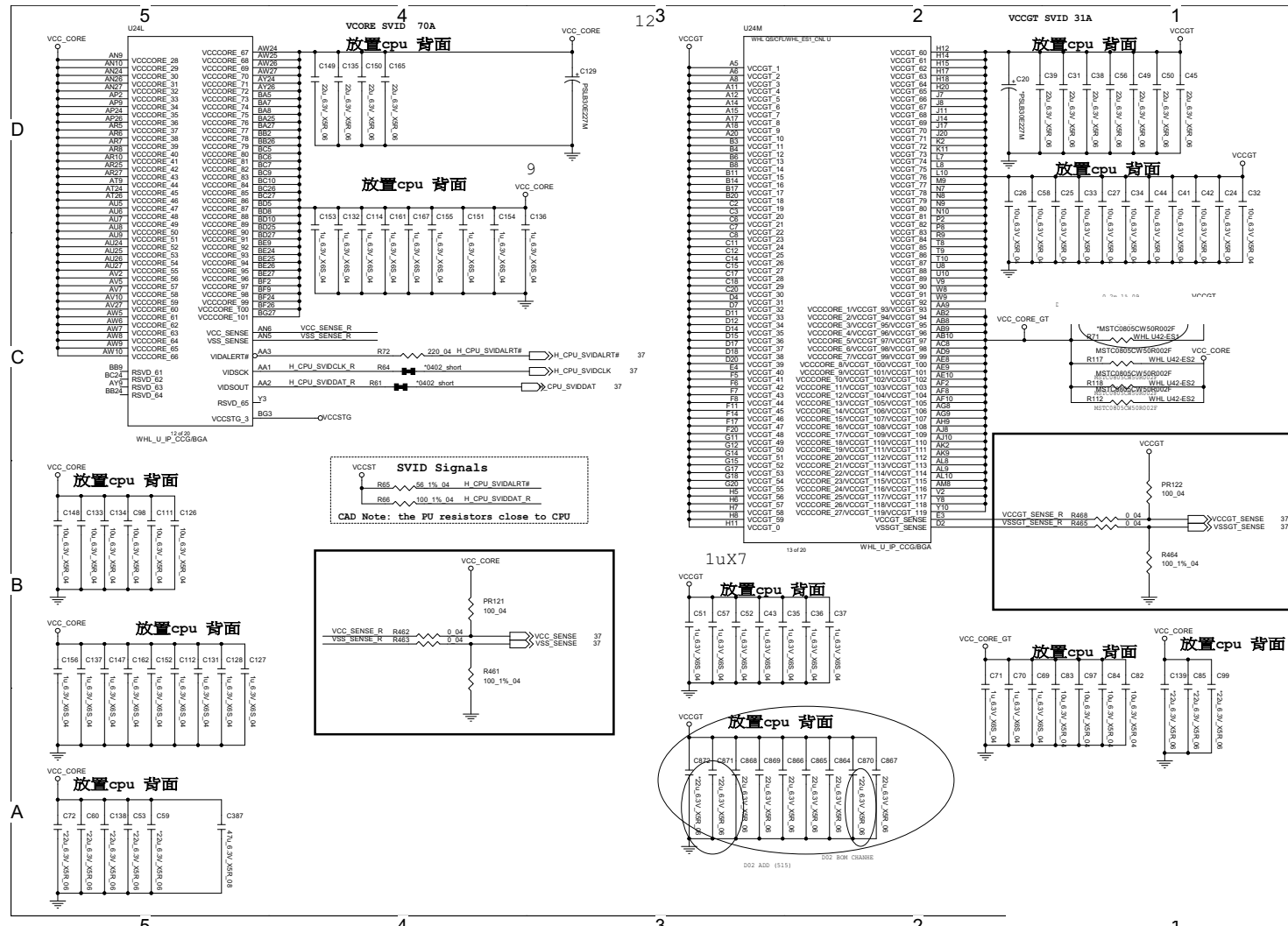
Sheet 8 of 45  
Processor 7/12

Processor 8/12

Sheet 9 of 45  
Processor 8/12



# Processor 9/12

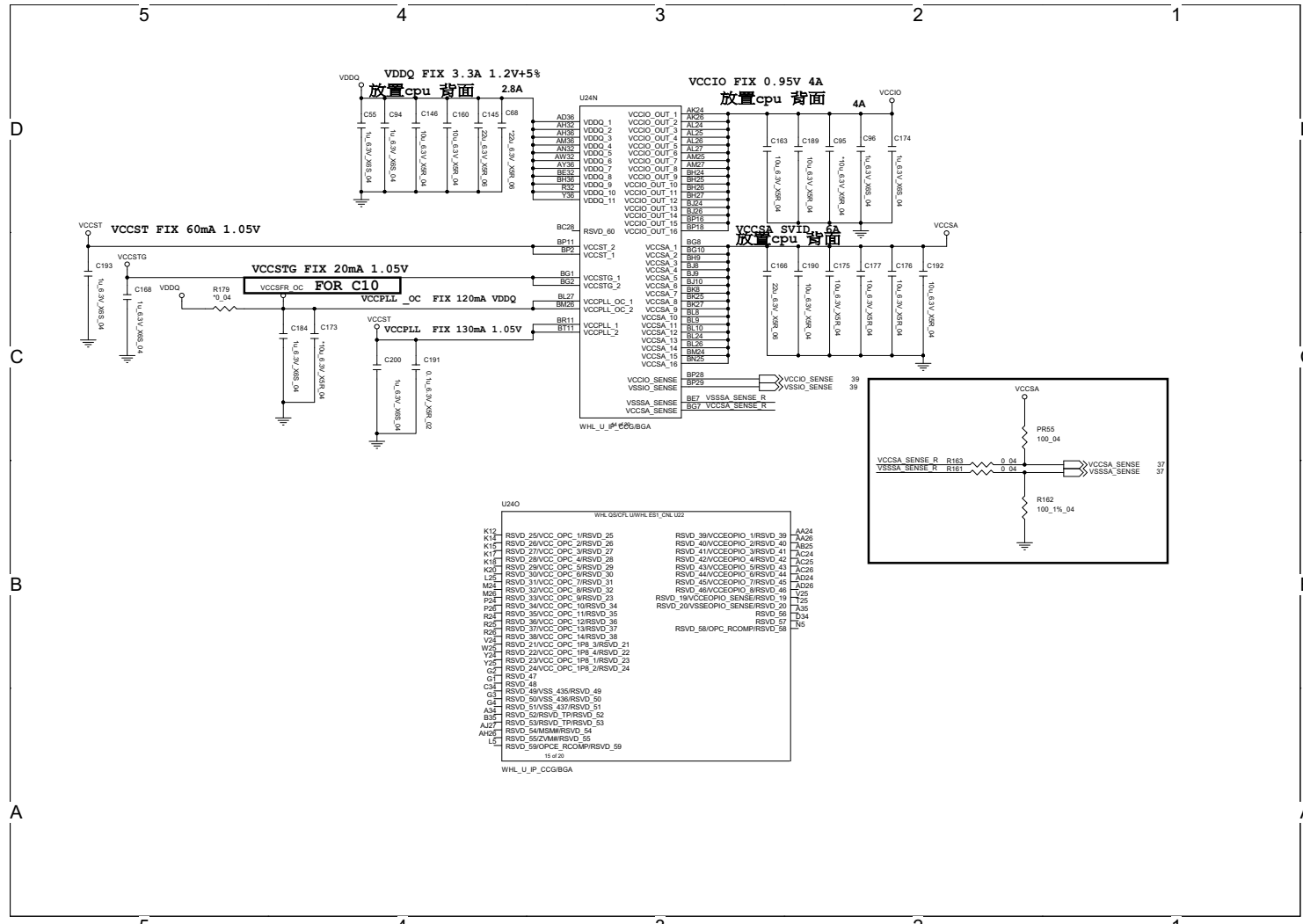


Sheet 10 of 45  
Processor 9/12

B.Schematic Diagrams

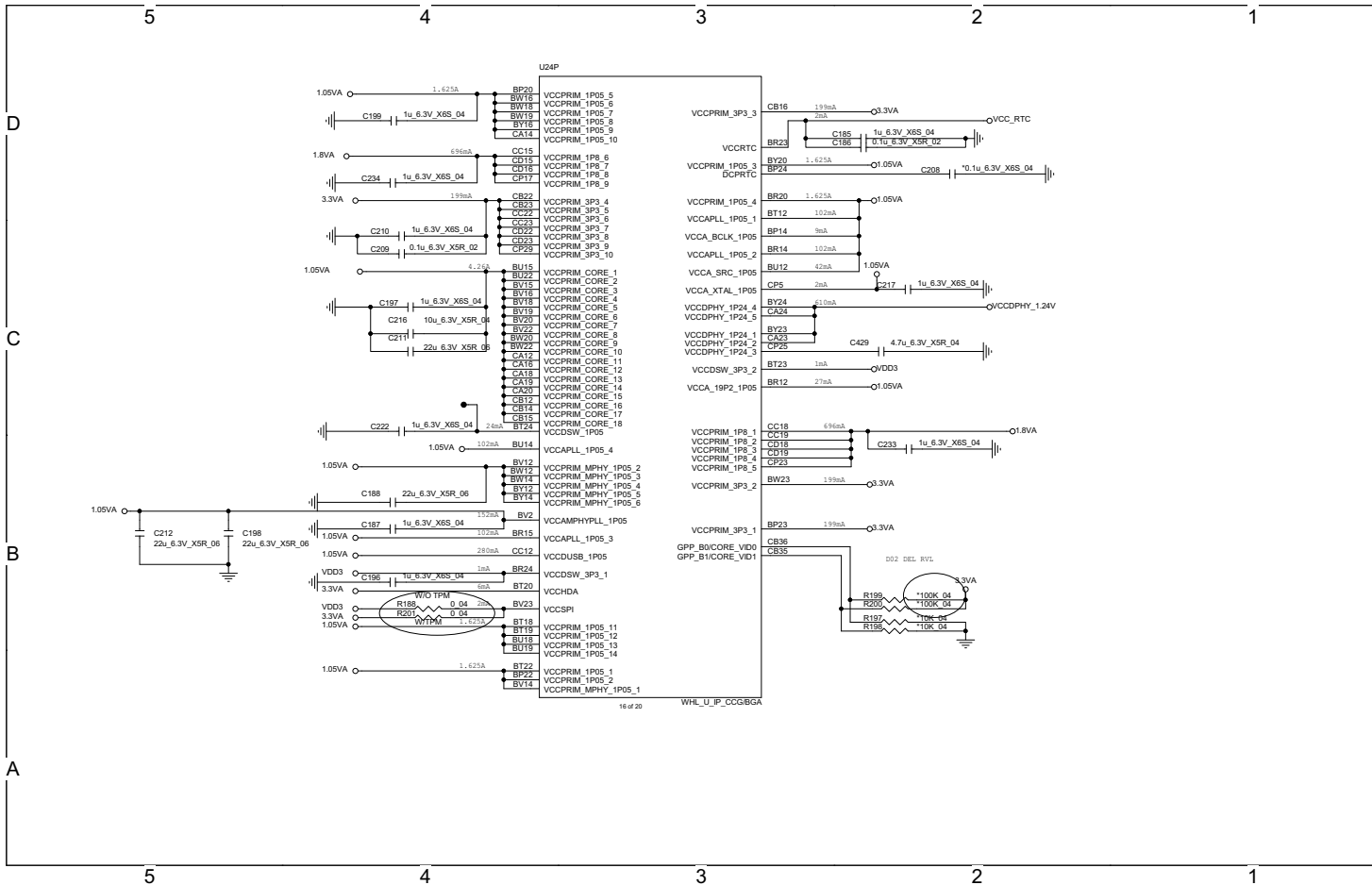
# Processor 10/12

Sheet 11 of 45  
Processor 10/12





# Processor 11/12

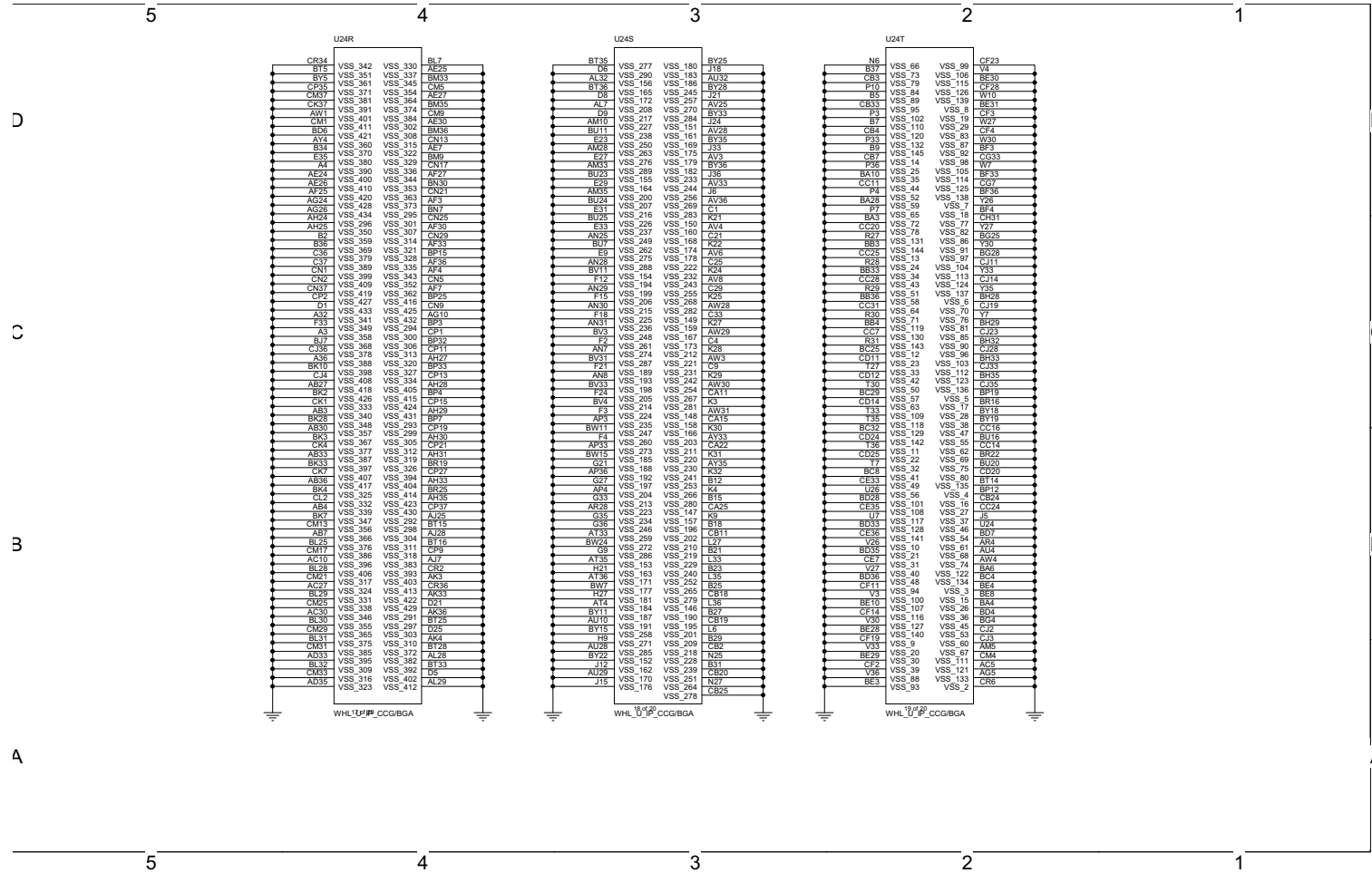


Sheet 12 of 45  
Processor 11/12

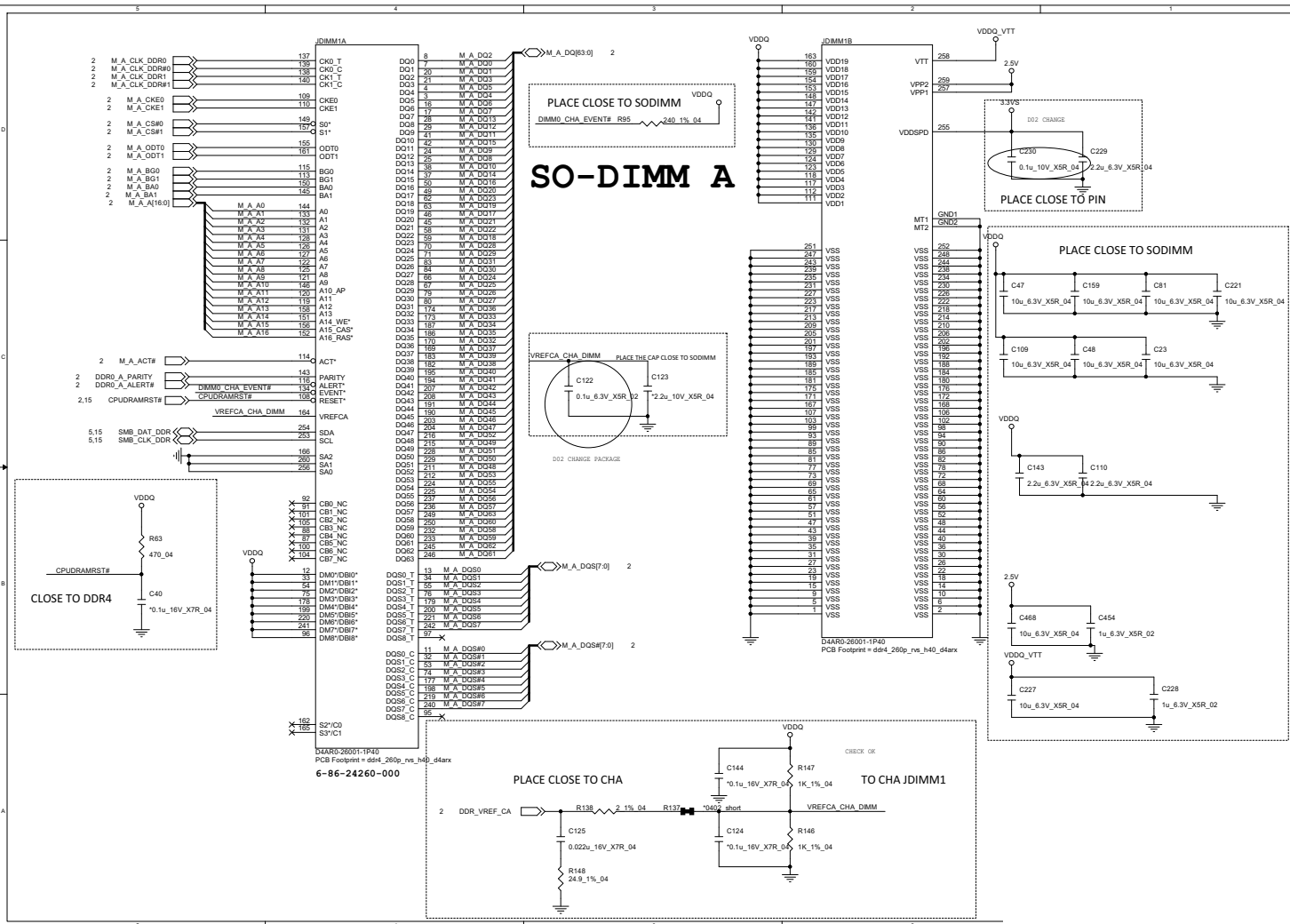
B.Schematic Diagrams

# Processor 12/12

Sheet 13 of 45  
Processor 12/12



# DDR4 SO-DIMM\_0

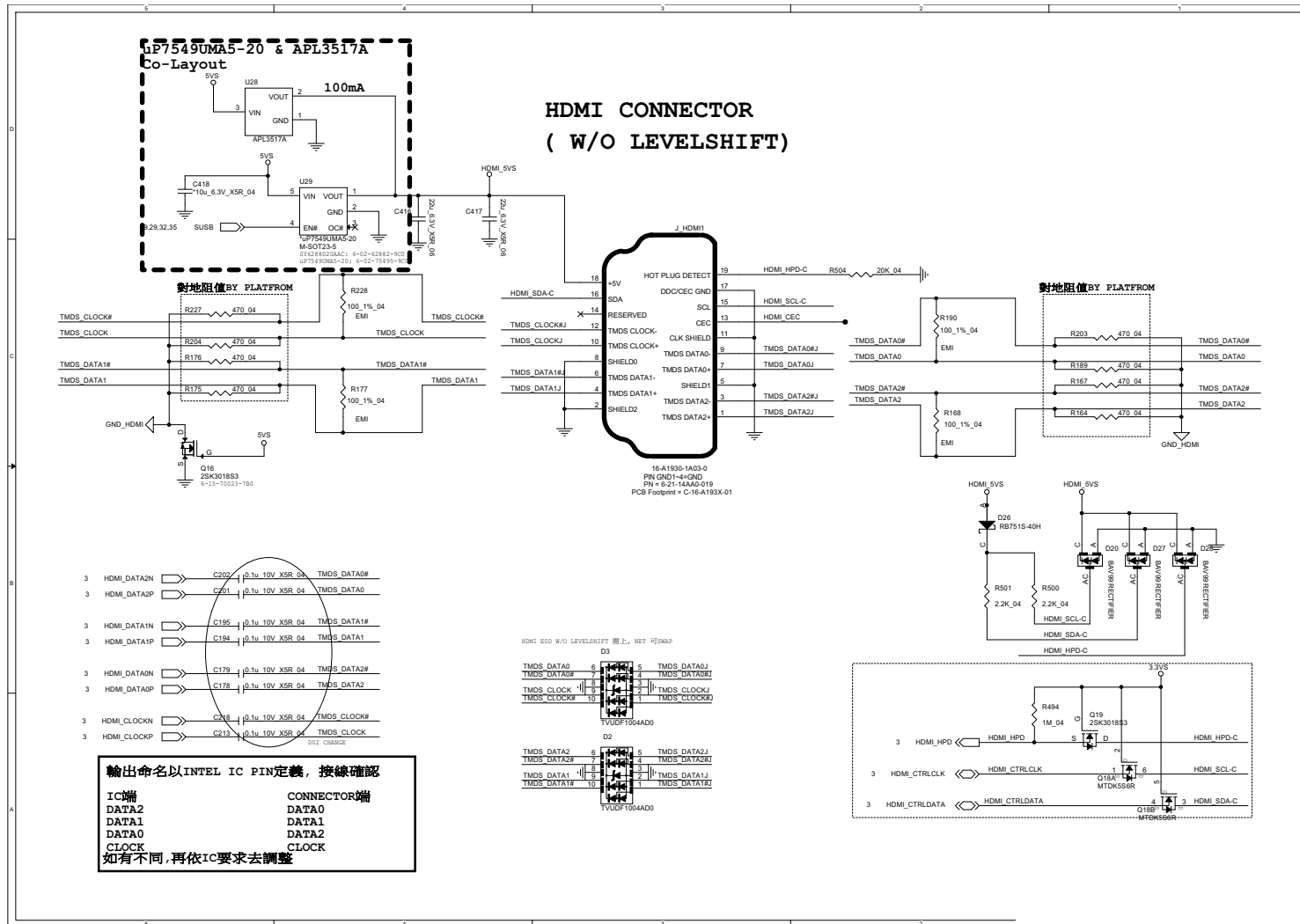


Sheet 14 of 45  
DDR4 SO-DIMM\_0

B.Schematic Diagrams



# HDMI

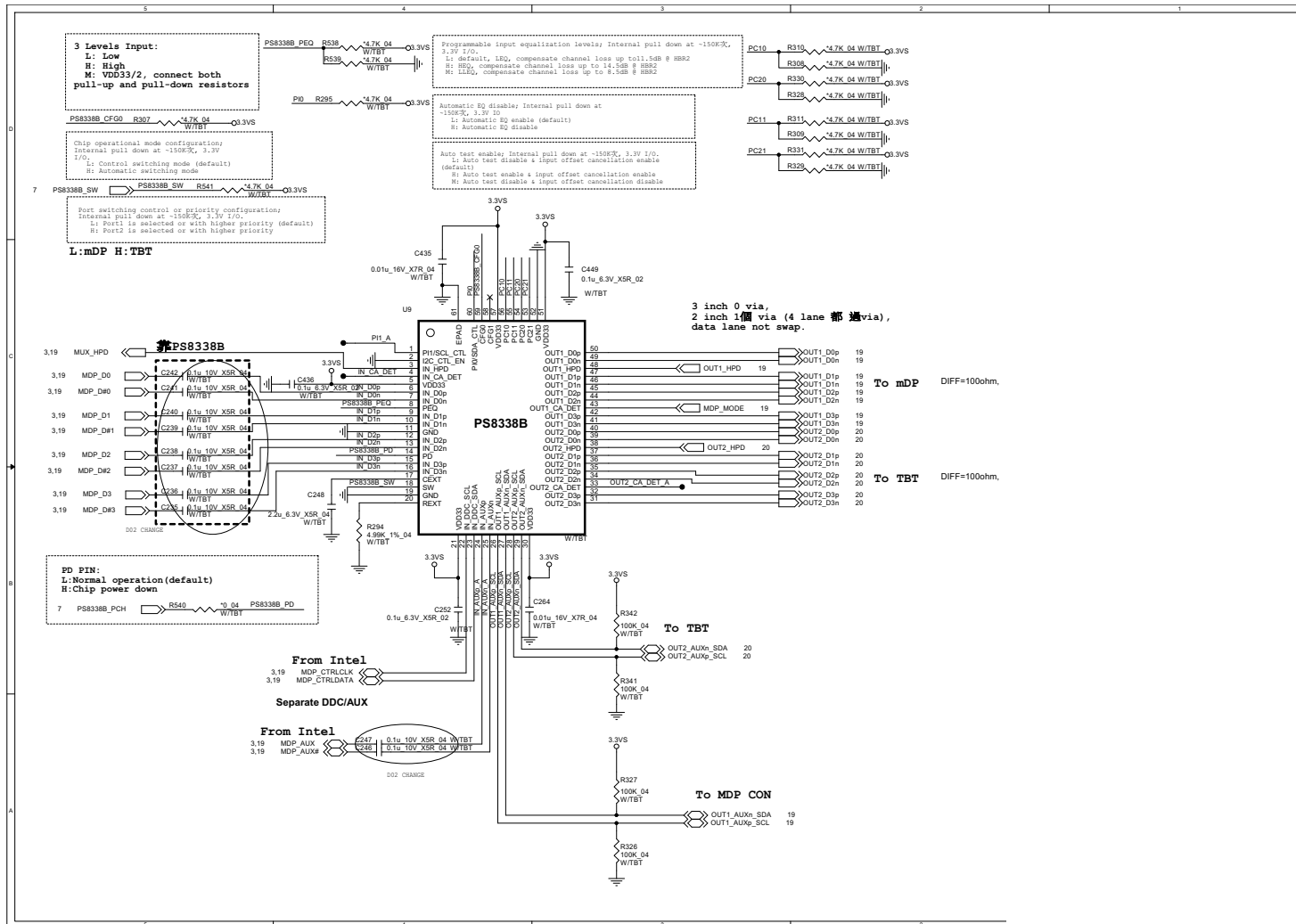


Sheet 16 of 45  
HDMI



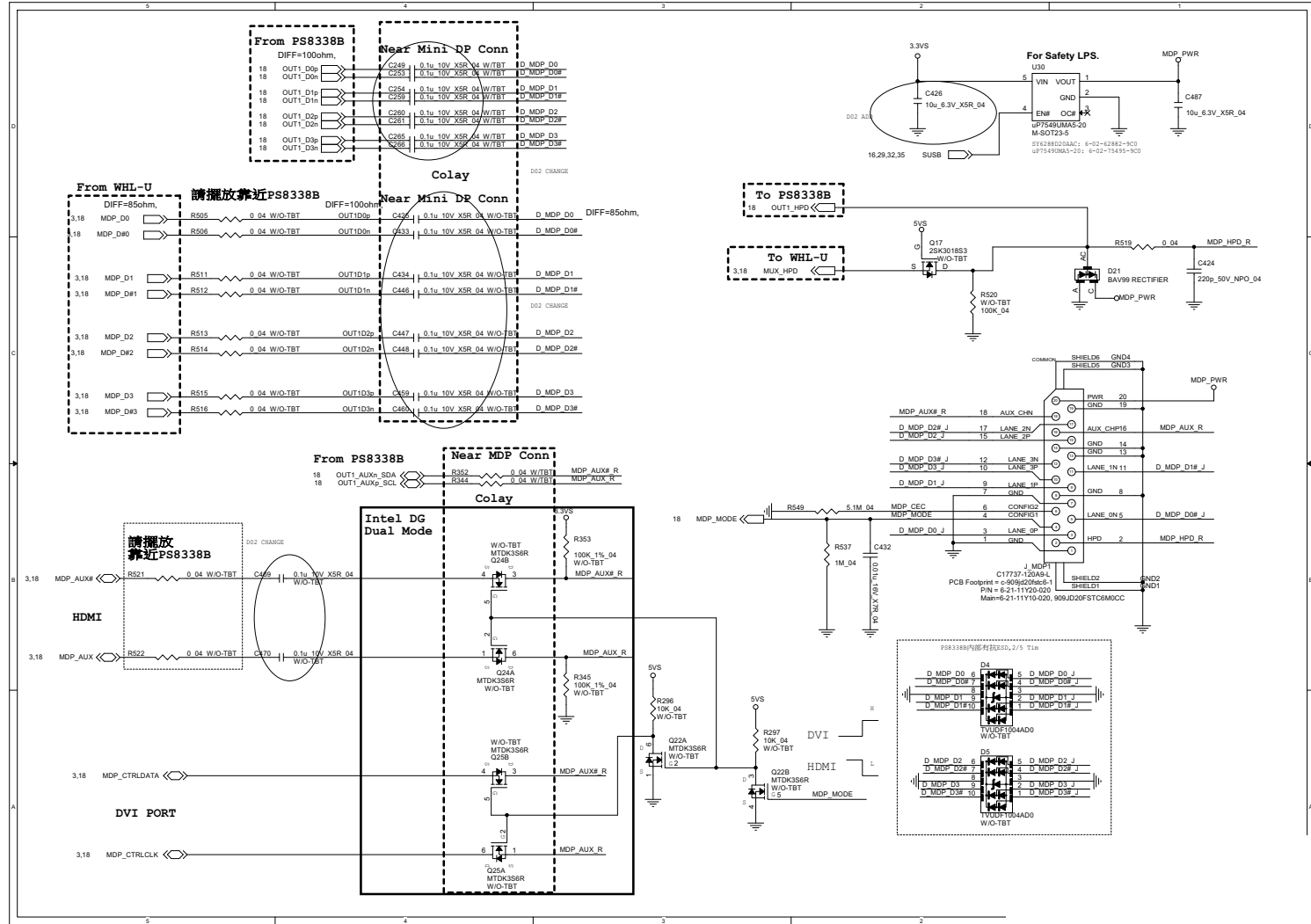
# PS8338B

Sheet 18 of 45  
PS8338B

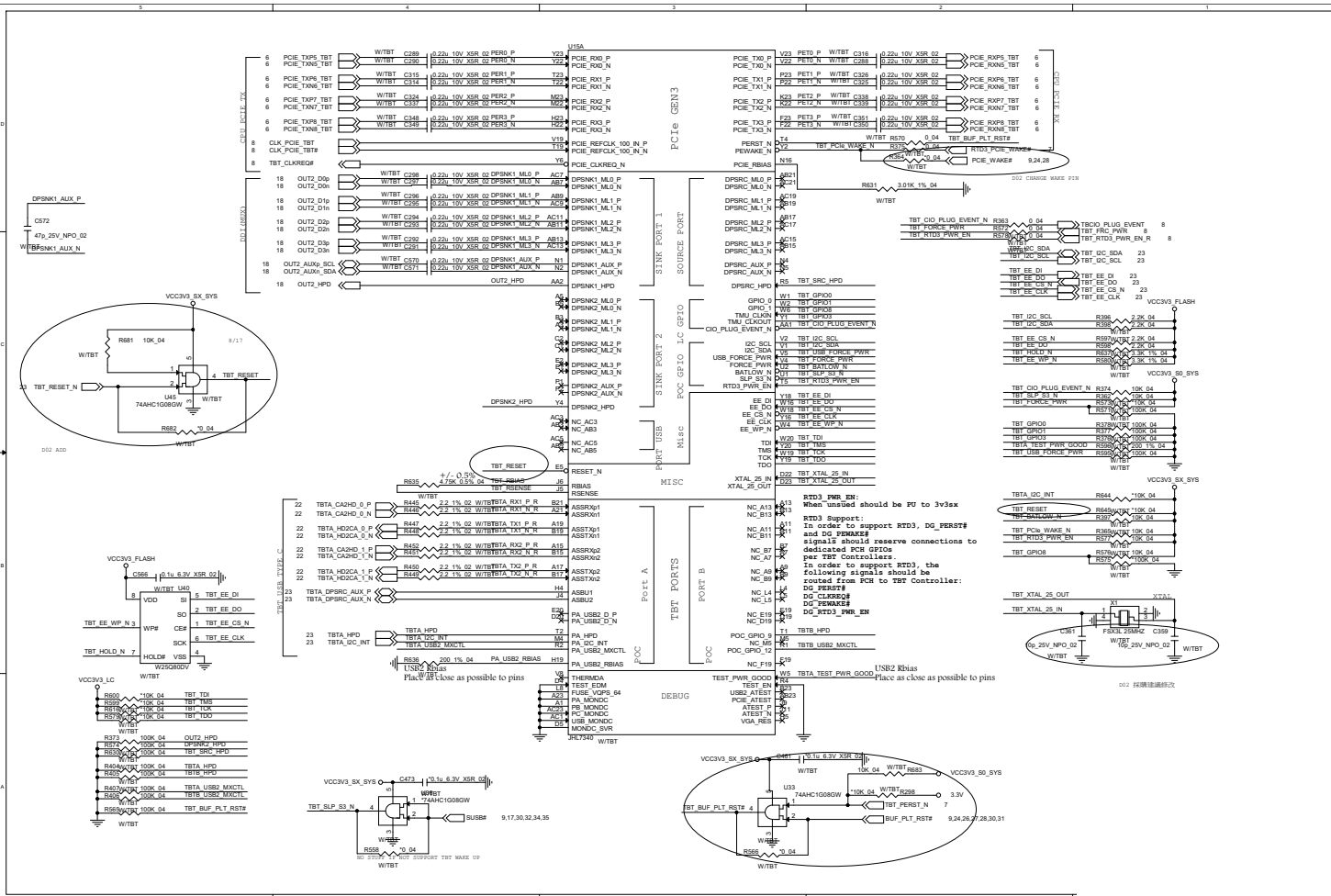




# miniDP



# TR\_TBT

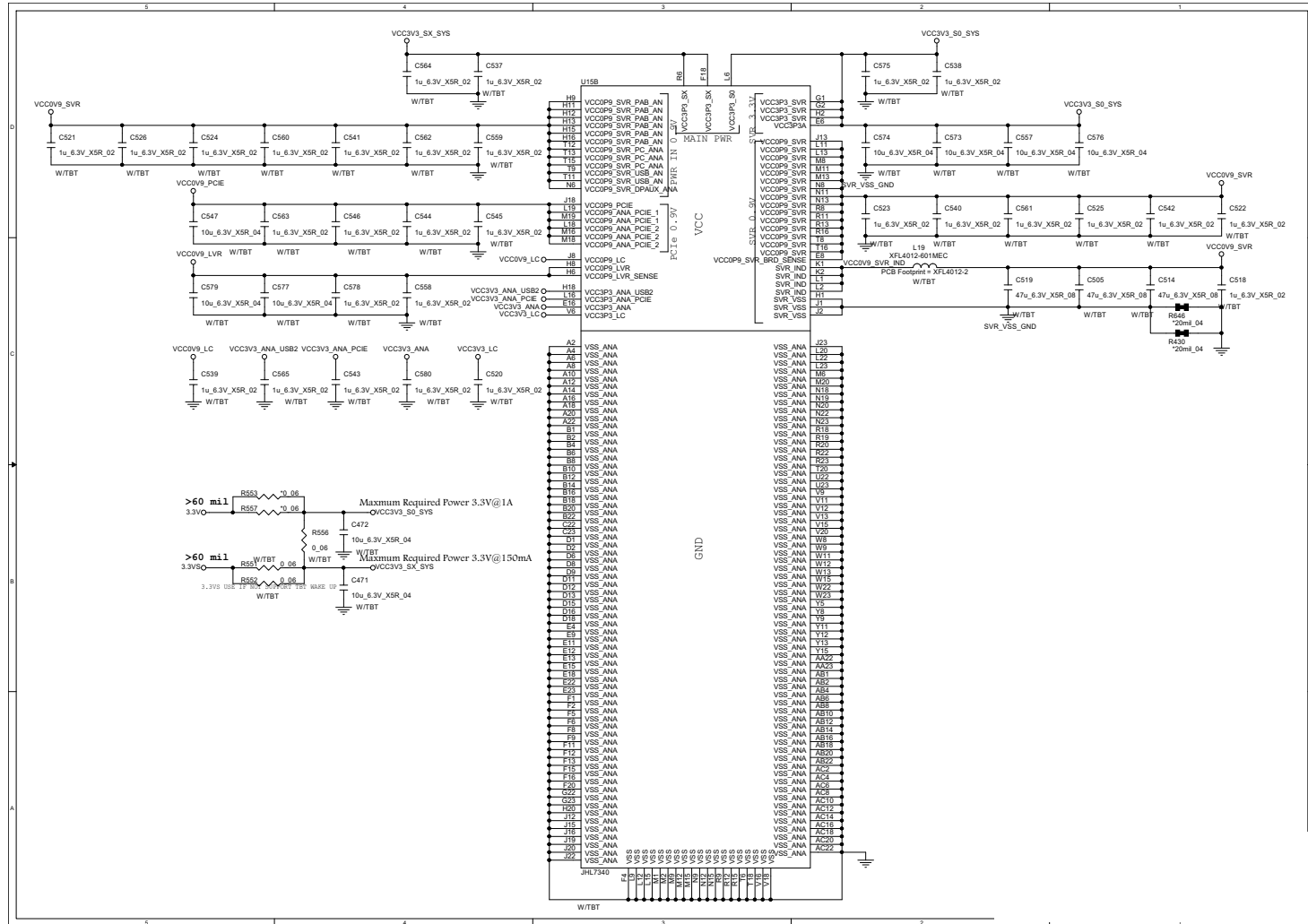


Sheet 20 of 45  
TR\_TBT

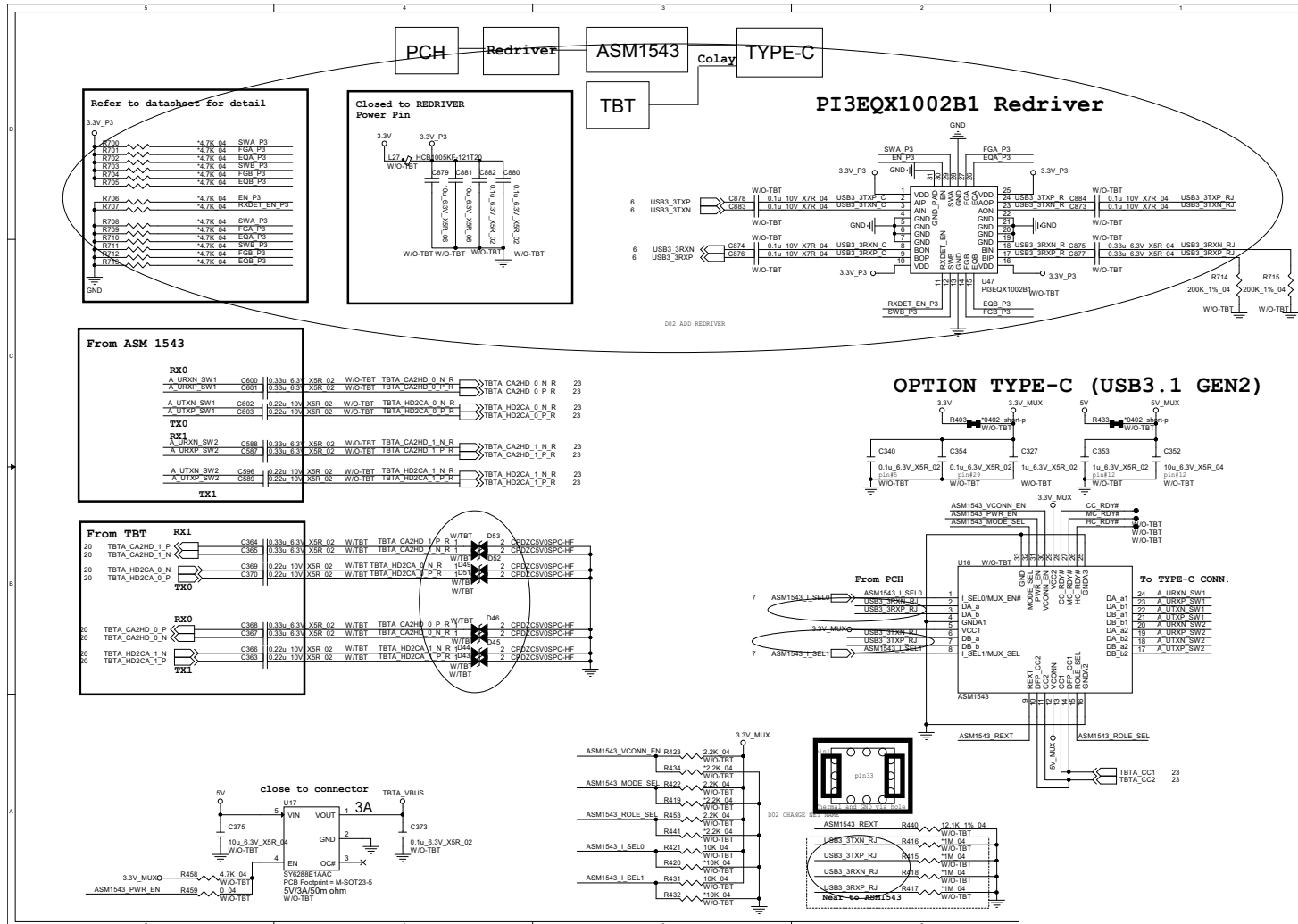
B.Schematic Diagrams

# TR\_Power

Sheet 21 of 45  
TR\_Power

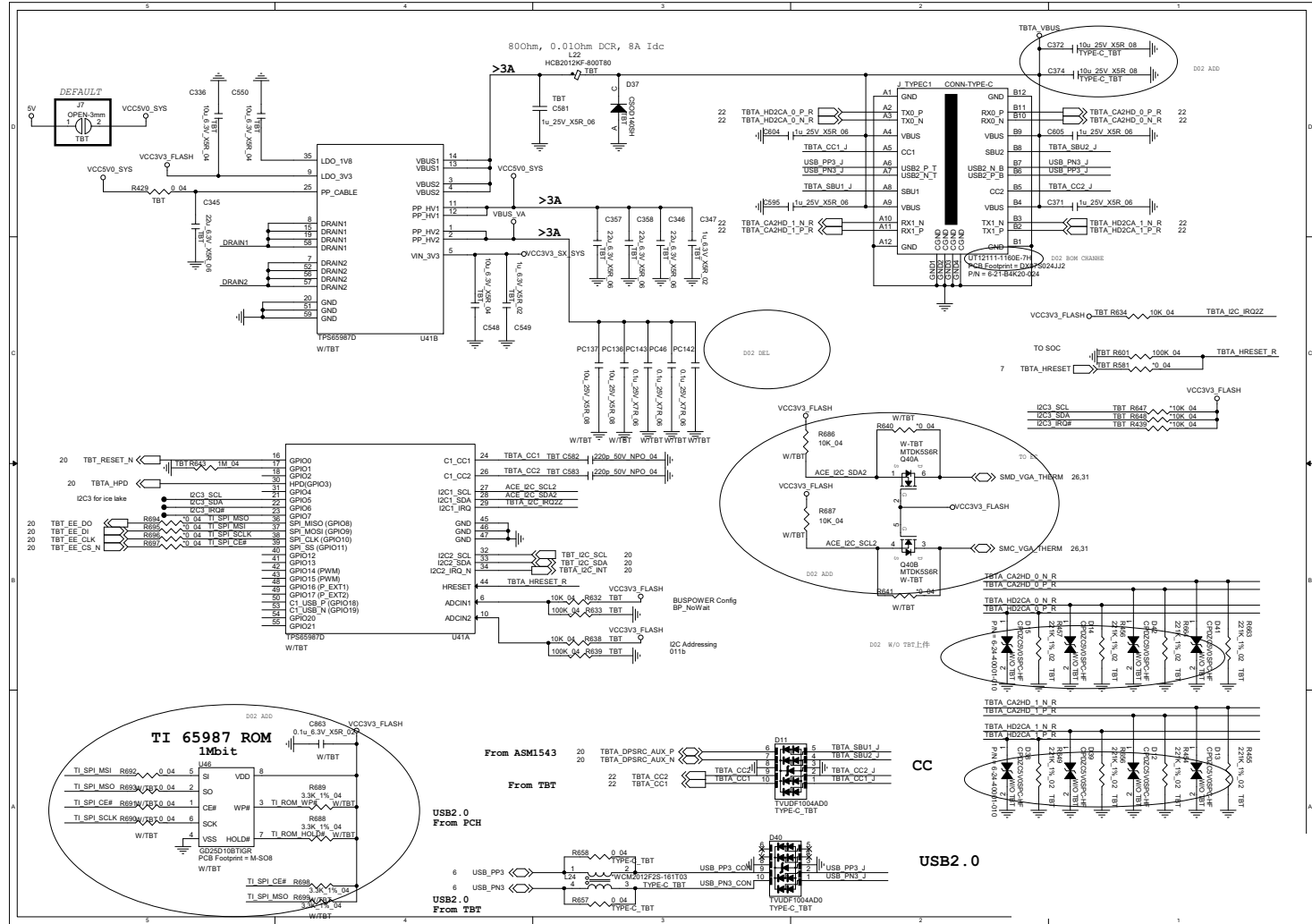


# ASM1543, Redriver



Sheet 22 of 45  
ASM1543, Redriver

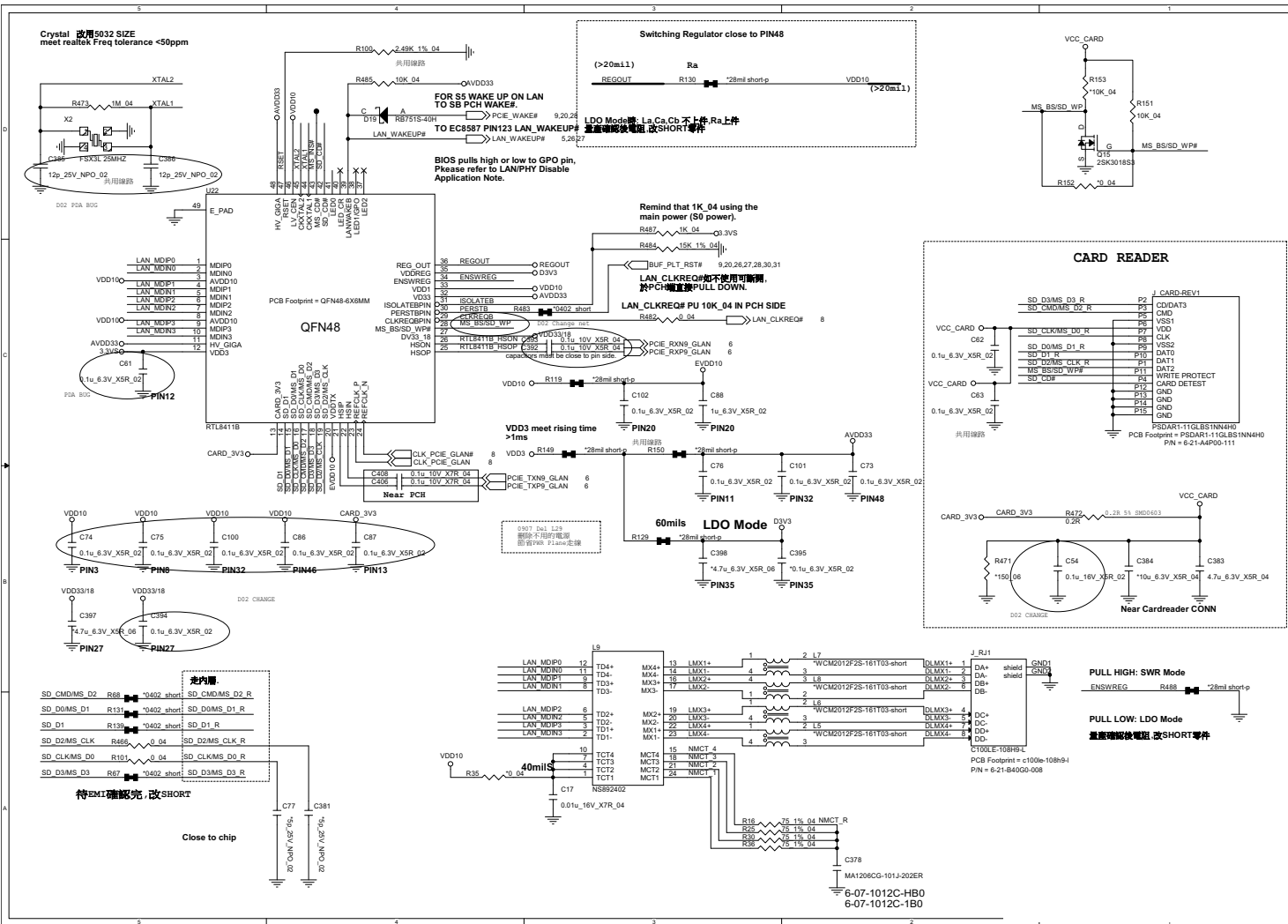
# TPS65987D Type C



Sheet 23 of 45  
TPS65987D Type C

B. Schematic Diagrams

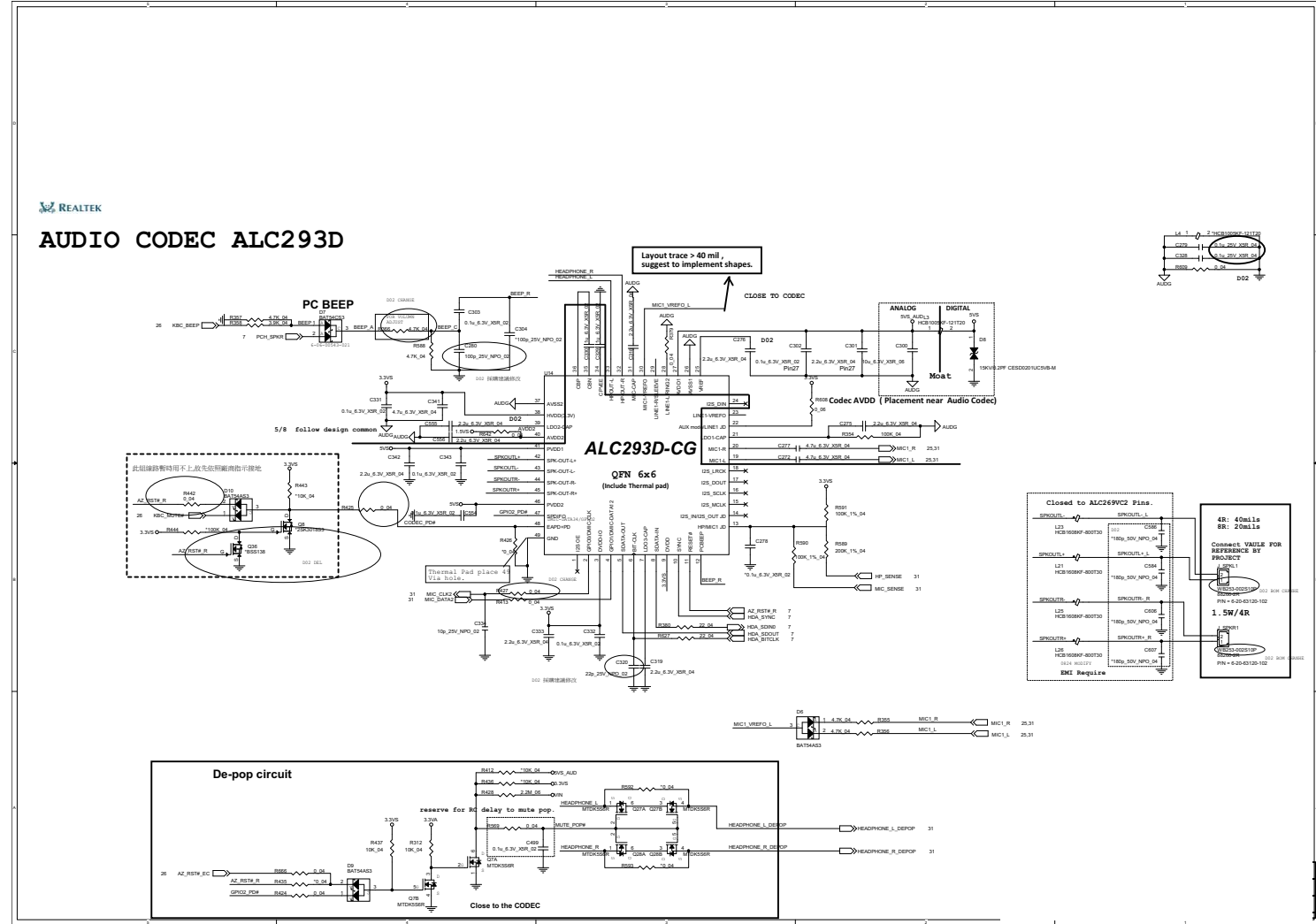
# Card Reader & LAN\_RTL8411B



Sheet 24 of 45  
 Card Reader &  
 LAN\_RTL8411B

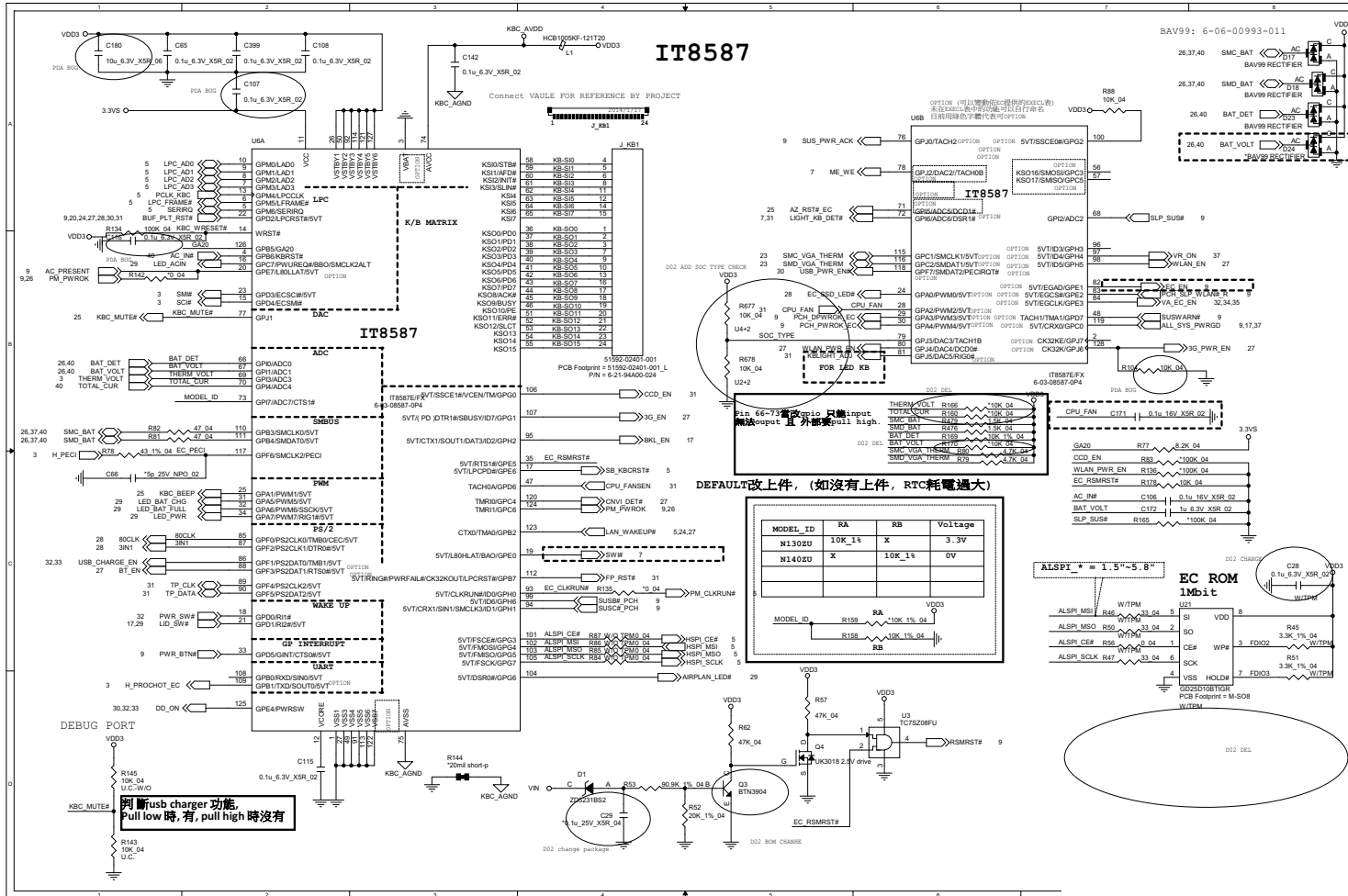
# Audio Codec

Sheet 25 of 45  
Audio Codec





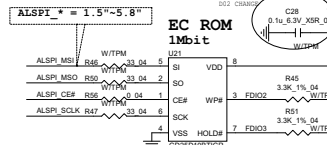
# KBC ITE IT8587



DEFAULT 改上件, (如没有上件, RTC耗电过大)

MODEL_ID	RA	RB	Voltage
N1302U	10K <sub>1%</sub>	X	3.3V
N1402U	X	10K <sub>1%</sub>	0V

MODEL\_ID RA RB Voltage

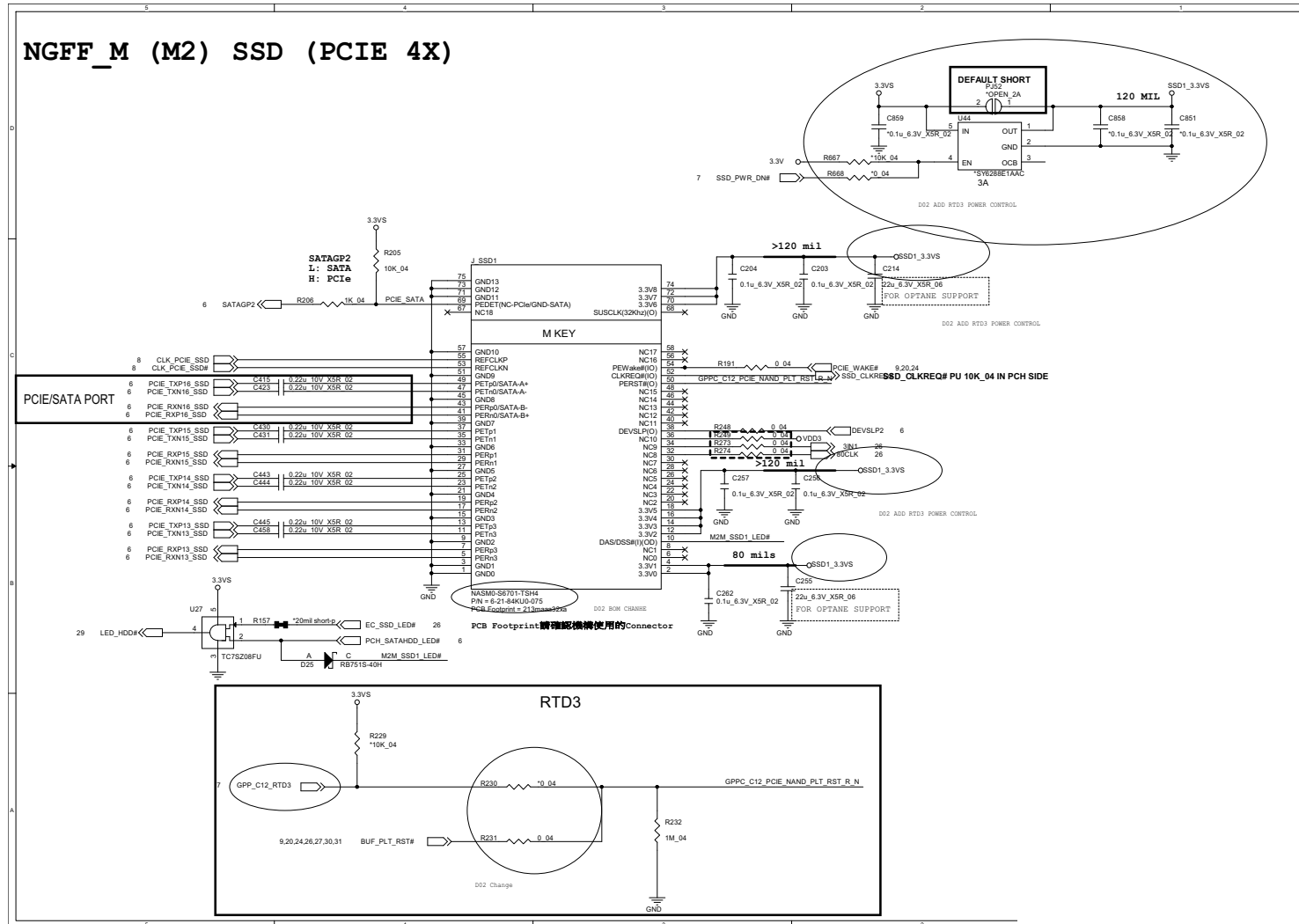


Sheet 26 of 45  
KBC ITE IT8587

B.Schematic Diagrams



# M Key PCIe SSD

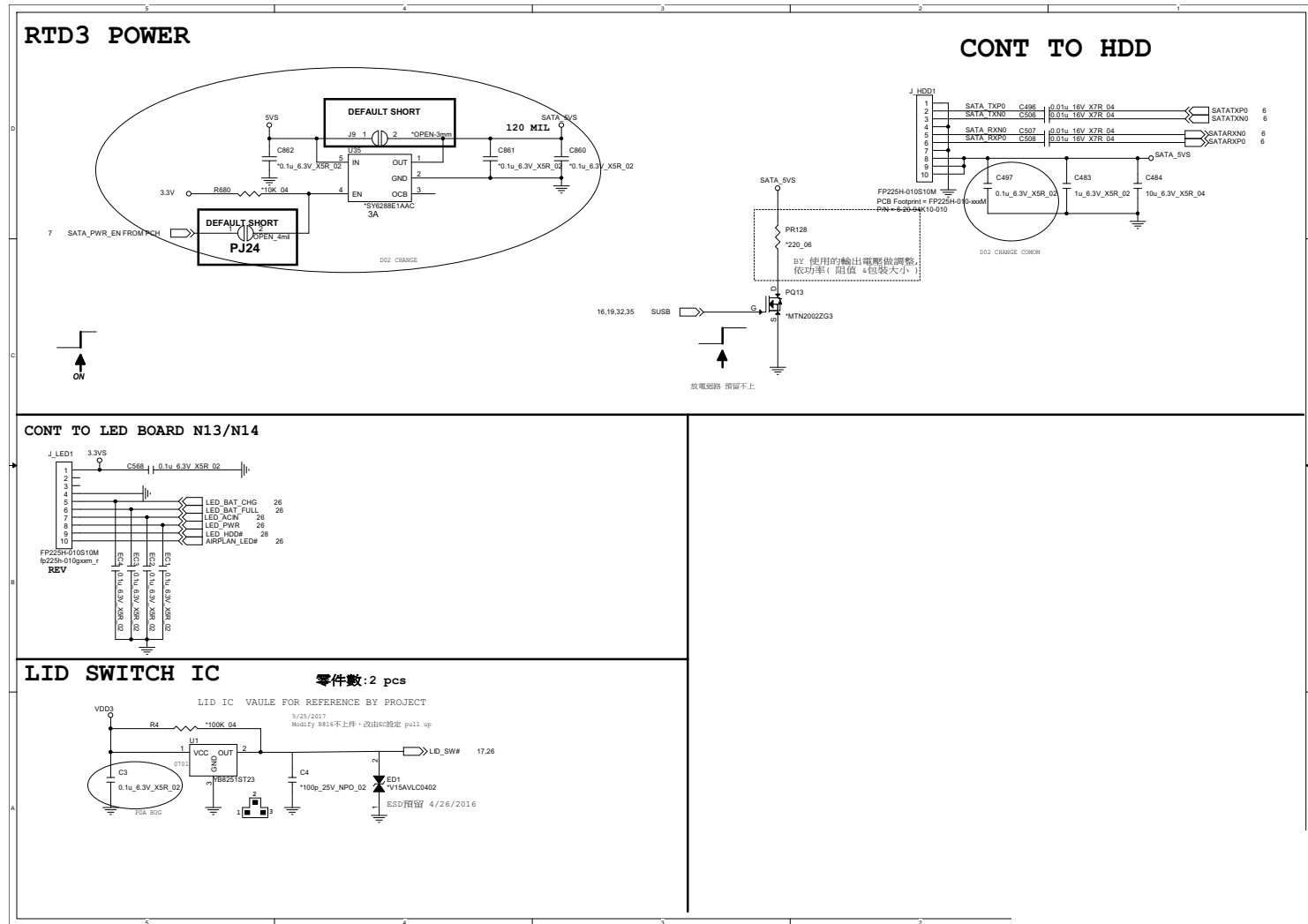


Sheet 28 of 45  
M Key PCIe SSD

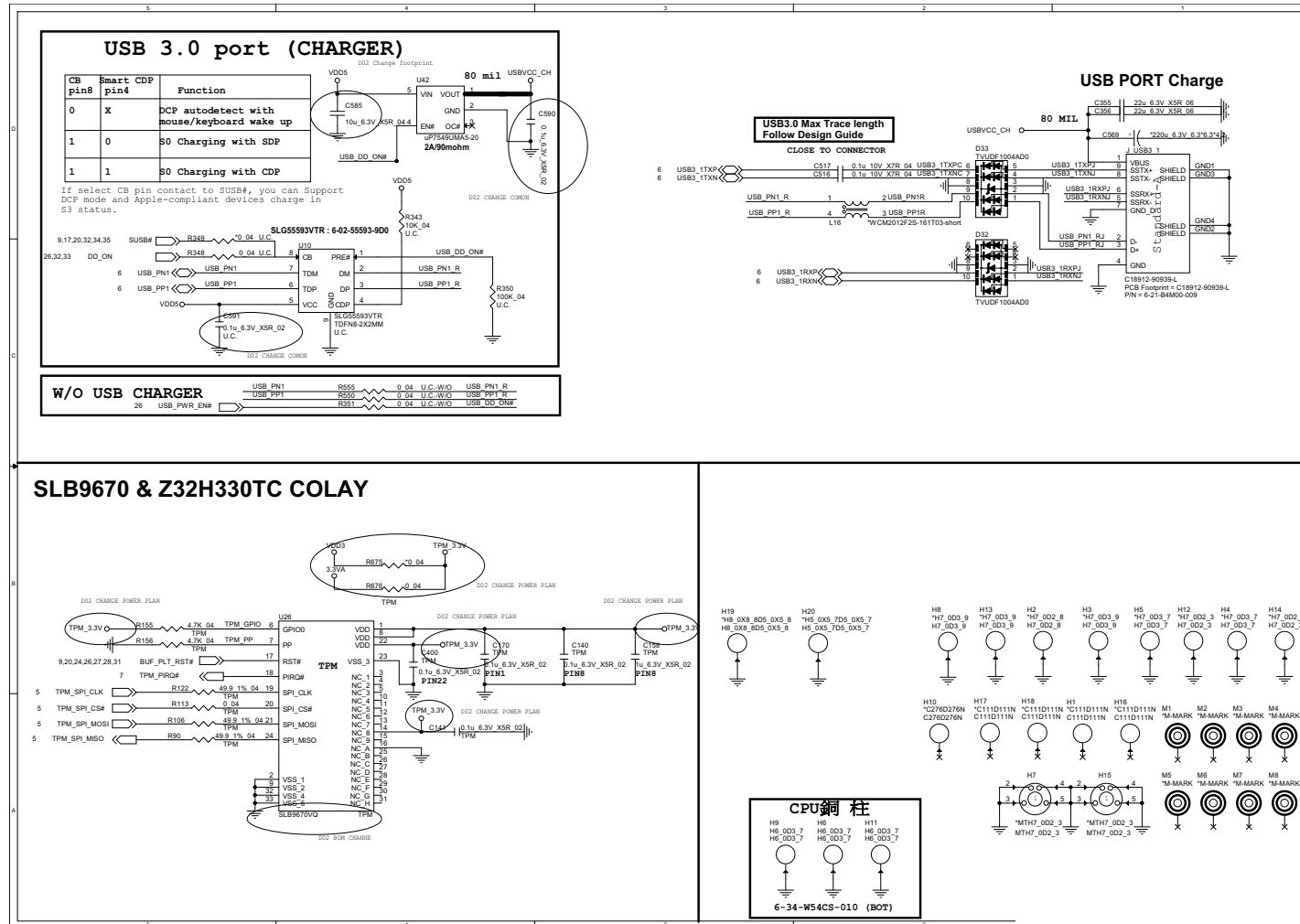
B.Schematic Diagrams

# SATA, LED, LID, SW

Sheet 29 of 45  
SATA, LED, LID, SW



# USB / TPM

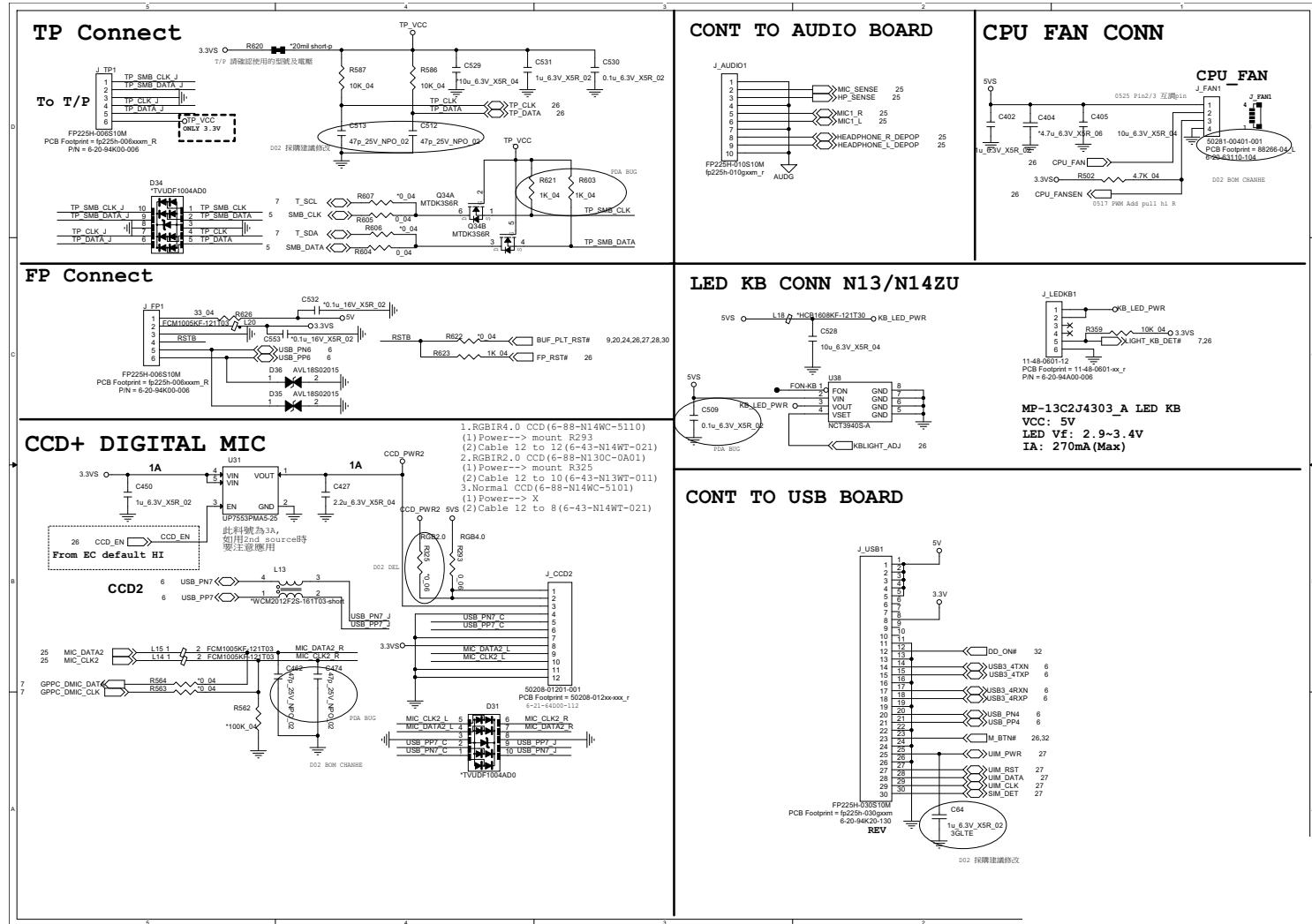


B.Schematic Diagrams

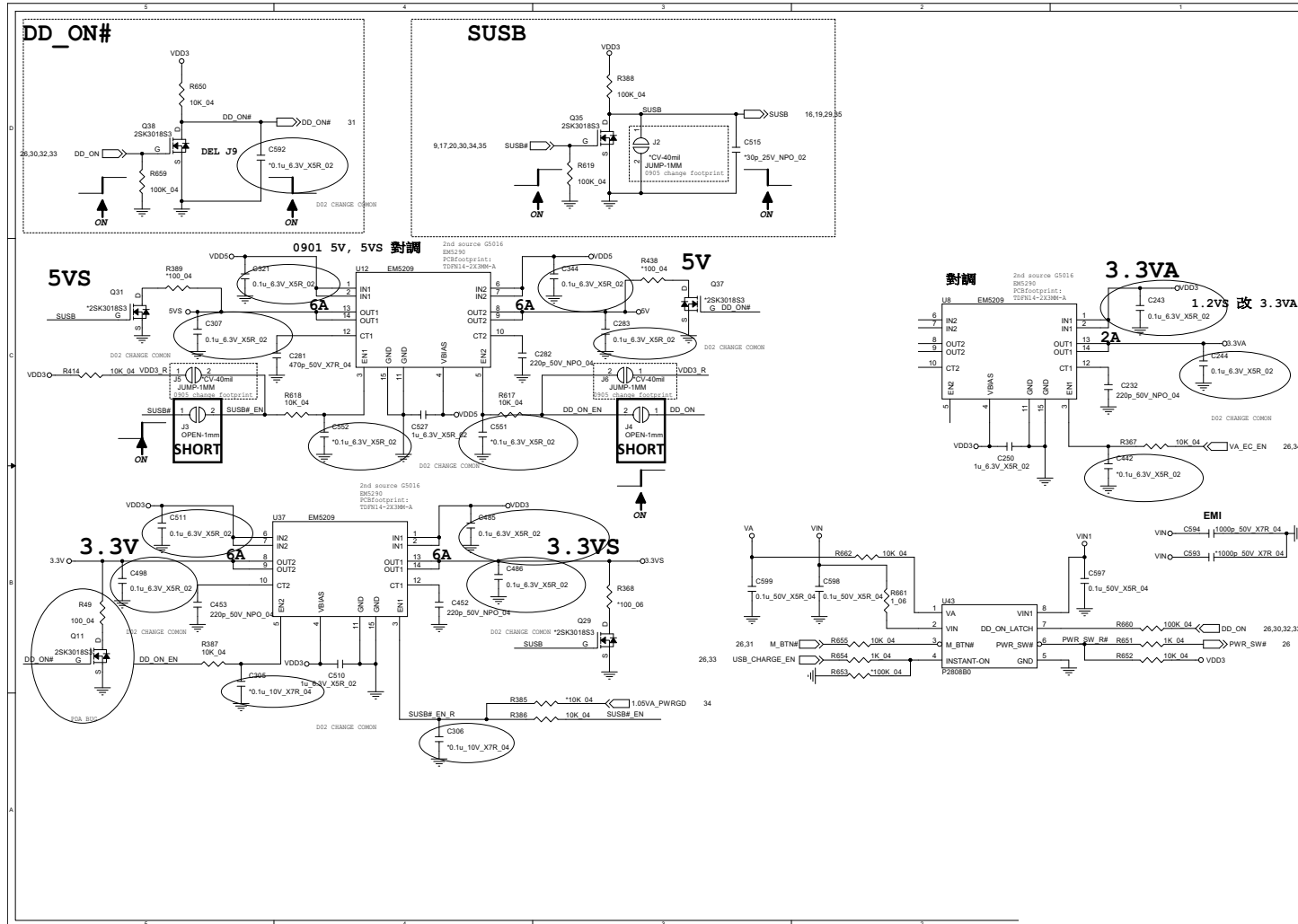
Sheet 30 of 45  
USB / TPM

# Conn, CCD, Fan, TP, LED KB

Sheet 31 of 45  
Conn, CCD, Fan,  
TP, LED KB



# 3V, 5V, 3VS, 5VS, 1.8VS CTL

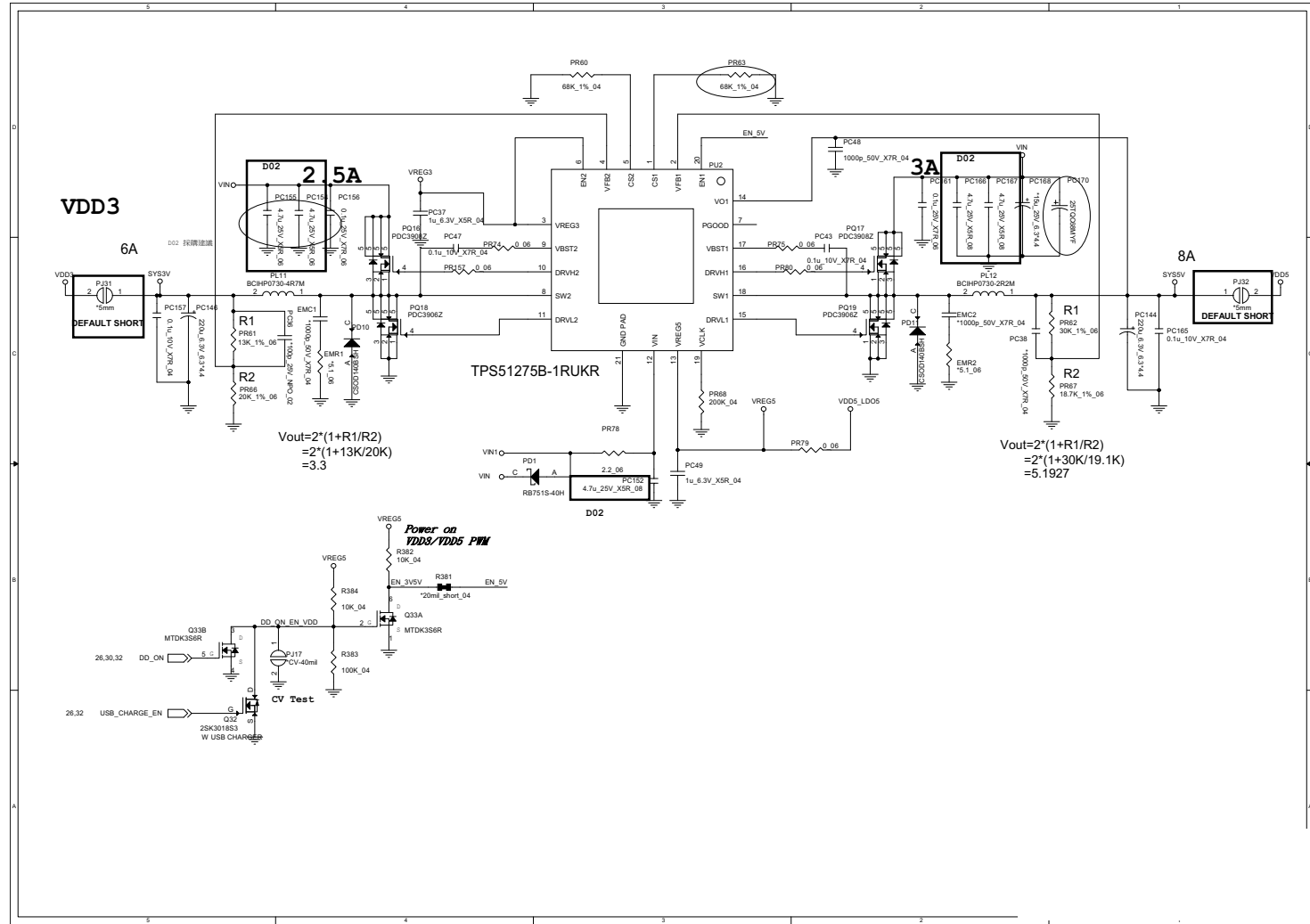


Sheet 32 of 45  
3V, 5V, 3VS, 5VS,  
1.8VS CTL

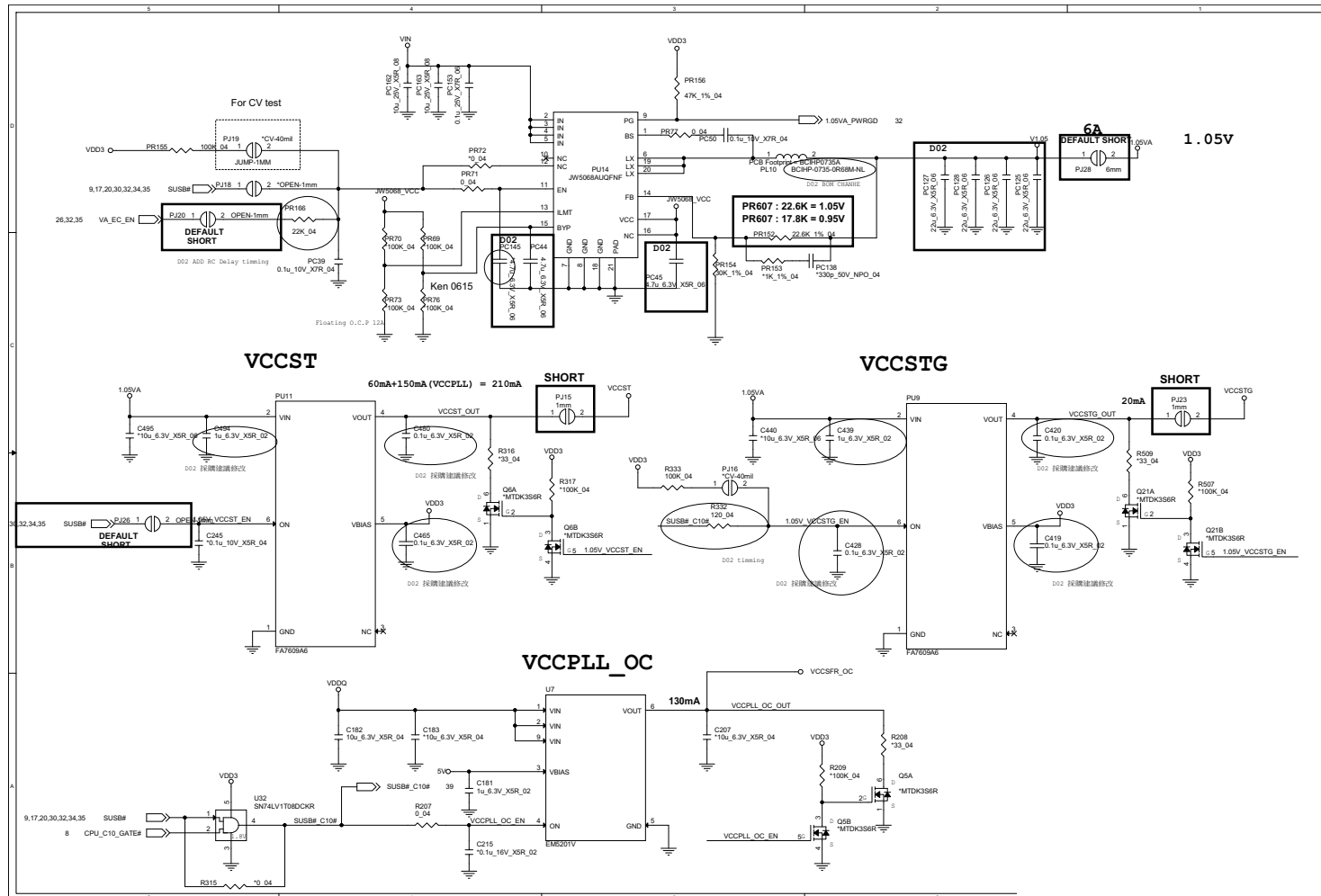


# VDD3, VDD5

Sheet 33 of 45  
VDD3, VDD5



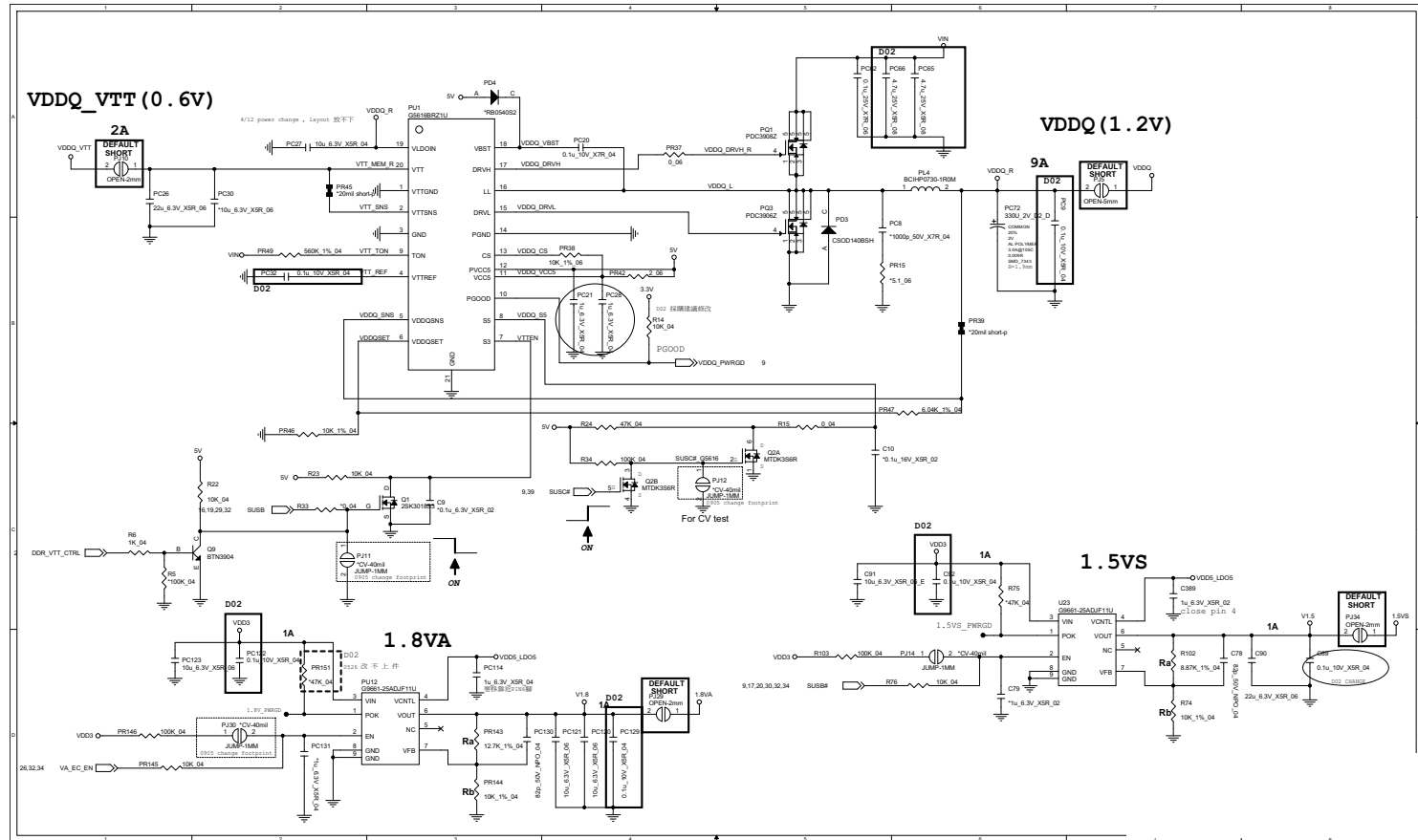
# 1.5VA, VCCST, VCCSTG



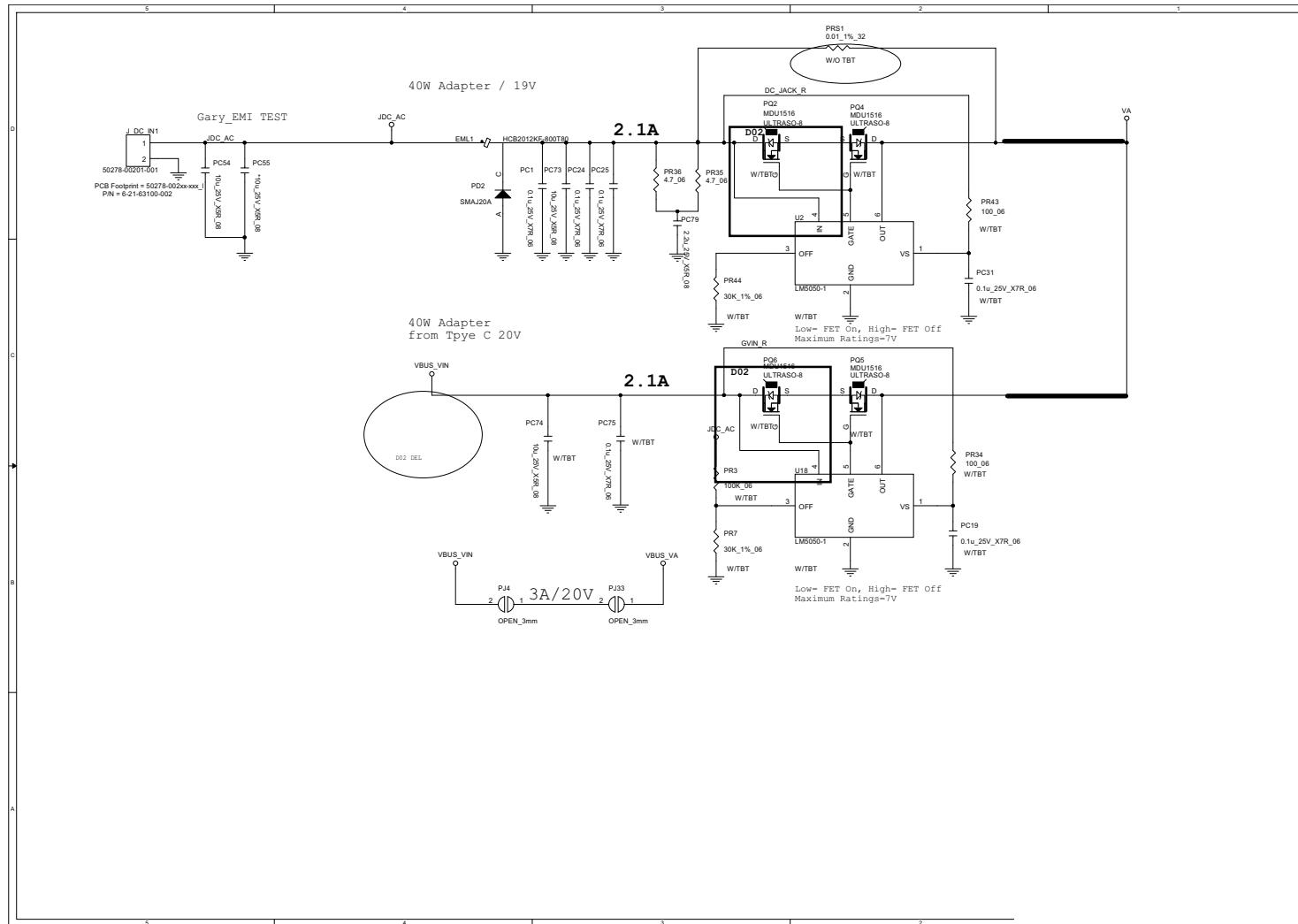
Sheet 34 of 45  
1.5VA, VCCST,  
VCCSTG

# VDDQ, VDDQ\_VTT, 1.5VS, 1.8VA

Sheet 35 of 45  
VDDQ, VDDQ\_VTT,  
1.5VS, 1.8VA

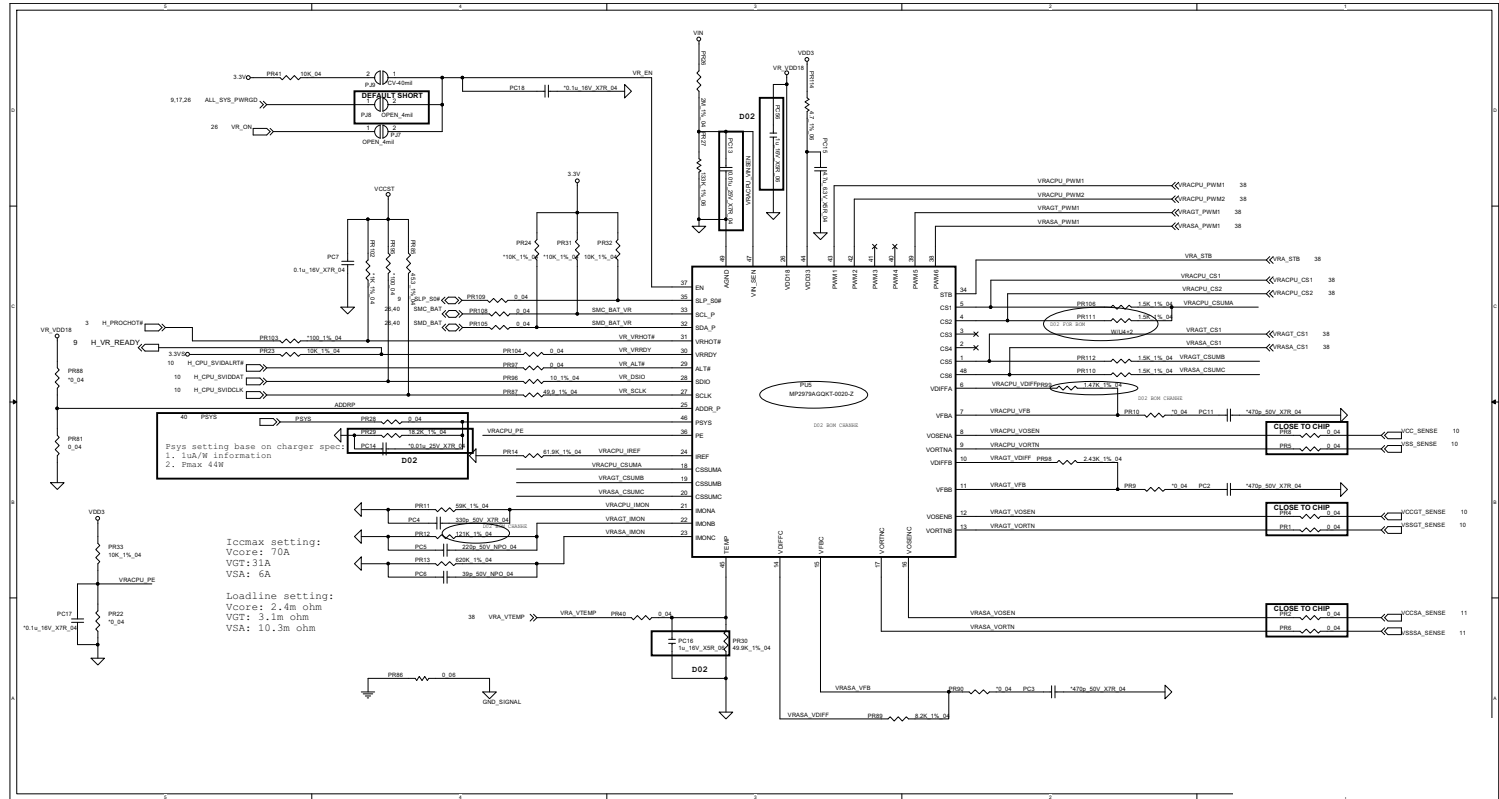


# AC\_In



Sheet 36 of 45  
AC\_In

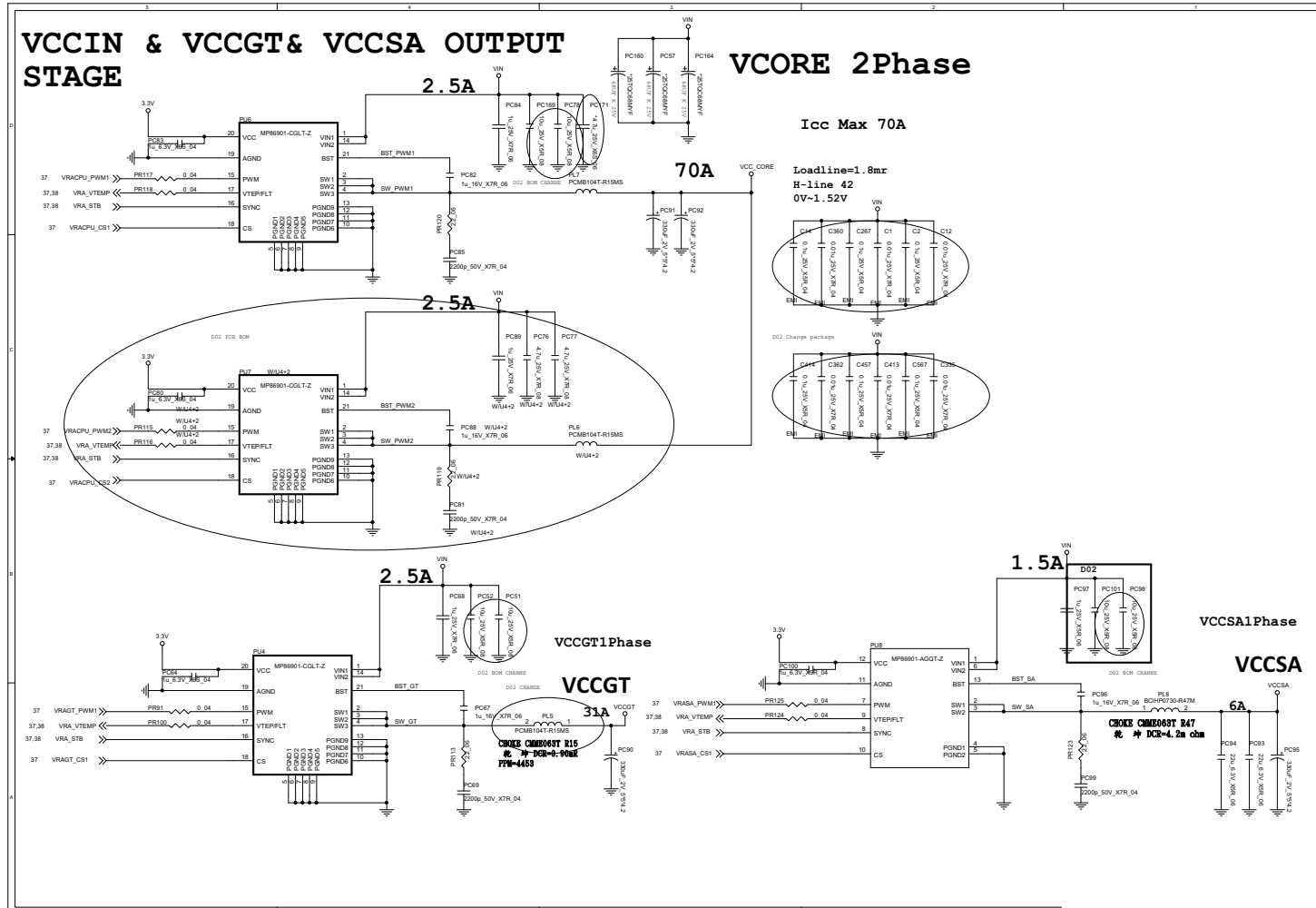
# VCore NCP81218



Sheet 37 of 45  
VCore NCP81218

B.Schematic Diagrams

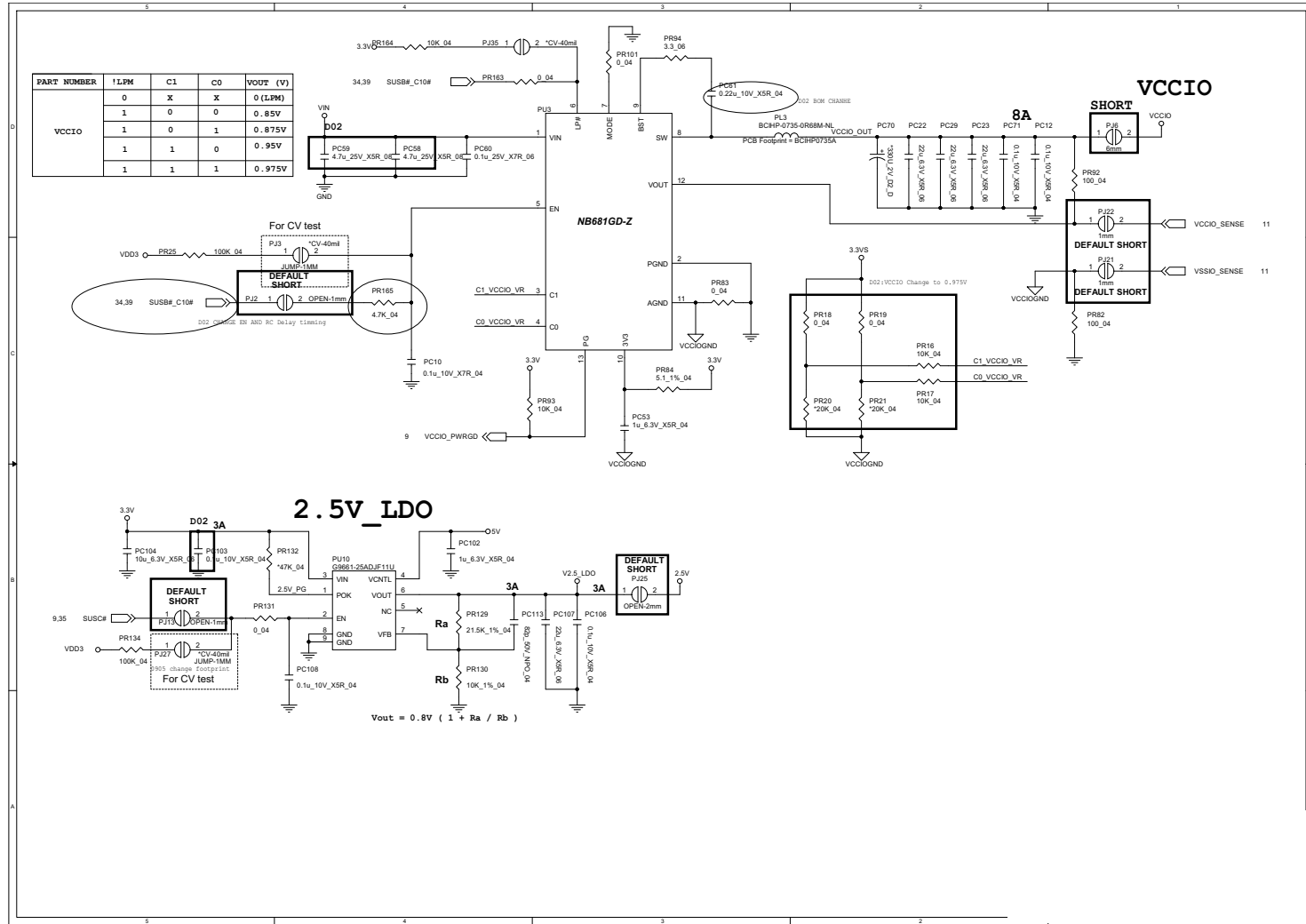
# VCCIN, VCCGT, VCCSA Output



Sheet 38 of 45  
 VCCIN, VCCGT,  
 VCCSA Output

# Schematic Diagrams

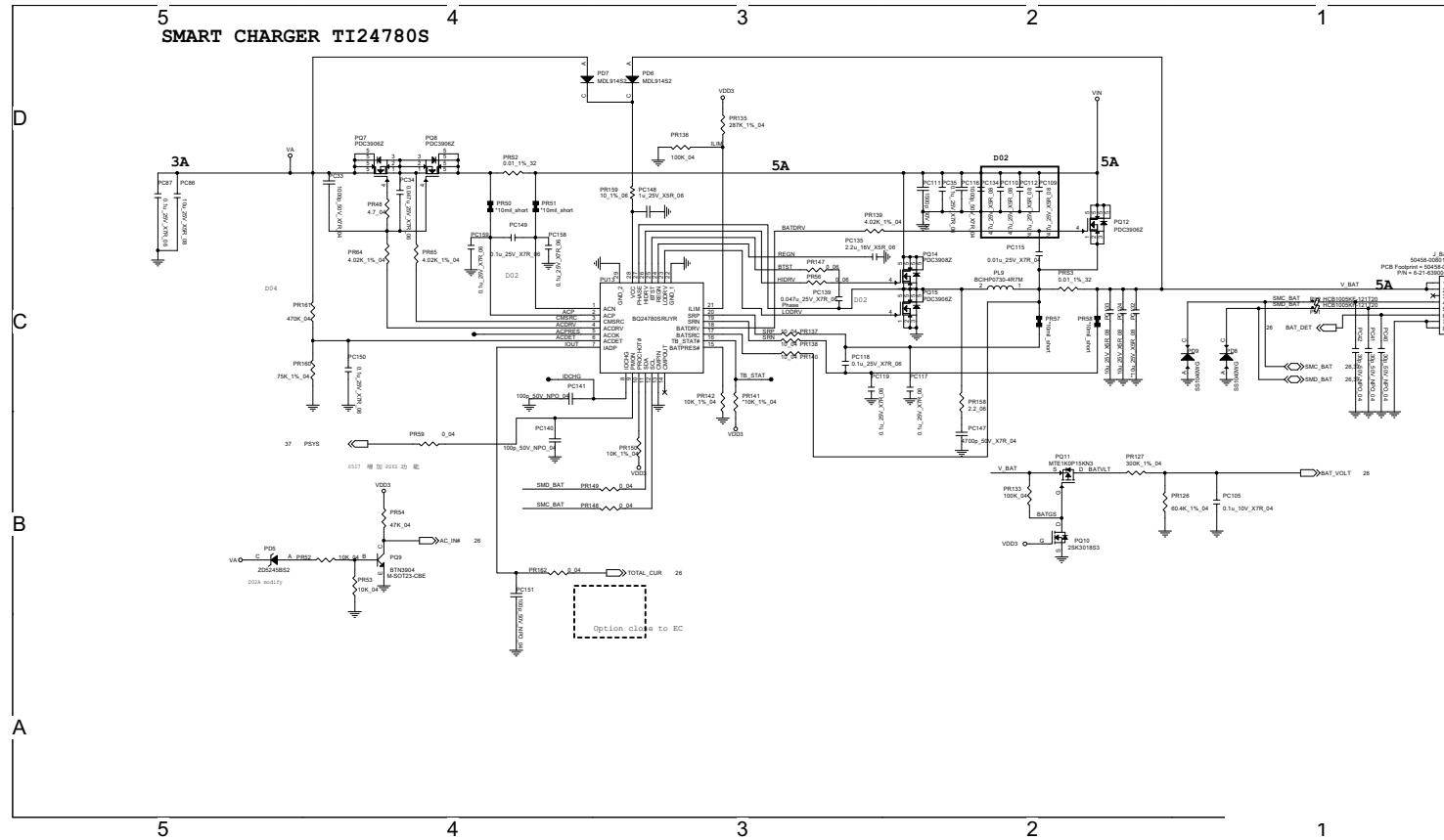
## VCCIO, 2.5V



Sheet 39 of 45  
VCCIO, 2.5V



# Charger, AC IN

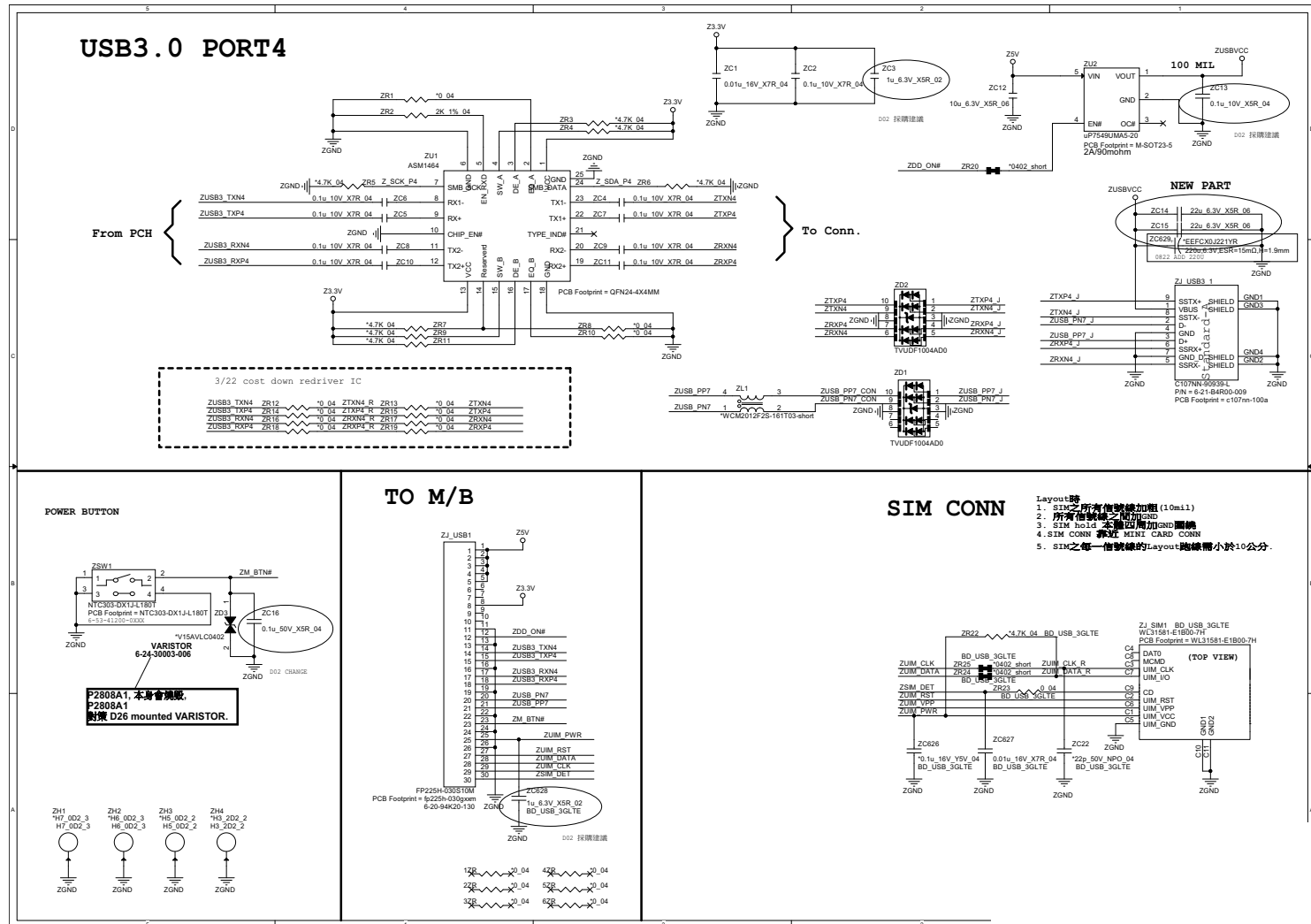


Sheet 40 of 45  
Charger, AC IN

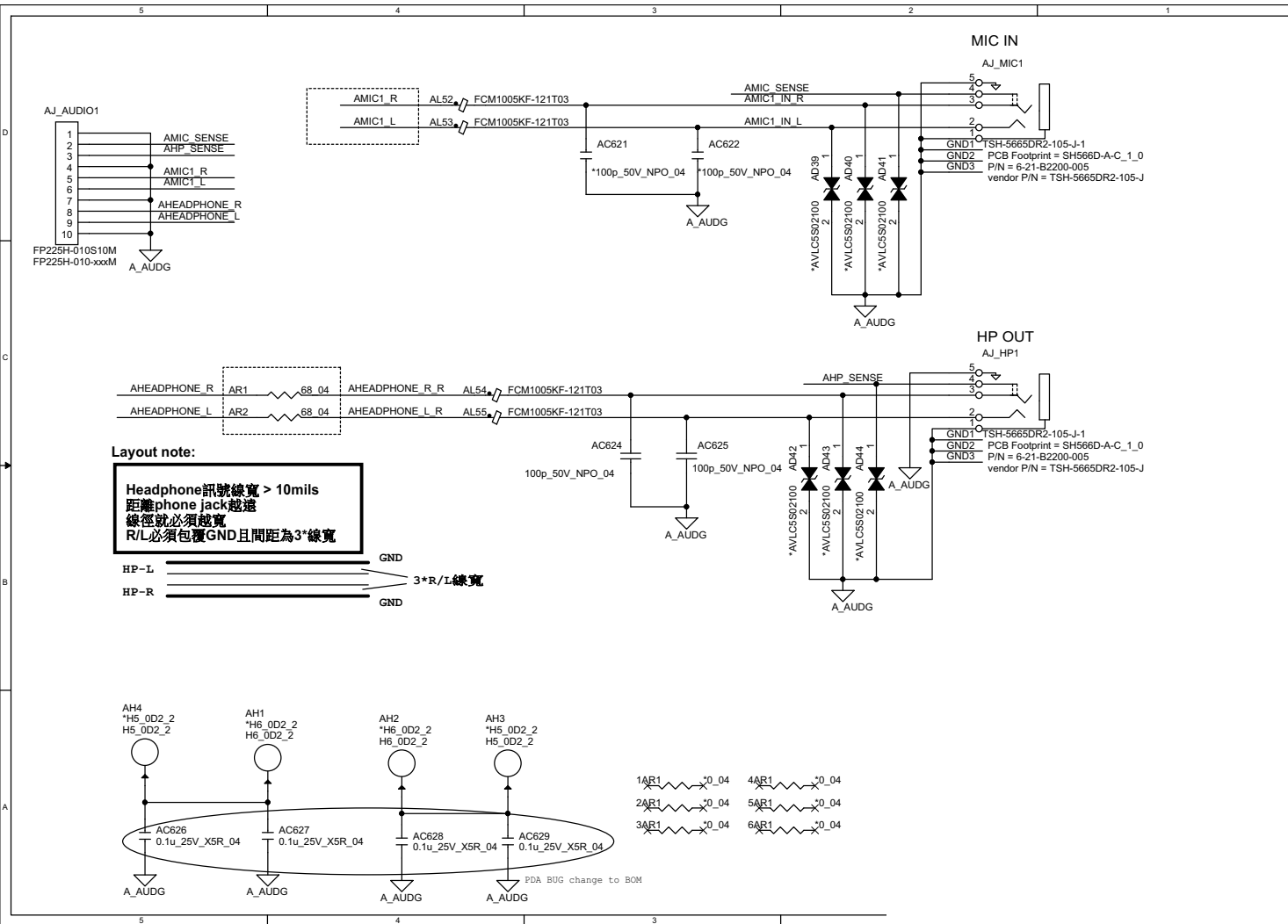
B.Schematic Diagrams

# USB Board

Sheet 41 of 45  
USB Board



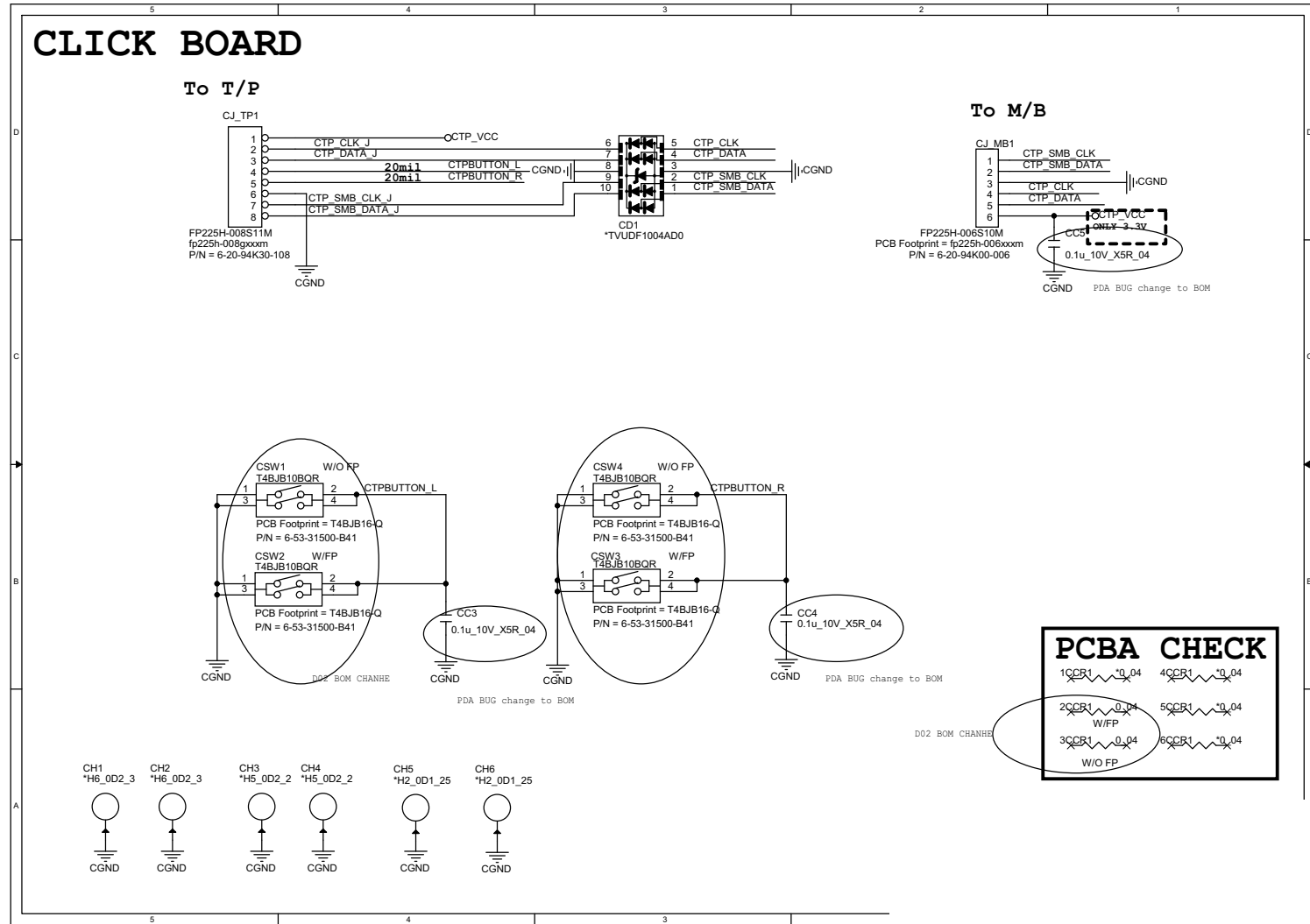
# Audio Board



Sheet 42 of 45  
Audio Board

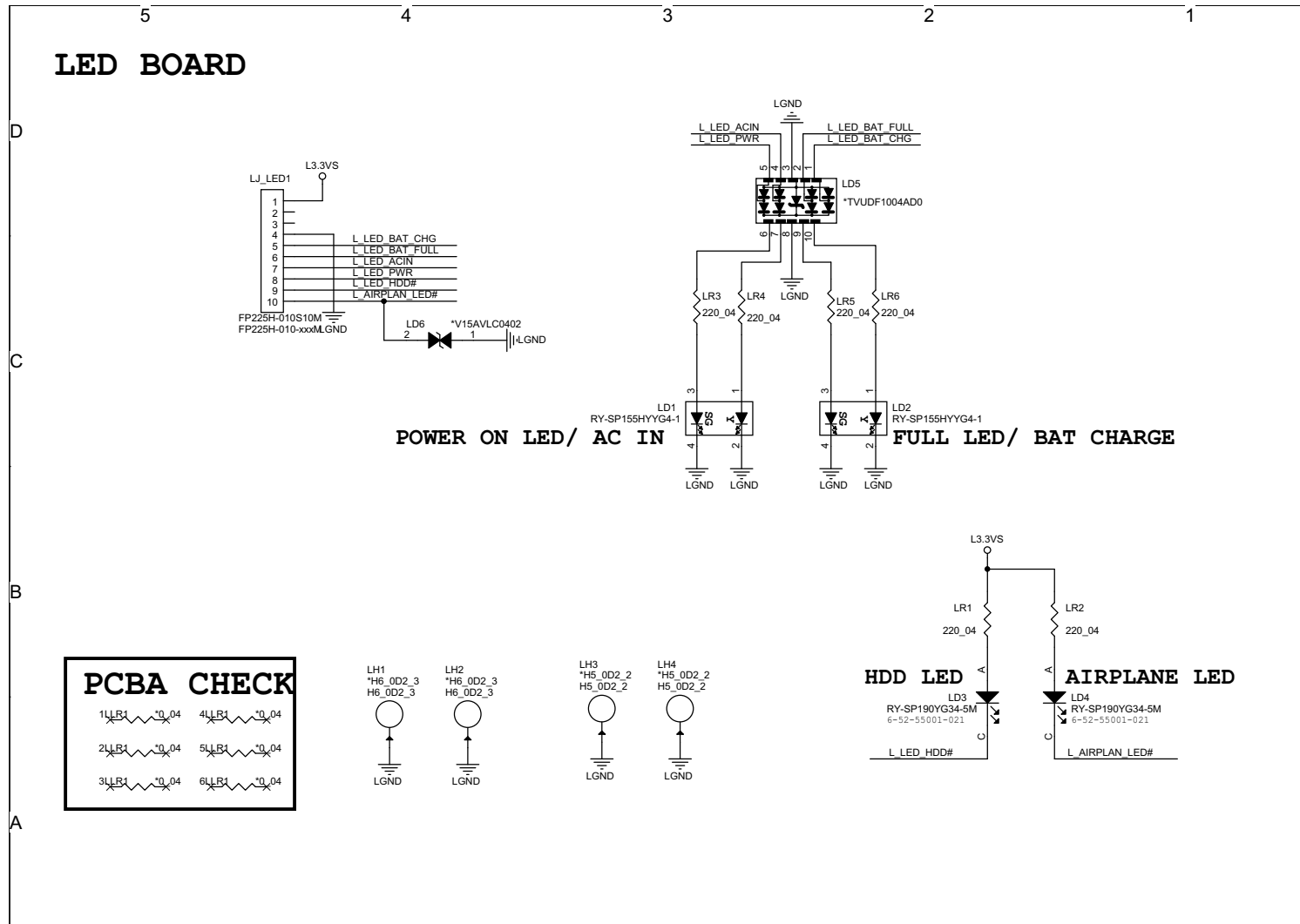
B.Schematic Diagrams

# Click Board



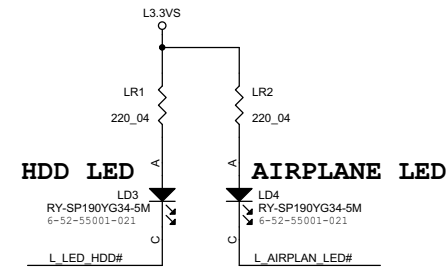
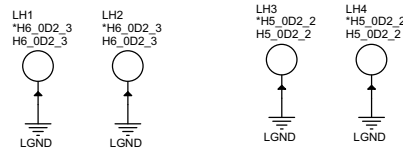
Sheet 43 of 45  
Click Board

# LED Board



**PCBA CHECK**

1	4
2	5
3	6

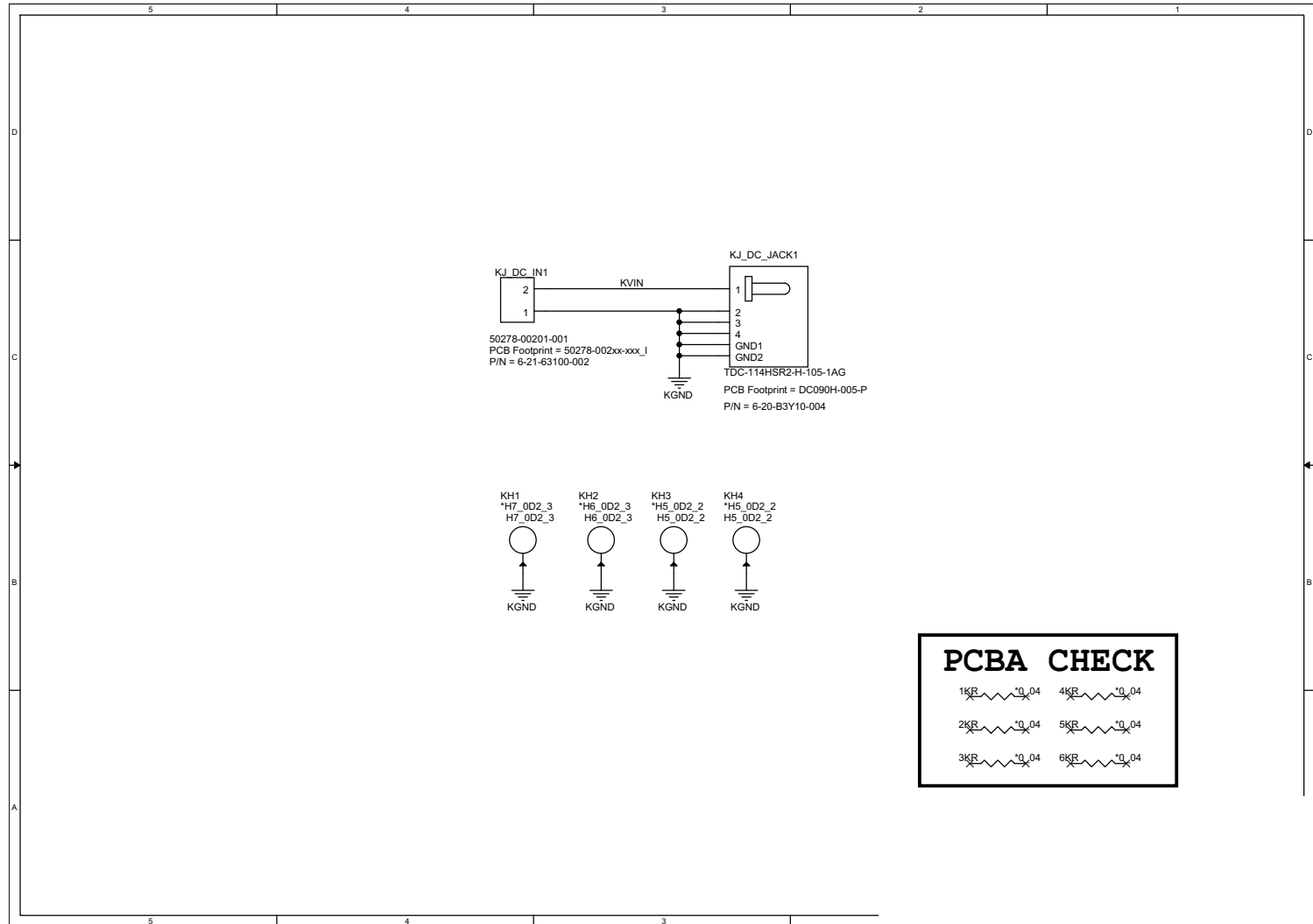


Sheet 44 of 45  
LED Board

B.Schematic Diagrams

# DC Jack Board

Sheet 45 of 45  
DC Jack Board



# Appendix C: Updating the FLASH ROM BIOS

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

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

## Download the BIOS

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

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

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

## Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.



### BIOS Version

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

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

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

## BIOS Update

---

### Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**EFI Shell**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by EFI Shell. Choose “**N**” for any memory management programs.
2. You should now see **DISK fsX:\>** (X is the designated drive number for the CD/DVD drive/USB flash drive).
3. **Type the following command:**

**fsX:\> Flash.nsh**

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

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

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.

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

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