

SERVICE MANUAL

notebook

N130BU / N131BU



Notebook Computer

N130BU / N131BU

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 *N130BU* / *N131BU* 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

Preface

IMPORTANT SAFETY INSTRUCTIONS

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

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

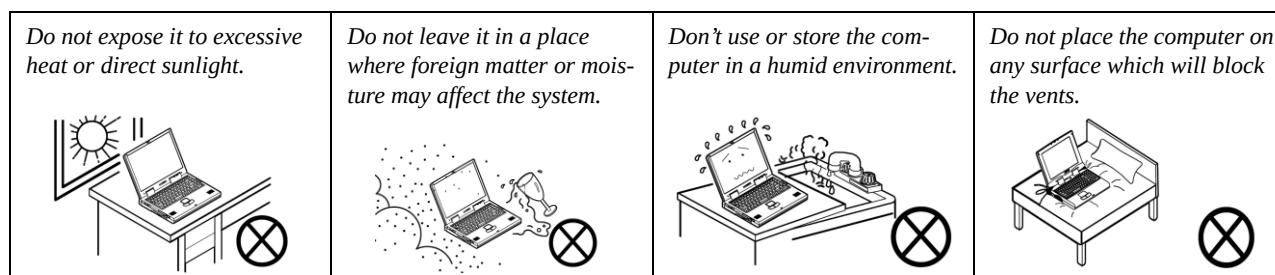
Instructions for Care and Operation

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

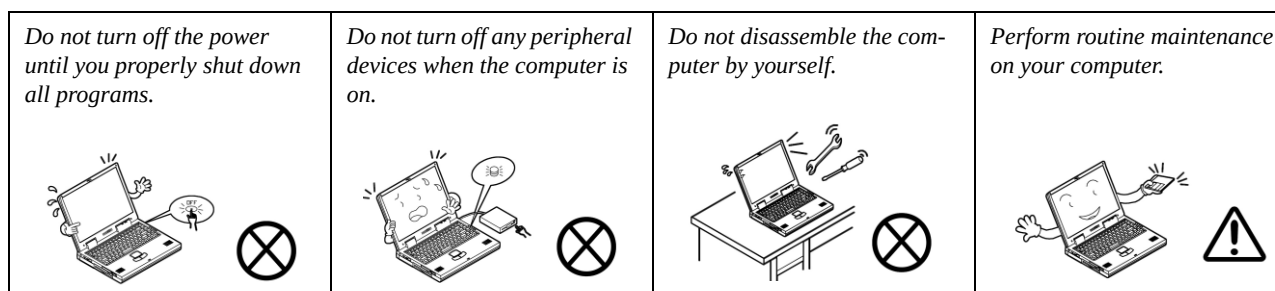
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

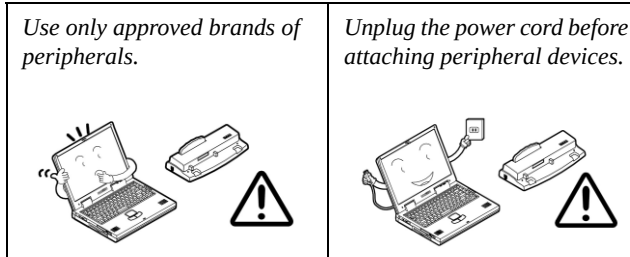


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

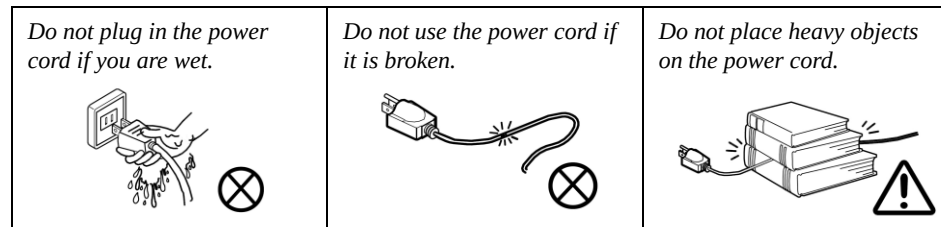
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



Power Safety

The computer has specific power requirements:

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



Power Safety Warning

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

Battery Precautions

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

Battery Guidelines

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

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



Battery Disposal

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

Caution

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

Battery Level

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

Related Documents

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

User's Manual on CD/DVD

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

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Insert the battery and make sure it is locked in position.
4. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
5. 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".

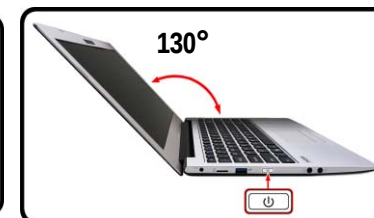
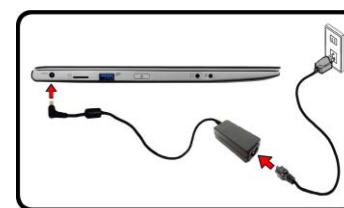


Figure 1
**Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In**



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 **N130BU / N131BU** 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 **N130BU / N131BU** 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

i7-7500U (2.70GHz)

4MB Smart Cache, **14nm**, DDR4-2133MHz, TDP 15W

Intel® Core™ i5 Processor

i5-7200U (2.50GHz)

3MB Smart Cache, **14nm**, DDR4-2133MHz, TDP 15W

Intel® Core™ i3 Processor

i3-7100U (2.40GHz)

3MB Smart Cache, **14nm**, DDR4-2133MHz, TDP 15W

Intel® Pentium™ Processor

4415U (2.30GHz)

2MB Smart Cache, **14nm**, DDR4-2133MHz, TDP 15W

Intel® Celeron™ Processor

3965U (2.20GHz), 3865U (1.80GHz)

2MB Smart Cache, **14nm**, DDR4-2133MHz, TDP 15W

BIOS

64Mb SPI Flash ROM

AMI BIOS

Memory

Two 260 Pin SO-DIMM Sockets Supporting **DDR4 2133 MHz** Memory

Memory Expandable up to 32GB

Compatible with 4GB, 8GB or 16GB Modules

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

LCD Options

13.3" (33.78cm), 16:9, QHD+ (3200x1800)/FHD (1920x1080)/HD+ (1600x900)

Video Adapter

Intel HD Graphics

Dynamic Frequency

Intel Dynamic Video Memory Technology

Microsoft DirectX®12 Compatible

Storage

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

(Factory Option) One M.2 **SATA/PCIe Gen3x4** Solid State Drive (SSD)

(Factory Option) One M.2 **SATA/PCIe Gen2x2** Solid State Drive (SSD)

(Processor Dependent)

Pointing Device

Built-in Touchpad

Keyboard

"WinKey" keyboard (with embedded numeric keypad)

Or

(Factory Option) Illuminated White-LED "WinKey" 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

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 **3G/4G** Module

Interface

One USB 3.0 (USB 3.1 Gen 1) Type-C Port
Or
(**Factory Option**) Thunderbolt 3 Combo Port (Type-C)

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

Communication

Built-In 10/100/1000Mb Base-TX Ethernet LAN
1.0M HD PC Camera Module
Or
(**Factory Option**) Infrared Camera Module
(**Factory Option**) **3G** or **4G** M.2 Module

WLAN/ Bluetooth M.2 Modules:

(**Factory Option**) Intel® Wireless-AC 8265 Wireless LAN
(**802.11ac**) + Bluetooth
(**Factory Option**) Intel® Wireless-AC 3168 Wireless LAN
(**802.11ac**) + Bluetooth

Card Reader

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

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

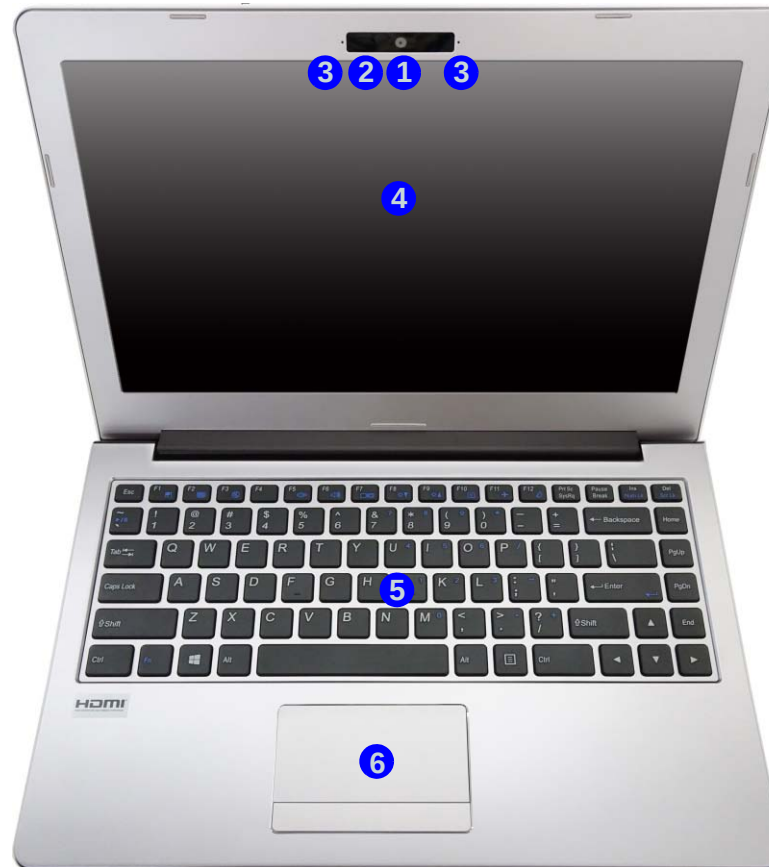
329.8mm (w) * 225mm (d) * 17.8mm (h)
1.3kg (Barebone with 36WH Battery)

Introduction

Figure 1
Top View

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

External Locator - Top View with LCD Panel Open



External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Indicator

FRONT VIEW



Figure 3
Right Side View

1. USB 3.0/3.1 Type-C Port
or
(Factory Option)
Thunderbolt 3
Combo Port (Type-C)
2. USB 3.0/3.1 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

RIGHT SIDE VIEW



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 3.0/3.1 Type-A Port
4. Power Button
5. Microphone-In Jack
6. Headphone-Out Jack

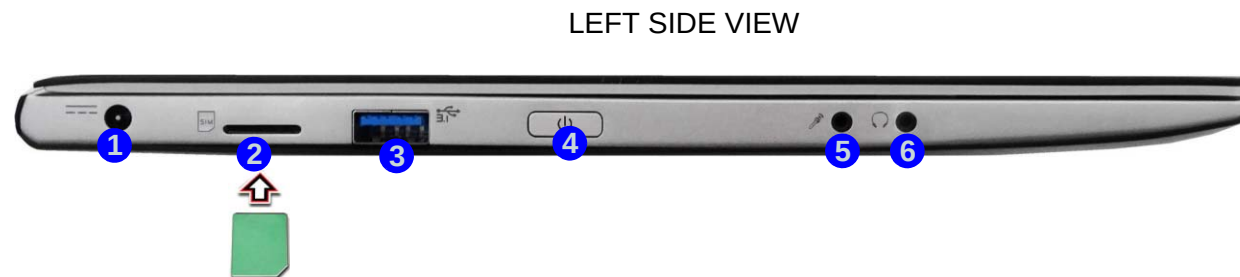


Figure 5
Rear View

REAR VIEW



External Locator - Bottom View

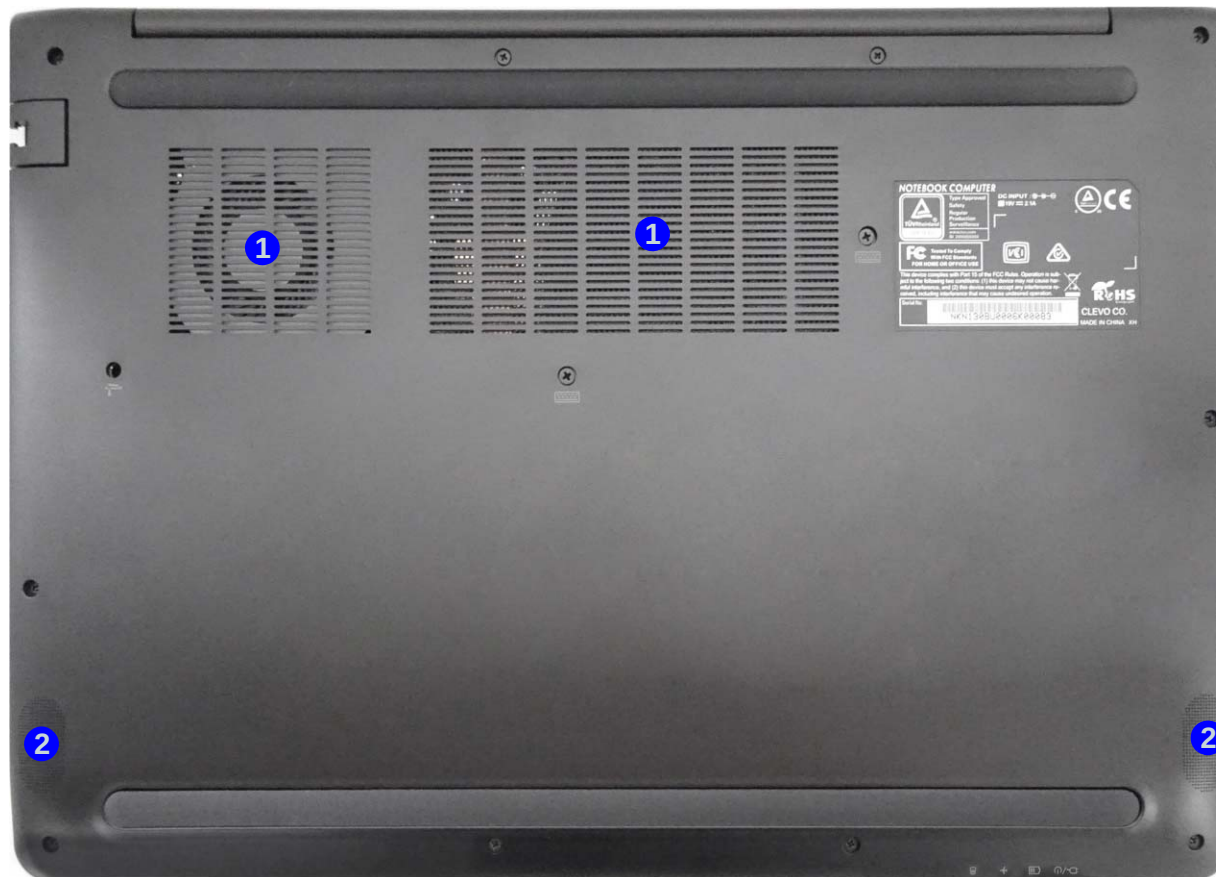


Figure 6
Bottom View

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)

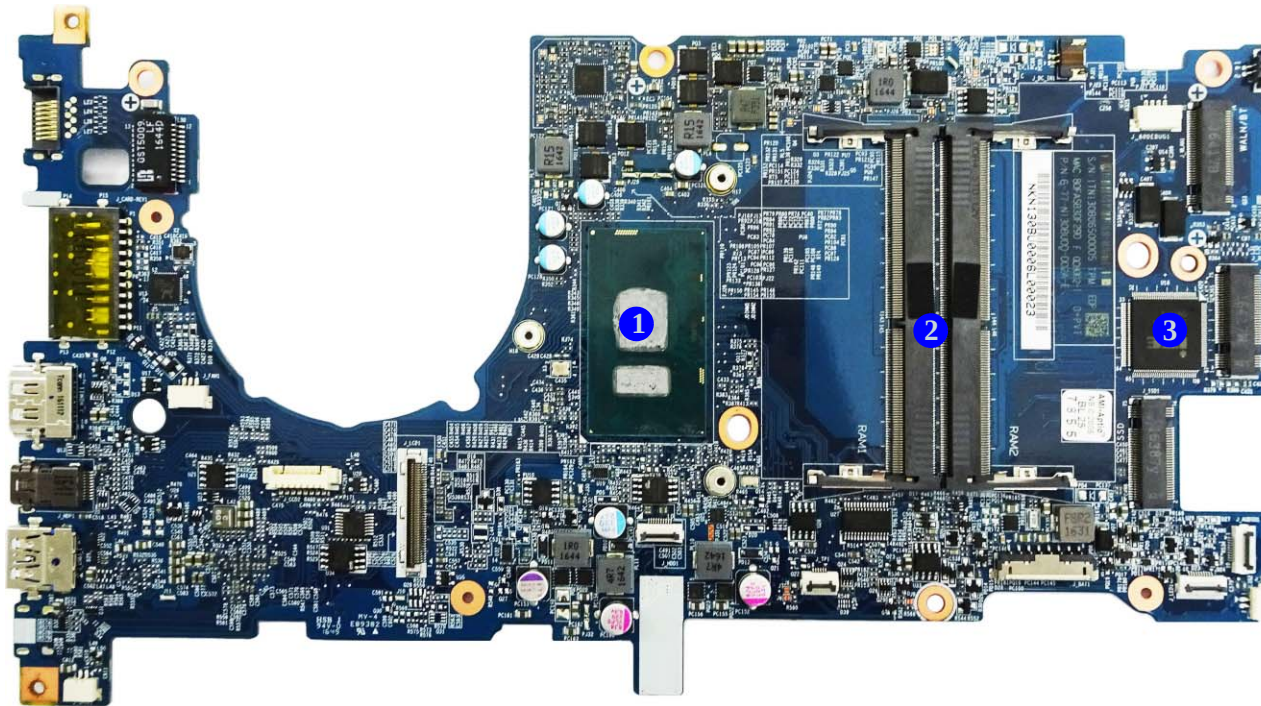


Figure 8
**Mainboard Bottom
Key Parts**

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

Introduction

Figure 9
**Mainboard Top
Connectors**

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 - Top (Connectors)

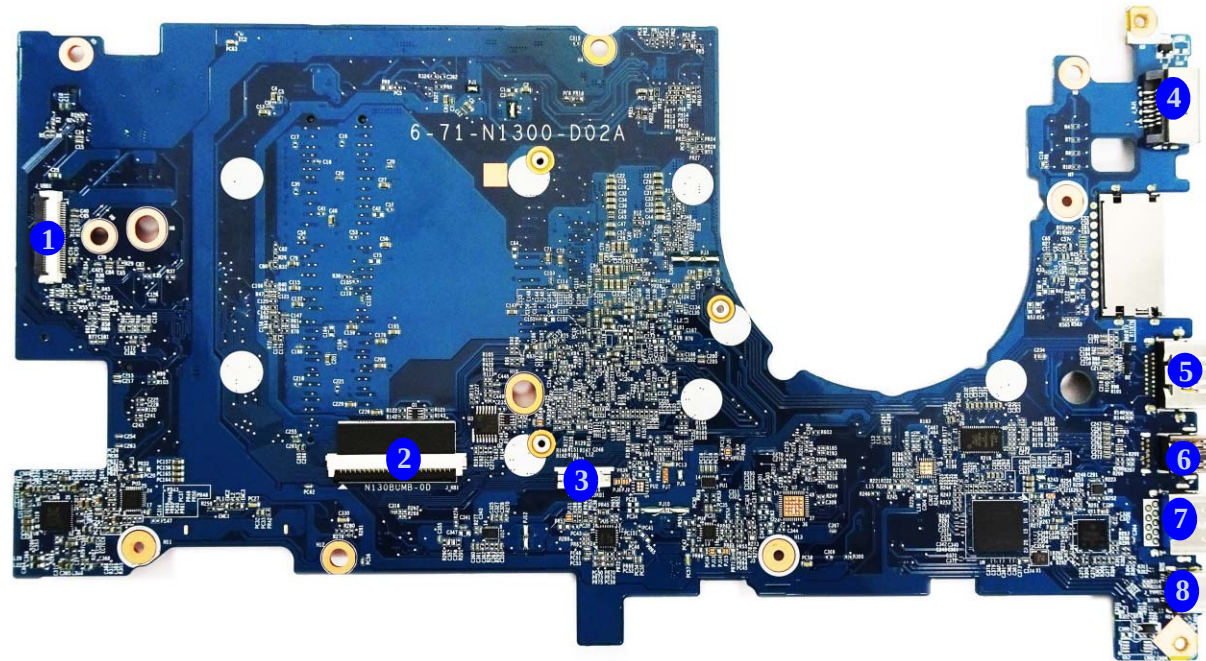
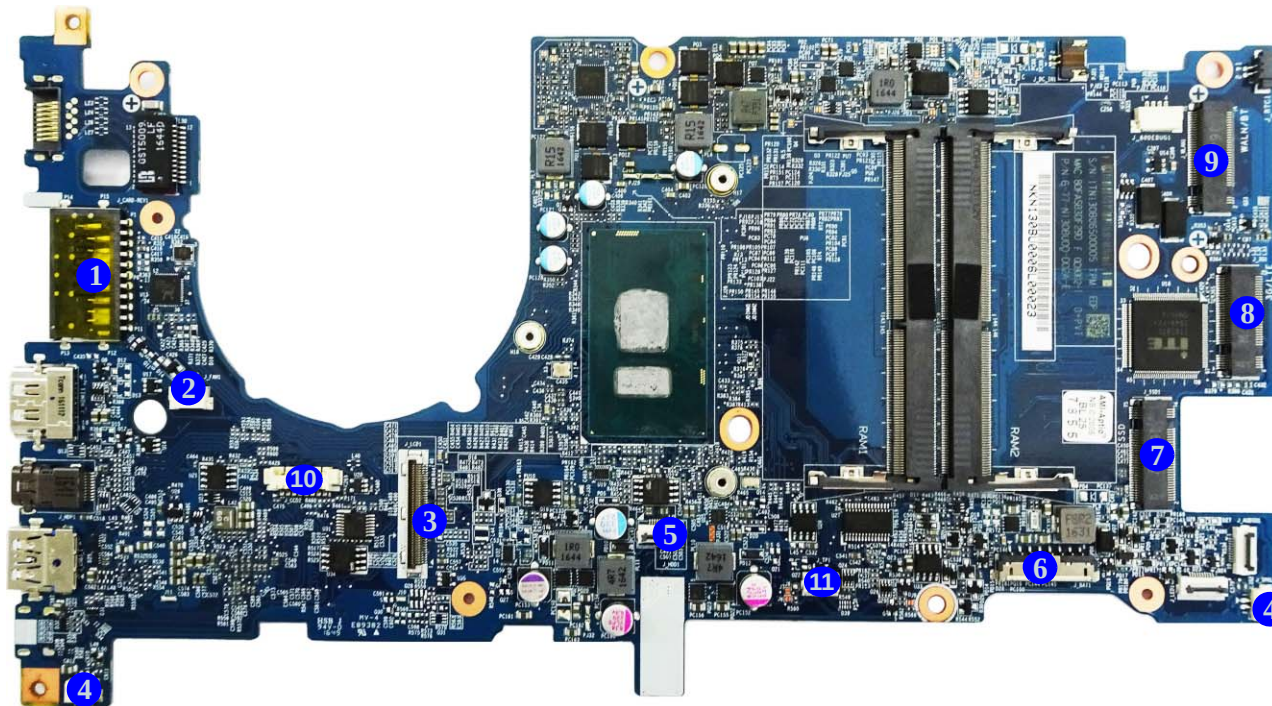


Figure 10
**Mainboard Bottom
Connectors**

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 *N130BU* / *N131BU* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

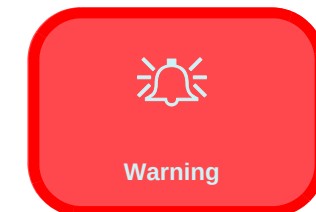
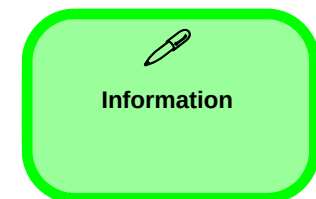
We suggest you completely review any procedure before you take the computer apart.

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.



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:

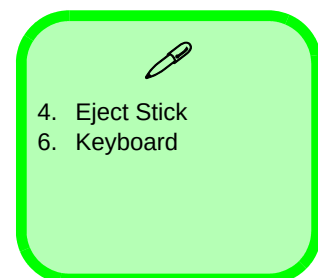
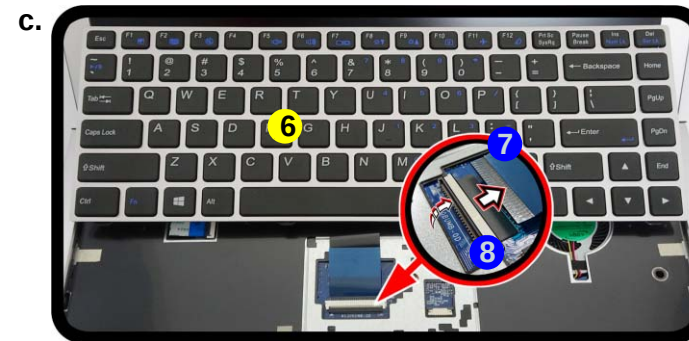
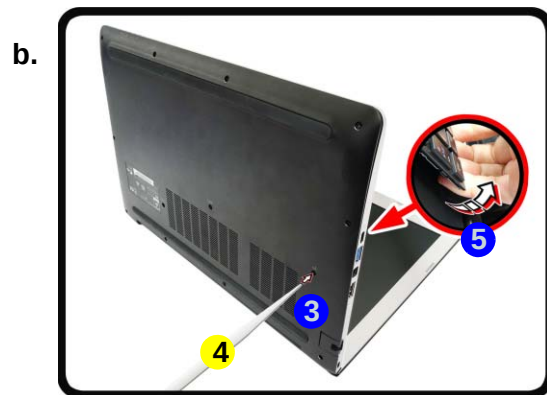
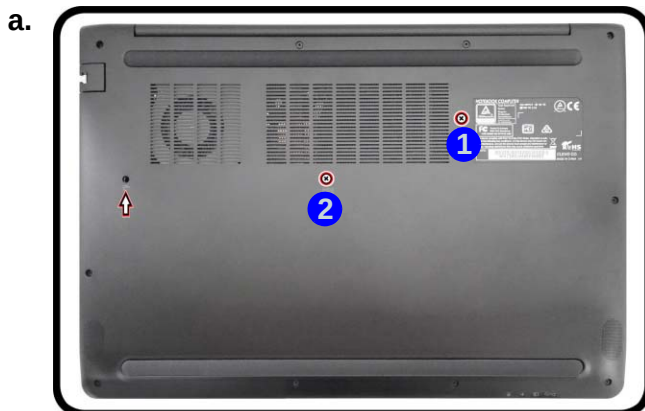
1. Remove the keyboard [page 2 - 5](#)
2. Remove the battery [page 2 - 6](#)
3. Remove the CCD module [page 2 - 17](#)

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.

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).

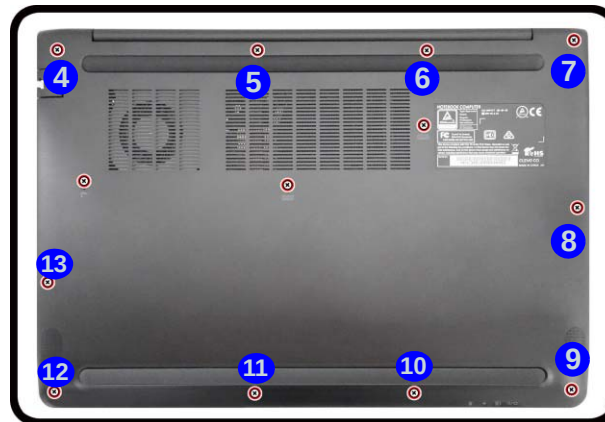
a.



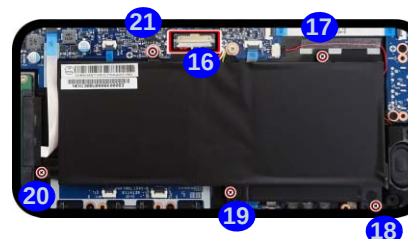
c.



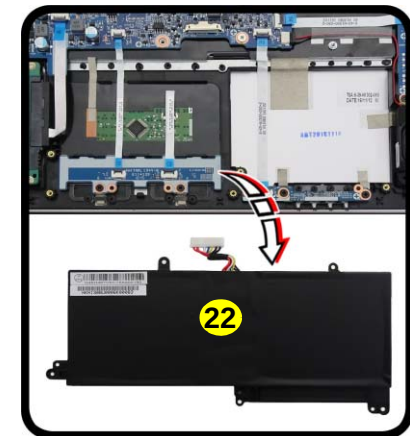
b.



d.



e.



14. Bottom Case
22. Battery

- 18 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 3a](#)).
3. Disconnect the cable **2** from the HDD assembly ([Figure 3b](#)).

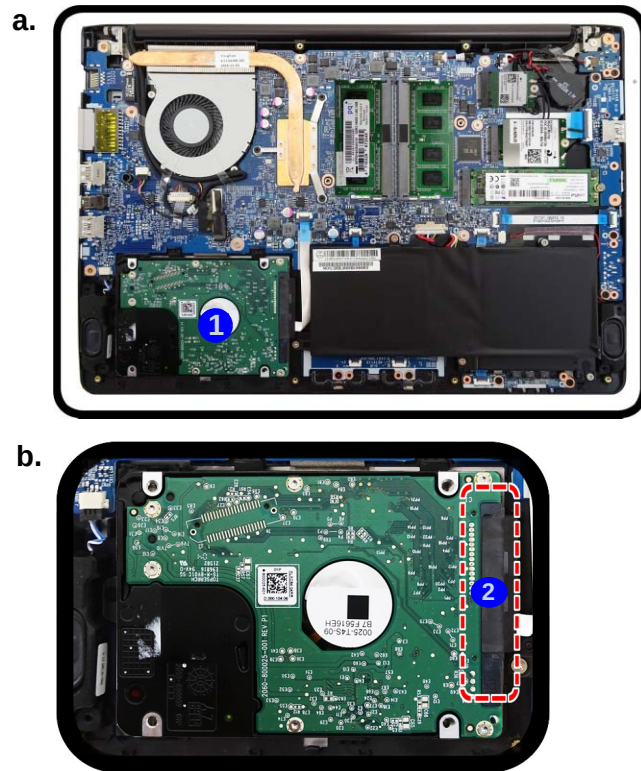


Figure 3
HDD Assembly Removal

- 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.



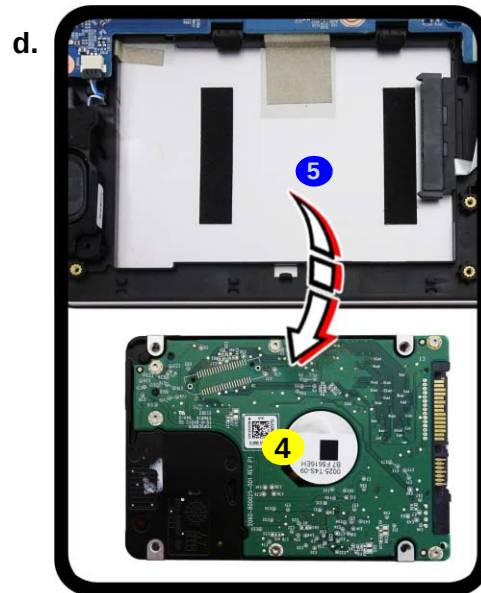
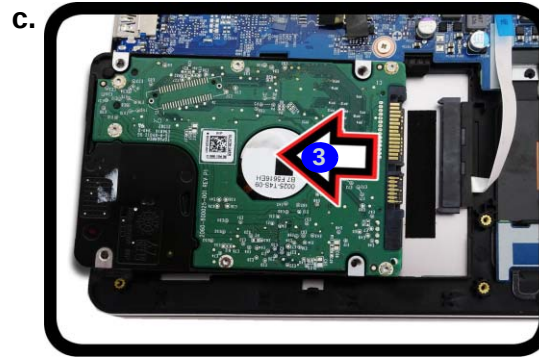
1. HDD Assembly
 - 1 Screw

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.

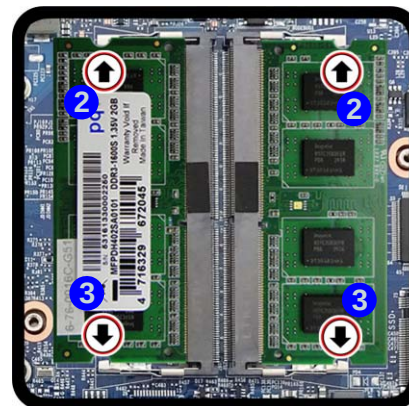
Figure 5
RAM Module Removal

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

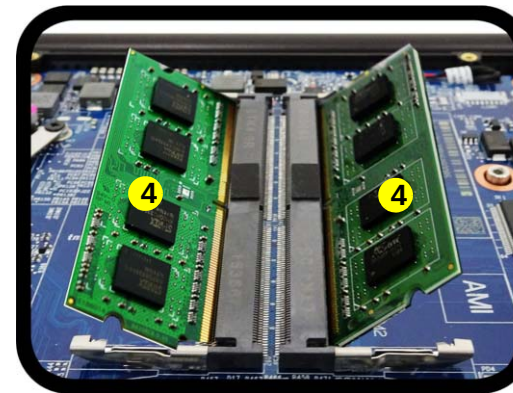
a.



b.



c.



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).

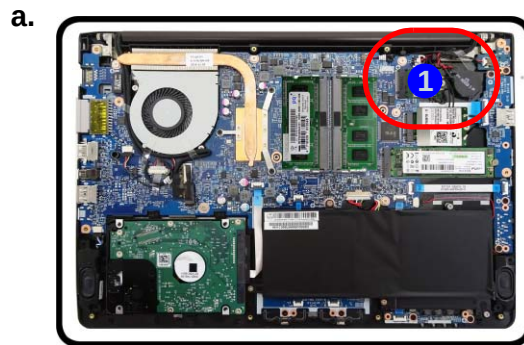


Figure 6
**Wireless LAN
Module Removal**

- 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

Disassembly

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	Gray	
	WM 3	White	
LTE Broadband	LTE 1	Black	Black
	LTE 2	Gray	
3G Broadband	3G 1	Black	Black
	3G 2	Gray	

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

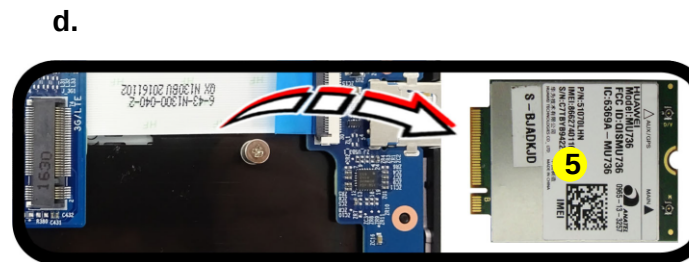
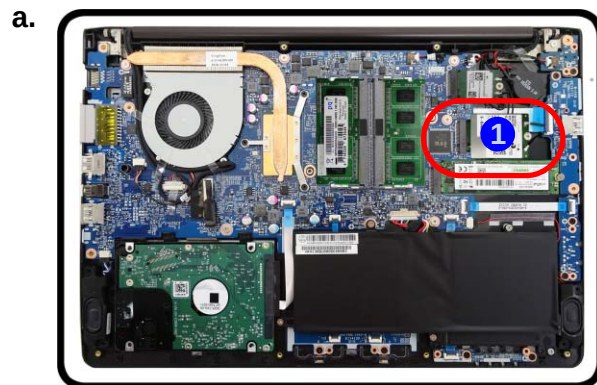
Removing the 3G Module

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.

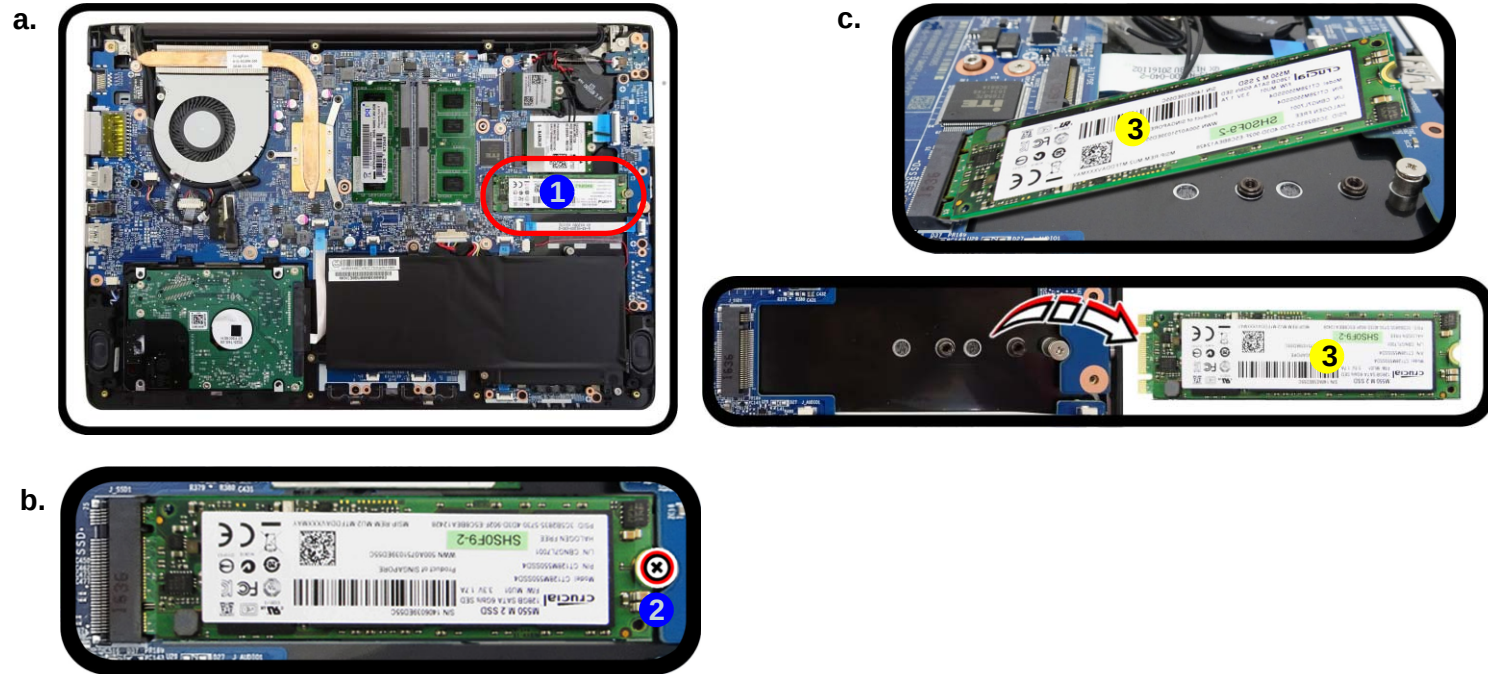


5. 3G Module
- 1 Screw

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.
- 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.

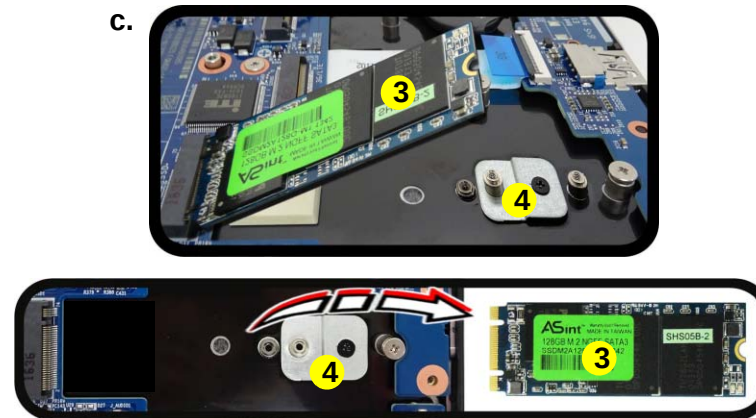
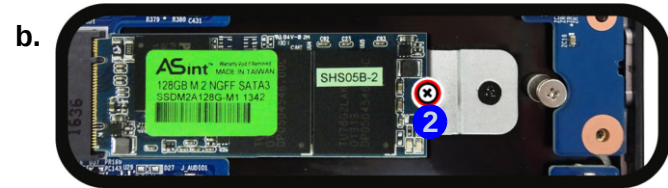
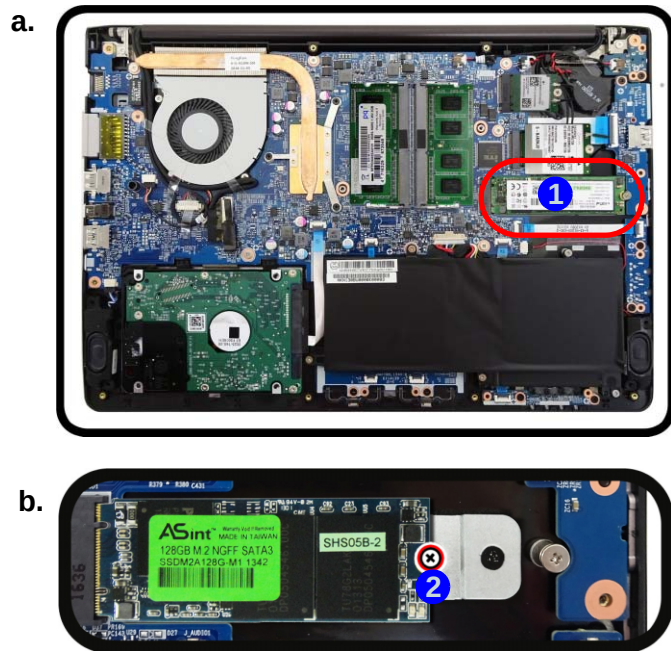


Figure 9
M.2 SSD-2 Module Removal

- 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

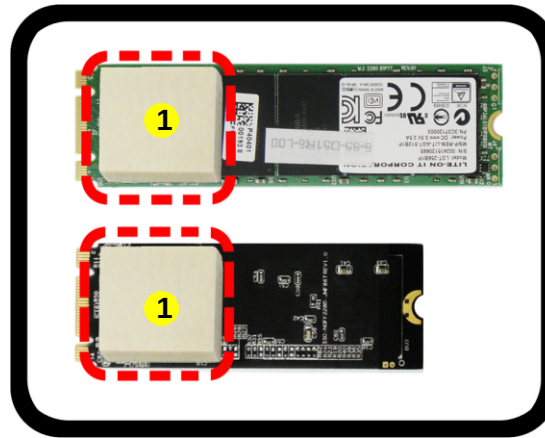
Figure 10
M.2 SSD Module Installation

- 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*)

a.



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.



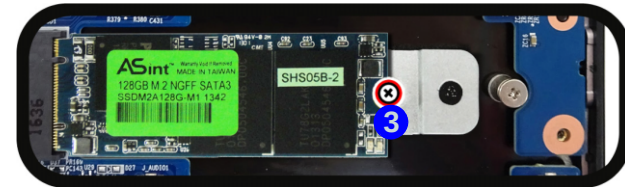
- Thermal Pad
- M.2 SATA Module

- 1 Screw

b.



c.



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](#)).

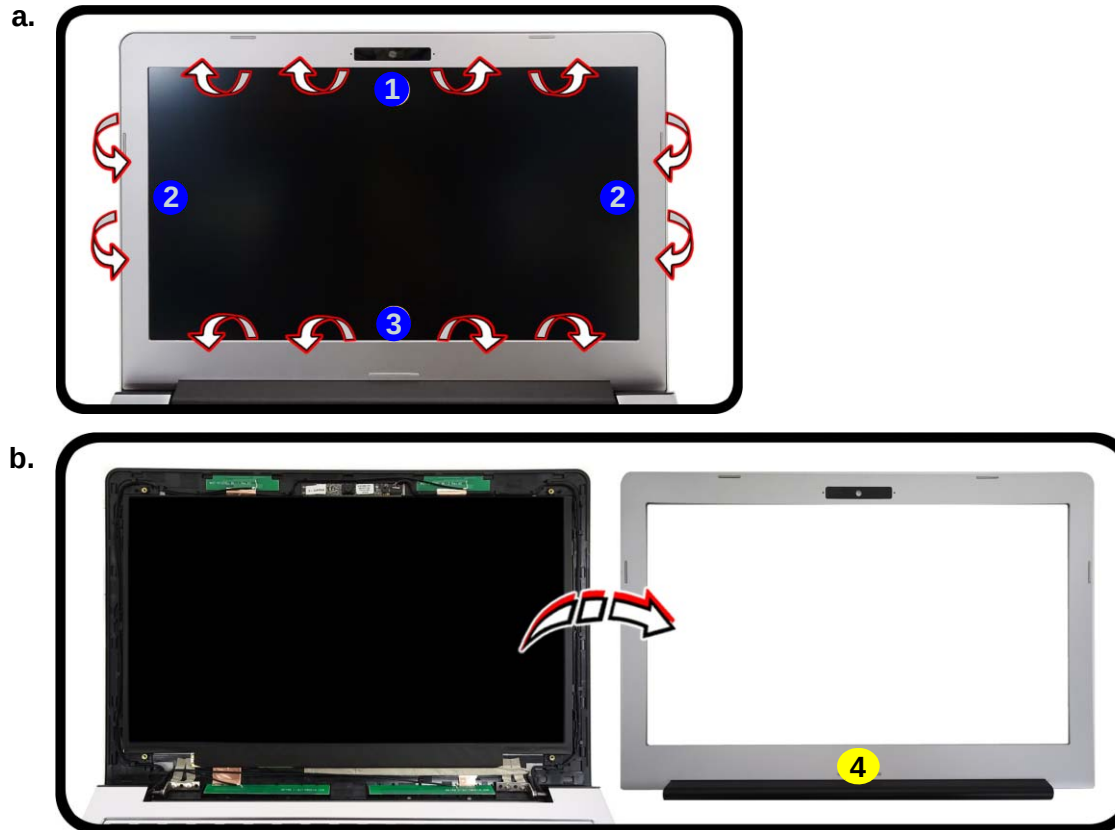


Figure 11
CCD Removal

- 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.



4. LCD Front Cover

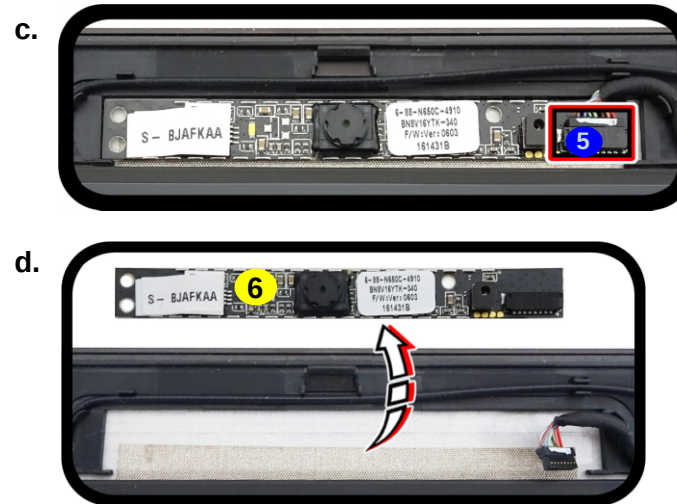
- 6 Screws

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

Appendix A:Part Lists

This appendix breaks down the *N130BU / N131BU* series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

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

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

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

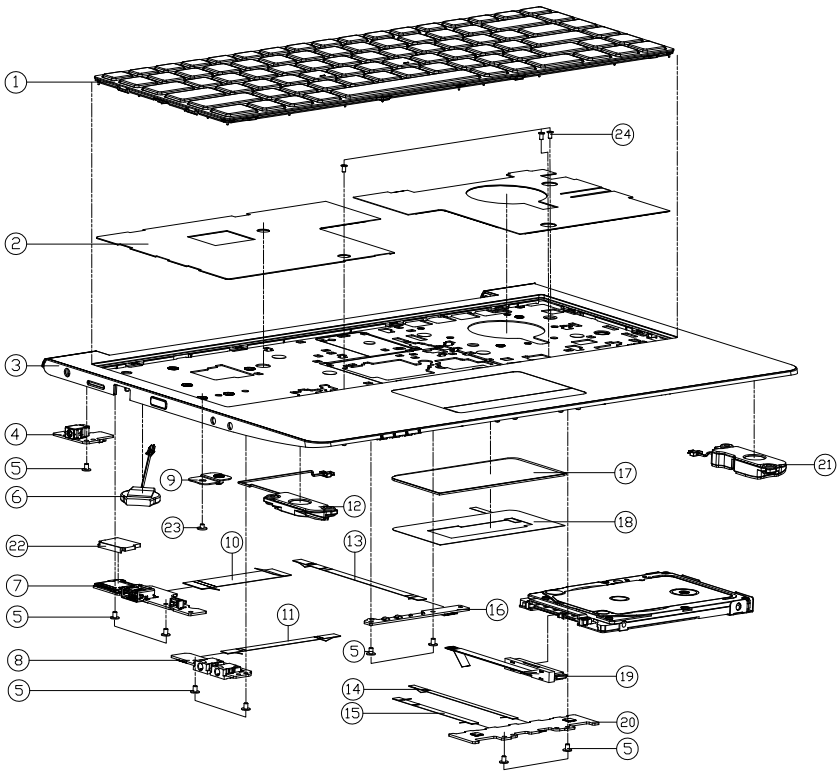
Part List Illustration Location

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

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

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

Top

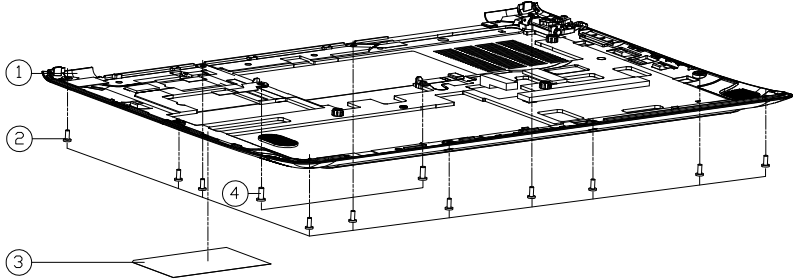


ITEM	PART NAME	PART NO	REMARK
1	WHITE B. K/B USA HP-1822363636 N130BU BLACK ISOLATION WITH VINDO KEY + K/B FRAME	6-80-N13B0-011-1	
1	WINDO K/B USA(BLACK& FRAME(CUS) MODULE FOR N130BU	6-79-N130BUOK-010-W	
2	NDN BACK LIGHT KB MYLAR (PET) N130BU	6-40-N1302-012	
3	TOP CASE MODULE N130BU	6-40-N1302-012	
3	TOP CASE MODULE N131BU	6-39-N1312-011	
4	DC JACK BOARD V2.0A N130BU	6-77-N130C-D02A	
5	SCREW M2*3L KI BZ ICT NY (DD-#4.5,DT-0.4)	6-35-B6120-3RD	
6	BAT. 2000 3V 220MAH W/CABLE 55MM B0R202055VMDUB (SHIMED)	6-23-22015-TE0	
7	USB BOARD V2.0A (W/LTE) N130BU	6-77-N1303-D02A	
7	USB BOARD V2.0A (W/O LTE) N130BU	6-77-N1303-D02A-1	
8	AUDIO BOARD V2.0A N130BU	6-77-N1308-D02A	
9	SSD BRACKET SGCC N130BU	6-33-N130S-011	ONLY FOR N12 (2260/2240) SSD
10	FFC CABLE FOR 3G TO MB L-60MM / 60V / 30PIN (CS) N130BU	6-43-N1300-041	
11	FFC CABLE FOR AUDIO TO MB L-76MM / 60V / 10PIN (CS) N130BU	6-43-N1300-030	
12	SPK+CABLE L 42.45*15.85 95MM 2W 4? SPONGE N130BU	6-23-5N130-0L2	
13	FFC CABLE FOR LED TO MB L-1025MM / 60V / 10PIN (CS) N130BU	6-43-N1300-021	
14	FFC CABLE FOR CLICK TO MB L-85MM 60V 6PIN (CS) N130BU	6-43-N1300-010	
15	FFC CABLE FOR CLICK TO TP L-65MM / 60V / 8PIN (CS) N130BU	6-43-N1302-010	
16	LED BOARD V2.0A N130BU	6-77-N1304-D02A	
17	TOUCH PAD SYNAPTICS 84*42 TM-03175-002 N240BU	6-49-N24J3-010	
18	TP MYLAR FOR ISOLATION N130BU	6-40-N1302-020	
19	HDD CONCS0007-100+PCB+W/CABLE+DATE CODE FFC CABLE 73MM N130BU	6-23-FN130-011	
20	CLICK BOARD V2.0A N130BU	6-77-N1302-D02A	
21	SPK+CABLE R 53.5*16.9 15.5MM 2W 4? SPONGE N130BU	6-23-5N130-0R2	
22	SIM HOLE RUBBER N130BU	6-47-N1302-0C1	
23	SCREW M2*2L KI NI ICT NY (DD-#5 ,T=0.5)	6-35-B1120-2R0	
24	SCREW M2*4L KI NI ICT NY (DD-#4.5,DT-0.4)	6-35-B1120-4RE	

Figure A - 1
Top

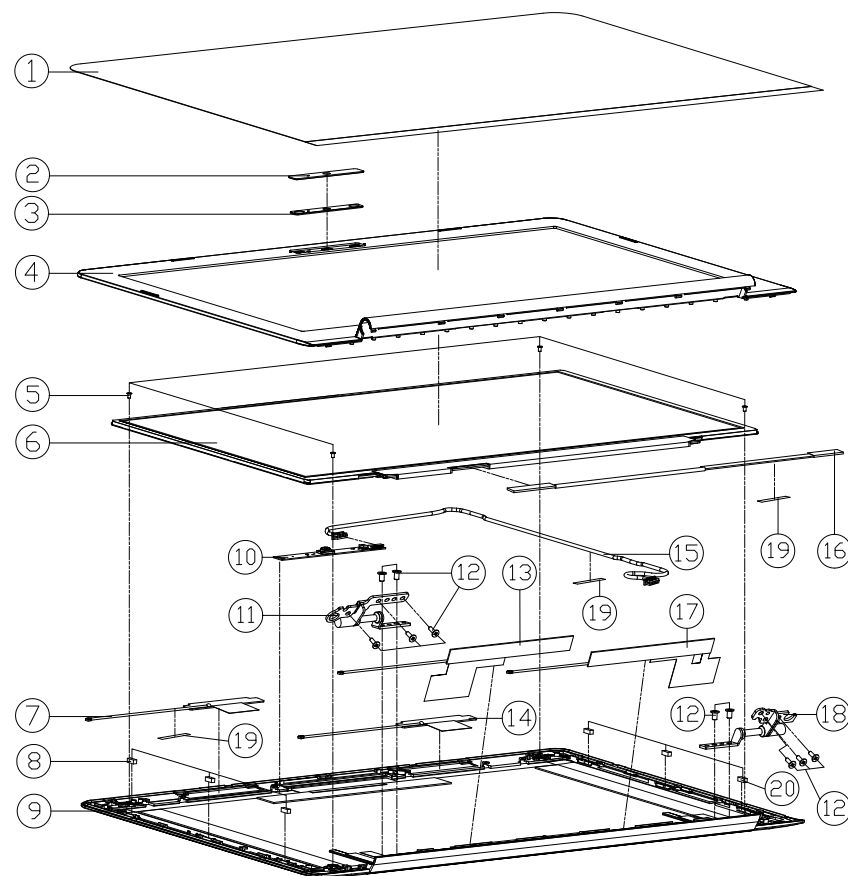
Bottom

Figure A - 2
Bottom



ITEM	PART NAME	PART NO	REMARK
1	BOTTOM CASE MODULE N130BU	6-39-N1303-012	
1	BOTTOM CASE MODULE N131BU	6-39-N1313-011	
2	SCREW M2*5L K(CT=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
3	PRODUCT LABEL FOR N130BU	6-45-N130BU03-010	
3	PRODUCT LABEL FOR N131BU	6-45-N131BU03-010	
4	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	

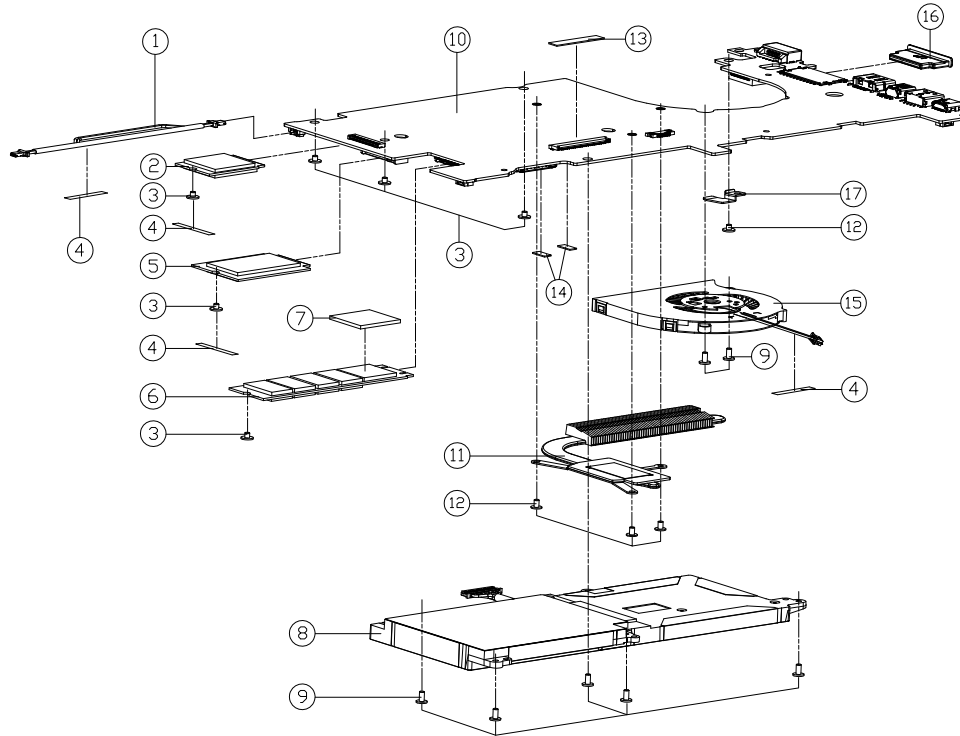
LCD



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	IR CCD LENS N130BU	6-42-N1301-031	擇一選配
4	FRONT COVER MODULE N130BU	6-39-N1301-012	
4	FRONT COVER MODULE N131BU	6-39-N1311-011	
5	SCREW M2*2L KI NI ICT NY (DD=05 ,T=0.5)	6-35-B1120-2R0	ONLY FOR 6-79-N130BU01-E30 6-79-N130BU01-E40
6	LCD 13.3" HD+VWV N7/ EDP PANDA LINC827LBU V1 (NO BRACKETLED 30MM	6-50-GB230-Y02	
6	LCD 13.3" HD+ LG LANE TYPE (COP) IPSIPS3 SAMSUNG LINC827LBU LUN LED 26MM	6-50-GC226-M00	
6	LCD 13.3" HD+ LG LP133WD2-SLB1 LED 2.85MM	6-50-GA128-L00	
6	LCD 13.3" HD+VWV N7/ EDP PANDA LINC827LBU V1 (NO BRACKETLED 30MM	6-50-GB230-V02	
7	ANTENNA FOR MATEL CASE ONLY PEAK WAVE V01 M2 PER DL 246/56 L= 40MM N130BU	6-23-7N130-011	
8	LCD RUBBER 5.5*21*1.9 SILICON FOR SAMSUNG N130BU	6-47-N1301-032	ONLY FOR 6-50-GC226-M00
9	BACK COVER MODULE N130BU	6-39-N1301-022	
9	BACK COVER MODULE N131BU	6-39-N1311-021	
10	UVC CAMERA FRONT FOR INNOVATE-500 IN HD DVSCH K500P FPMOD V-WHITE-LED V01-MC	6-88-N130C-0A01	
10	UVC CAMERA FRONT FOR INNOVATE-500 IN HD DVSCH K500P FPMOD V-WHITE-LED V02-MC	6-88-N650C-4900	
10	UVC CAMERA FRONT FOR INNOVATE-500 IN HD DVSCH K500P FPMOD V-WHITE-LED V03-MC	6-88-N650C-4910	
10	UVC CAMERA FRONT FOR INNOVATE-500 IN HD DVSCH K500P FPMOD V-WHITE-LED V04-MC	6-88-W51PC-5100	
10	UVC CAMERA FRONT FOR INNOVATE-500 IN HD DVSCH K500P FPMOD V-WHITE-LED V05-MC	6-88-W51PC-5110	
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 PEAK WAVE V01 M2 PER DL 246/56 L= 40MM N130BU	6-23-7N130-032	
14	ANTENNA FOR MATEL CASE ONLY PEAK WAVE V01 M2 PER DL 246/56 L= 40MM N130BU	6-23-7N130-021	
15	WIRE CABLE FOR CCD 500MM 33V 8P (CHANGE LABEL) (RL) W510T0	6-43-W510T-012	ONLY FOR CCD LENS
15	WIRE CABLE FOR CCD 500MM 30V 10PIN N130BU	6-43-N130T-031	ONLY FOR IR CCD LENS
16	CANAL CABLE FOR EDPANDA 40MM (D 30V 30P 04/LW CON.V0324-22) N130BU	6-43-N1301-012-N	FOR 6-79-N130BU01-E10
16	CANAL CABLE FOR EDPANDA 40MM (D 30V 30P 04/LW CON.V0324-22) N130BU	6-43-N1301-022-N	FOR 6-79-N130BU01-E20
16	CANAL CABLE FOR EDPANDA 40MM (D 30V 30P 04/LW CON.V0324-22) N130BU	6-43-N1301-032-N	FOR 6-79-N130BU01-E30
16	CANAL CABLE FOR EDPANDA 40MM (D 30V 30P 04/LW CON.V0324-22) N130BU	6-43-N1301-042-N	FOR 6-79-N130BU01-E40
17	ANTENNA FOR MATEL CASE ONLY PEAK WAVE V01 M2 PER DL 246/56 L= 40MM N130BU	6-23-7N130-042	
18	HINGE R (SK7+SUS304) N130BU	6-33-N1301-0R1	
19	TAPE MYLAR TRANSPARENT (30*5*0.05) W25HP0	6-40-W25P3-010	
20	LCD RUBBER FOR PANDA 5.2*1.7*2.1 SILICON N130BU	6-47-N1301-040	ONLY FOR 6-50-GB230-Y02

Figure A - 3
LCD

MB

Figure A - 4
MB

ITEM	PART	NAME	PART NO	REMARK
1	AC CABLE	TO MO 100MM 17V 2P BLUE	6-43-N1300-051	
2	MOUNT BRACKET	FOR M2.5 SATA 3.5" BAY	6-88-P65SF-4210	OPTION
2	MOUNT BRACKET	FOR M2.5 SATA 3.5" BAY	6-88-P65SF-4200	OPTION
3	SCREW	M2x4.5 L1.1 CT NY (DD=0.5, T=0.5)	6-35-B1120-2R0	
4	TAPE	MYLAR TRANSPARENT (30x5x0.05)	6-40-W25P3-010	
5	MEMORY MODULE	DDR4 16GB 2666MHz CL19	6-88-S210V-8810	OPTION
5	MEMORY MODULE	DDR4 8GB 2666MHz CL19	6-88-W3306-8841	OPTION
5	MEMORY MODULE	DDR4 4GB 2666MHz CL19	6-88-W3306-8830	OPTION
6	SSD	M2 2280 1TB SATA III	6-85-D511T-200	OPTION
6	SSD	M2 2280 512GB SATA III	6-85-D515A-100	OPTION
6	SSD	M2 2280 256GB SATA III	6-85-D515B-S01	OPTION
6	SSD	M2 2280 128GB SATA III	6-85-D51R0-100	OPTION
6	SSD	M2 2280 64GB SATA III	6-85-D515R-100	OPTION
6	SSD	M2 2280 32GB SATA III	6-85-D515B-S05	OPTION
6	SSD	M2 2280 16GB SATA III	6-85-D51C8-H01	OPTION
7	THERMAL PAD	RS300(30x20x1.5)	6-48-N1302-010	
8	CPU HEATSINK	MODULE N130BU	6-87-N130S-309A1	
9	SCREW	M2x4.5 L1.1 CT NY (DD=0.45, DT=0.4)	6-35-B1120-4RE	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-10C	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-E	
10	MAIN BOARD	7200/250 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-2D	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-5C	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-1C	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-3F	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-6G	
10	MAIN BOARD	7200/240 V2M (CPUS3000/4V/LTE/PM) N130BU	6-77-N130BU00-D02A-1H	
11	CPU HEATSINK	MODULE N130BU	6-31-N130N-102	
12	SCREW	M2x4.5 L1.1 CT NY (DD=0.45, DT=0.4)	6-35-B6120-3RD	
13	KB CONNECTOR	MYLAR 25x6.5x0.5T FR83 N130BU	6-40-N1303-011	
14	DDR4 SOCKET	RUBBER(0.8x5) SILICONE P650R6	6-47-P65RS-011	
15	FAN MODULE	(ADDA) N130BU	6-31-N130S-102	
16	DUMMY SD RUBBER	(SILICONE RUBBER) N130BU	6-47-N1308-012	
17	CABLE FIX	BKT(SGCC) N130BU	6-33-N1303-010	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *N130BU* / *N131BU* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
System Block Diagram - Page B - 2	PS8338B - Page B - 18	VDD3, VDD5 - Page B - 34
Processor 1/10 - Page B - 3	miniDP - Page B - 19	VDDQ, VDDQ_VTT, 1.5VS, 1.8VA - Page B - 35
Processor 2/10 - Page B - 4	AR_TBT - Page B - 20	1.0V Series - Page B - 36
Processor 3/10 - Page B - 5	AR_Power - Page B - 21	VCCGT, VCCSA - Page B - 37
Processor 4/10 - Page B - 6	TPS65982 - Page B - 22	2.5V, VCCIO_Out, VCCIN - Page B - 38
Processor 5/10 - Page B - 7	ASM1543 - Page B - 23	RT3601BC - Page B - 39
Processor 6/10 - Page B - 8	Type C - Page B - 24	Charger, DC IN - Page B - 40
Processor 7/10 - Page B - 9	Card Reader & LAN_RTL8411B - Page B - 25	USB Board - Page B - 41
Processor 8/10 - Page B - 10	Audio Codec - Page B - 26	Audio Board - Page B - 42
Processor 9/10 - Page B - 11	KBC ITE IT8587 - Page B - 27	Click Board - Page B - 43
Processor 10/10 - Page B - 12	WLAN/BT, 3G - Page B - 28	LED Board - Page B - 44
DDR4 SO-DIMM_0 - Page B - 13	M Key PCIE SSD - Page B - 29	DC Jack Board - Page B - 45
DDR4 SO-DIMM_1 - Page B - 14	SATA, LED, LID, SW - Page B - 30	DC Jack Board_W - Page B - 46
HDMI - Page B - 15	USB / TPM - Page B - 31	
Panel - Page B - 16	Conn, CCD, Fan, TP, LED KB - Page B - 32	
RTD2136N - Page B - 17	3V, 5V, 3VS, 5VS, 1.8VS CTL - Page B - 33	

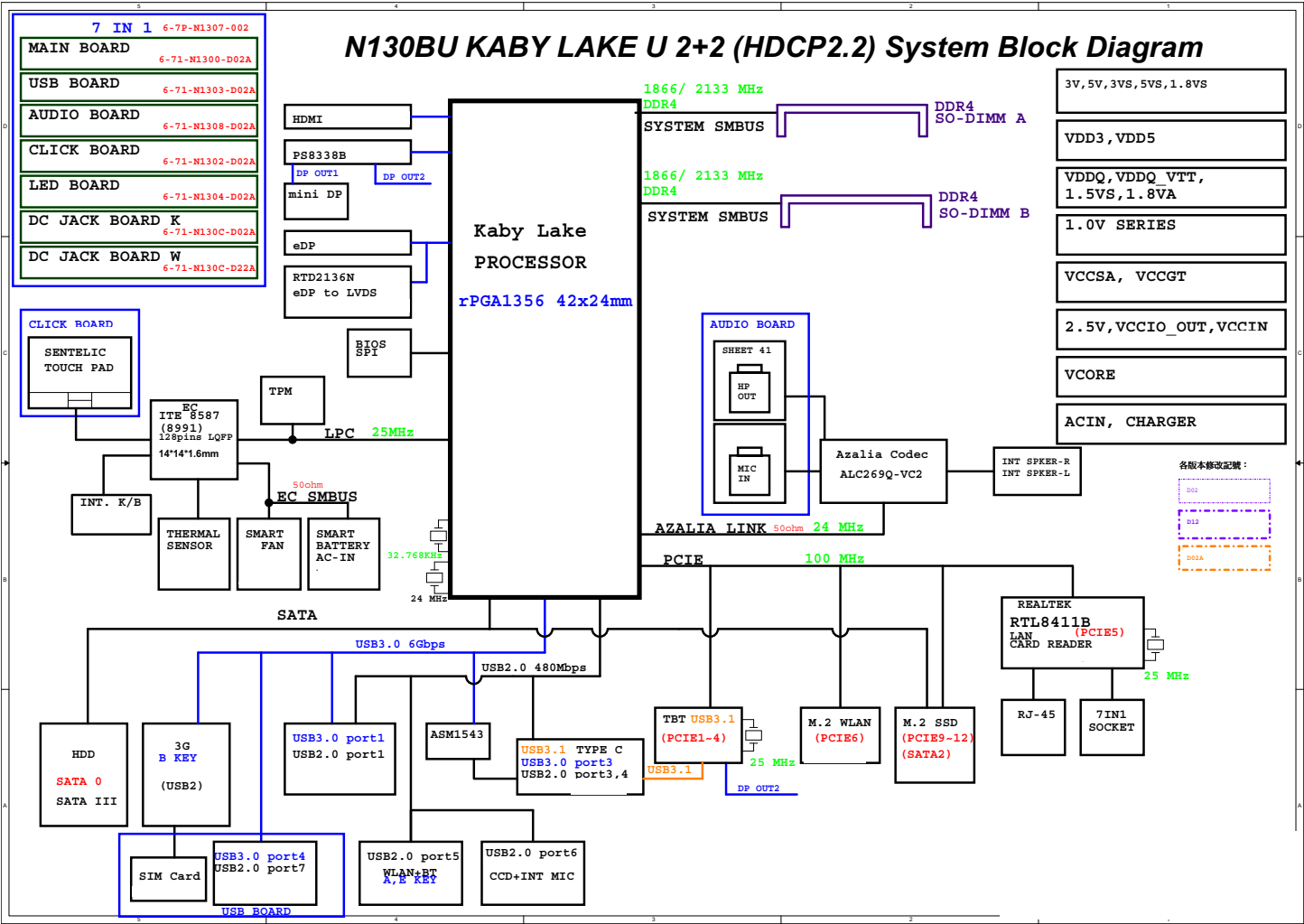
Table B - 1
**SCHEMATIC
DIAGRAMS**



Version Note

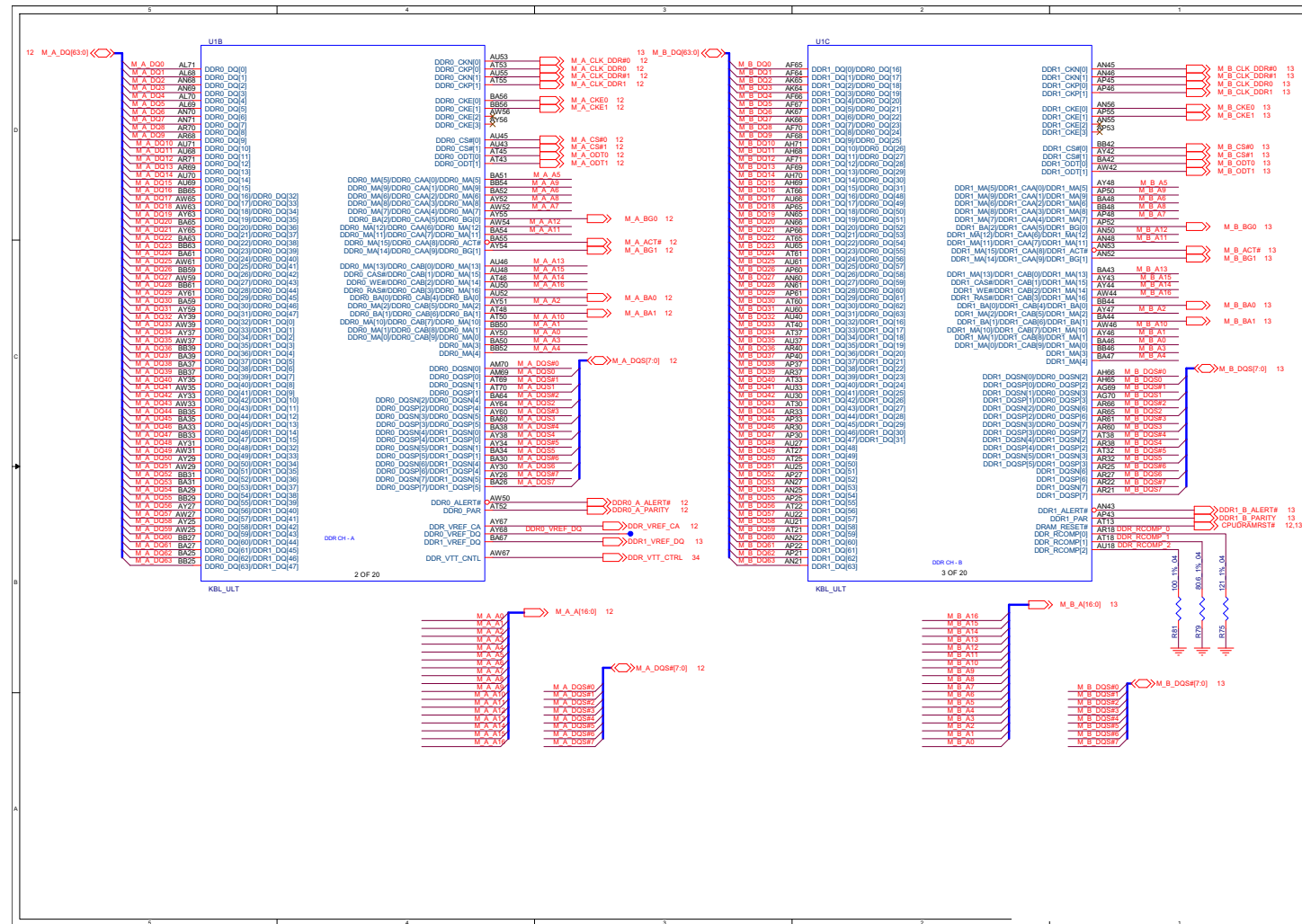
The schematic diagrams in this chapter are based upon version 6-7P-N1307-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram



Sheet 1 of 45
System Block
Diagram

Processor 1/10

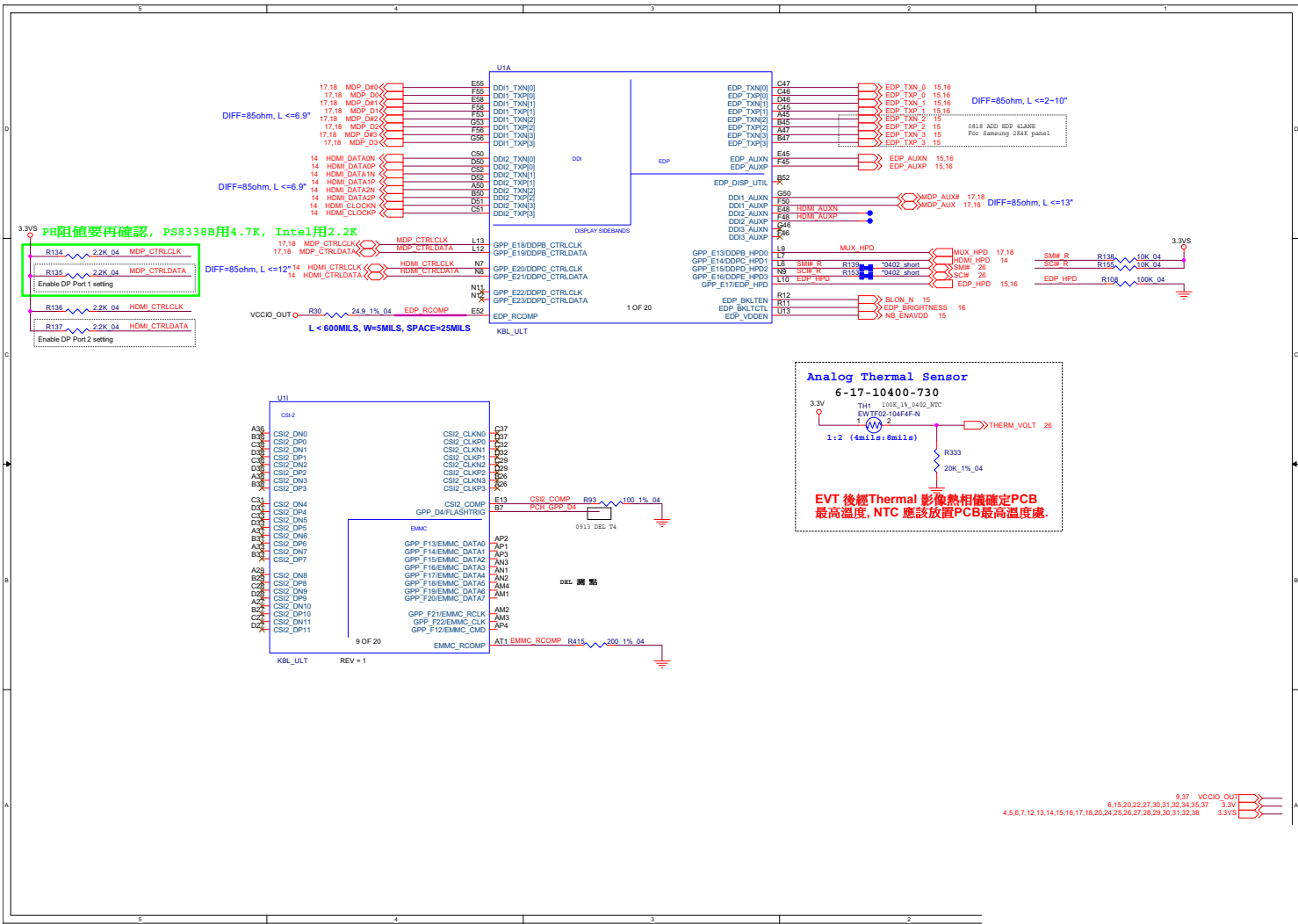


Sheet 2 of 45
Processor 1/10

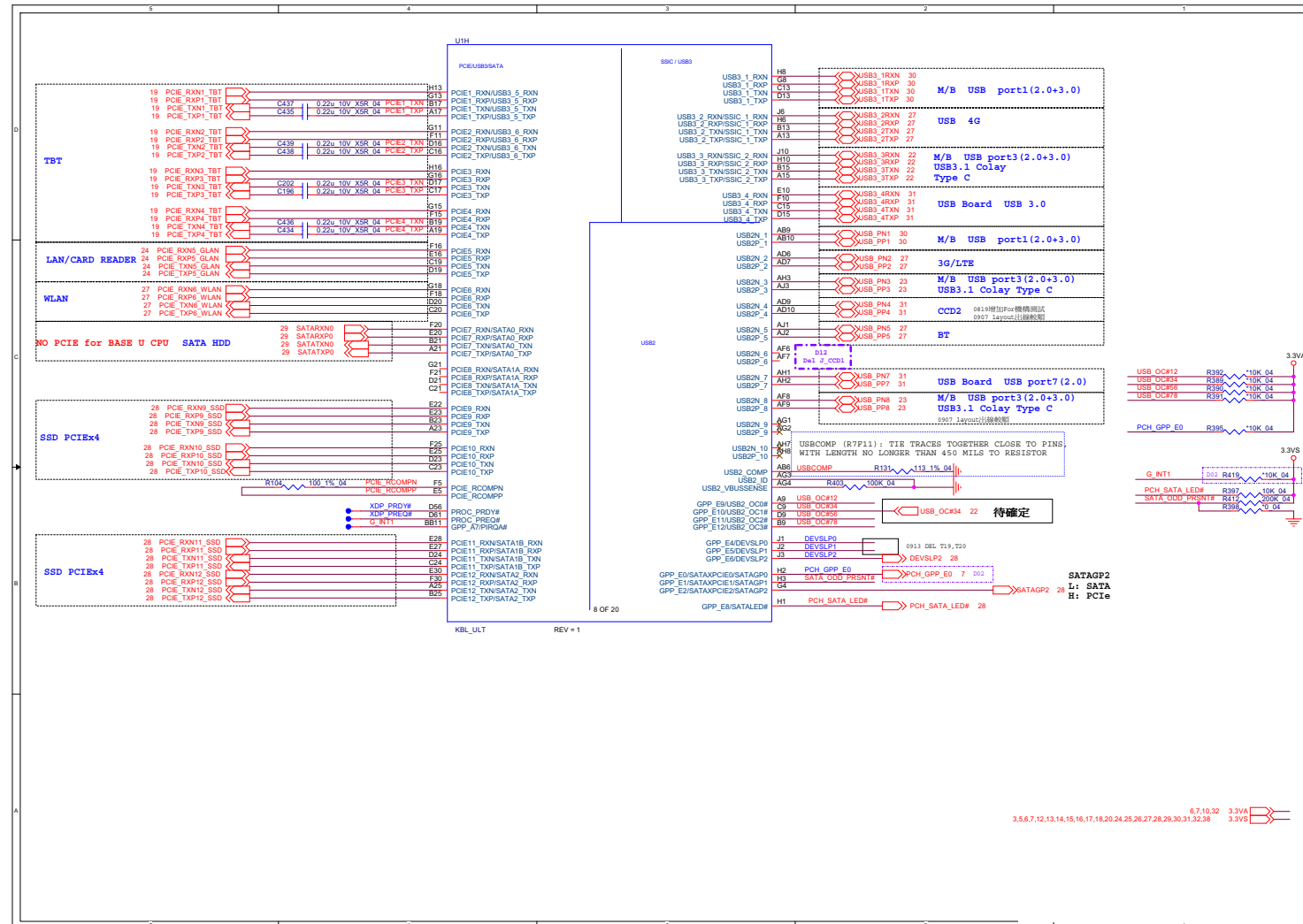
Processor 2/10

B. Schematic Diagrams

Sheet 3 of 45
Processor 2/10



Processor 3/10

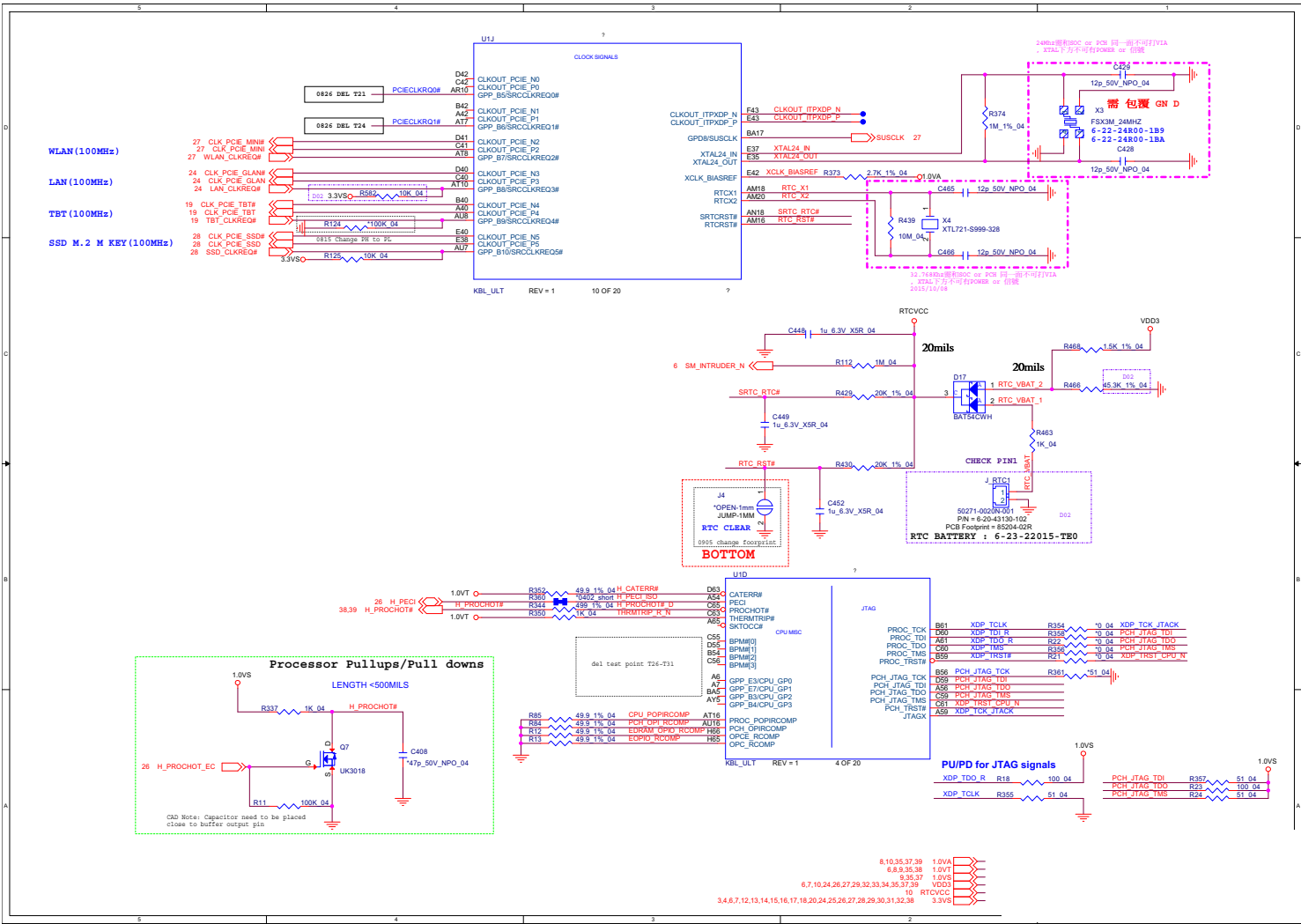


Sheet 4 of 45
Processor 3/10

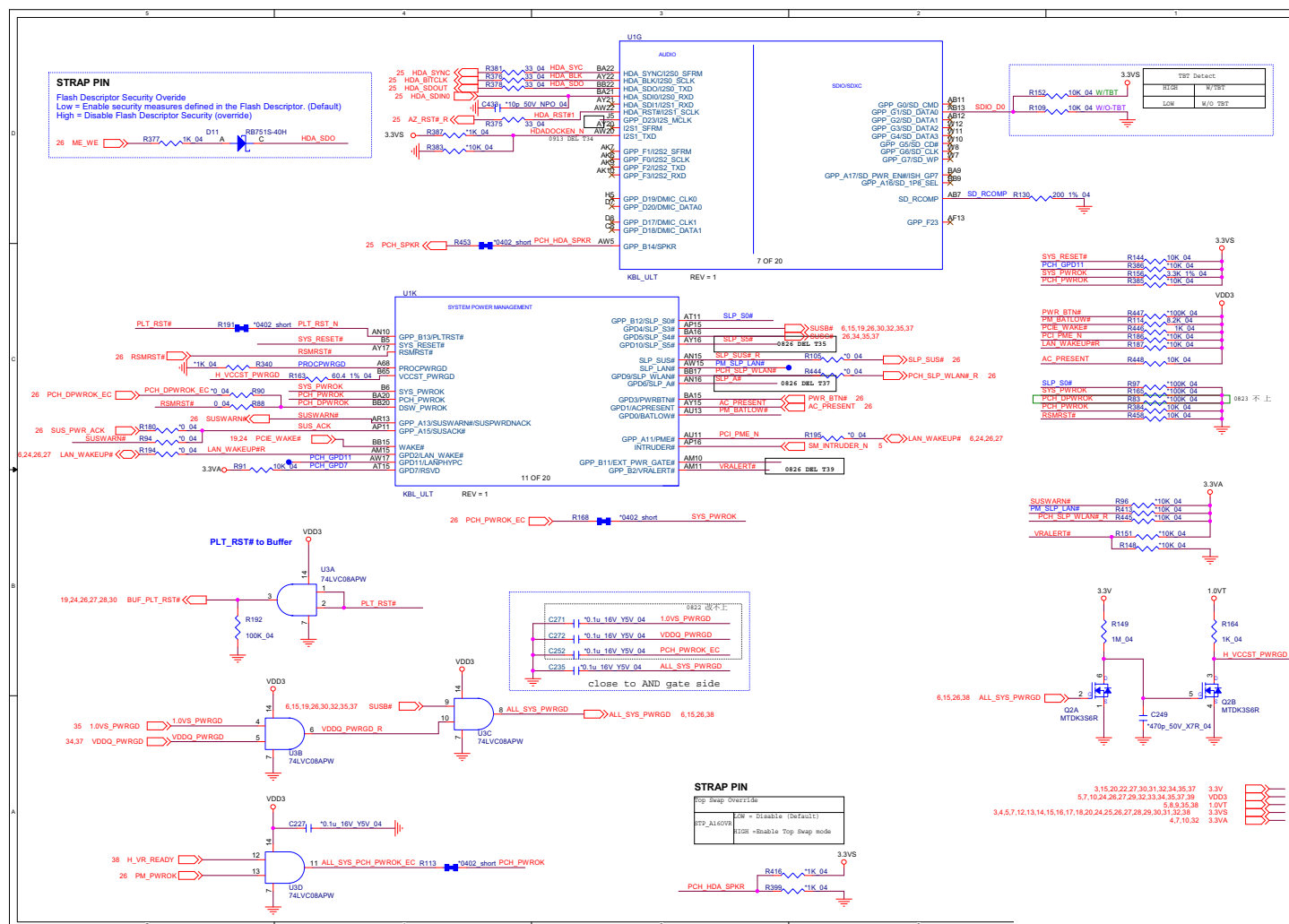
Schematic Diagrams

Processor 4/10

Sheet 5 of 45
Processor 4/10

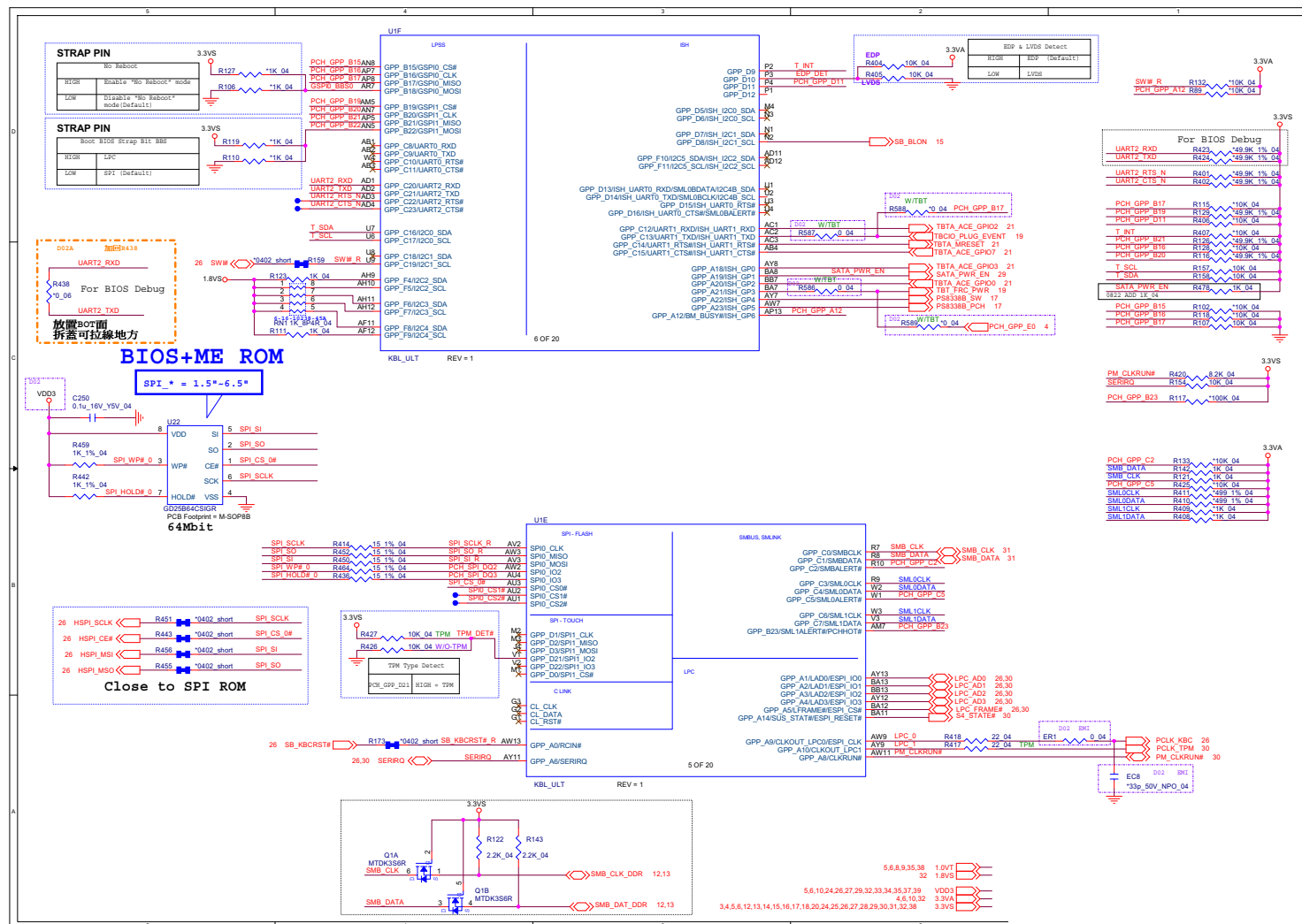


Processor 5/10 B - 7

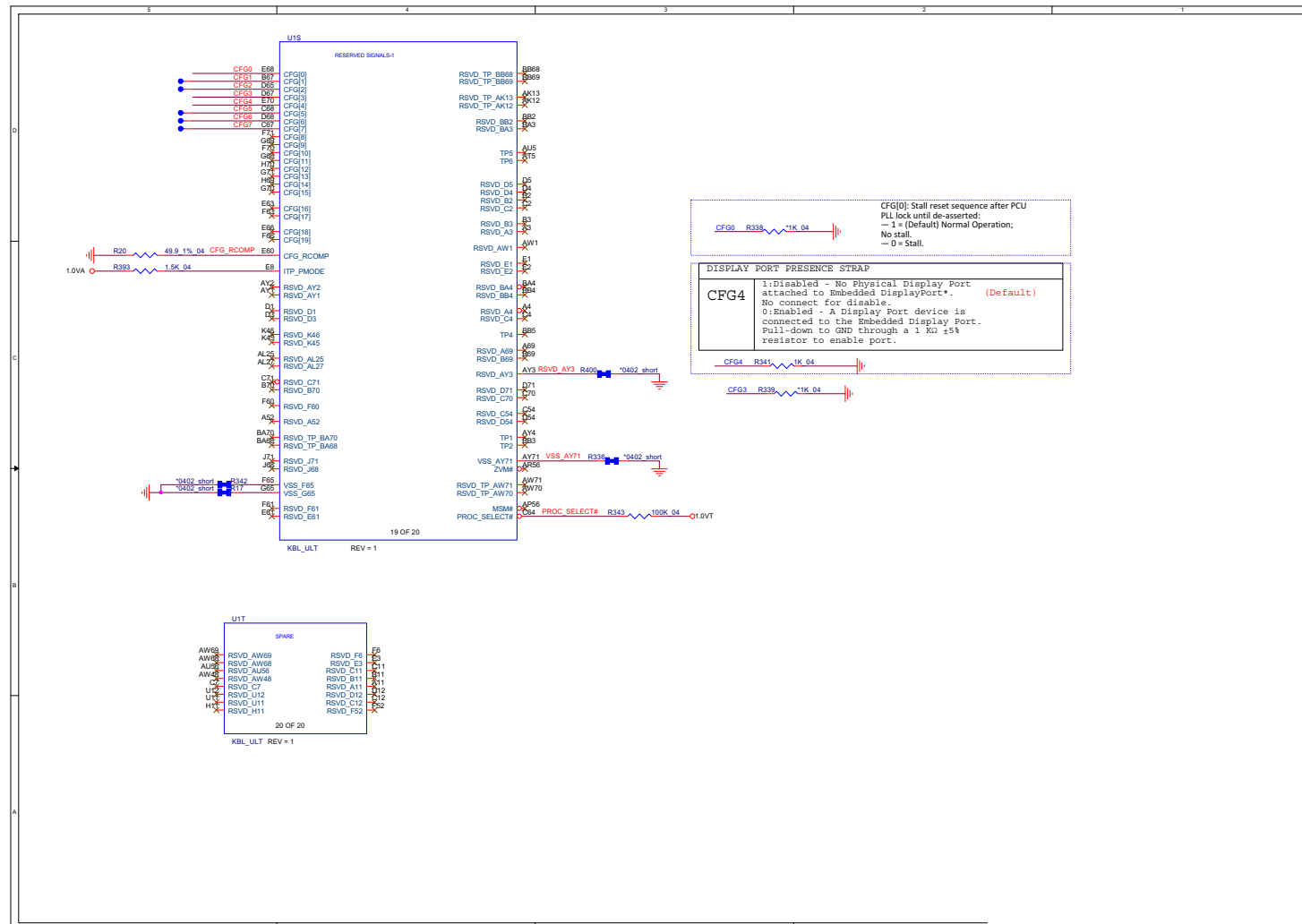


Processor 6/10

Sheet 7 of 45
Processor 6/10



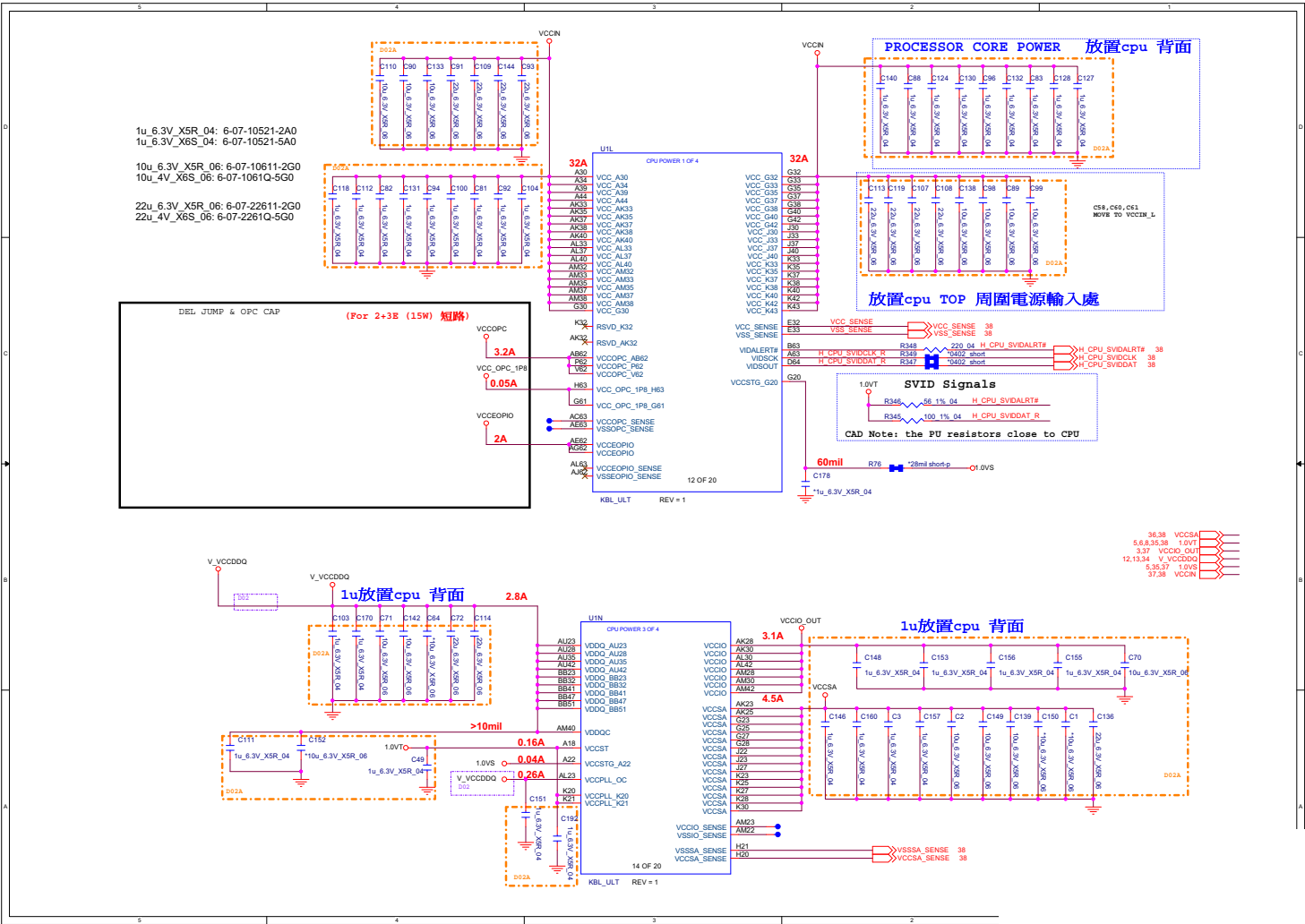
Processor 7/10 B - 9



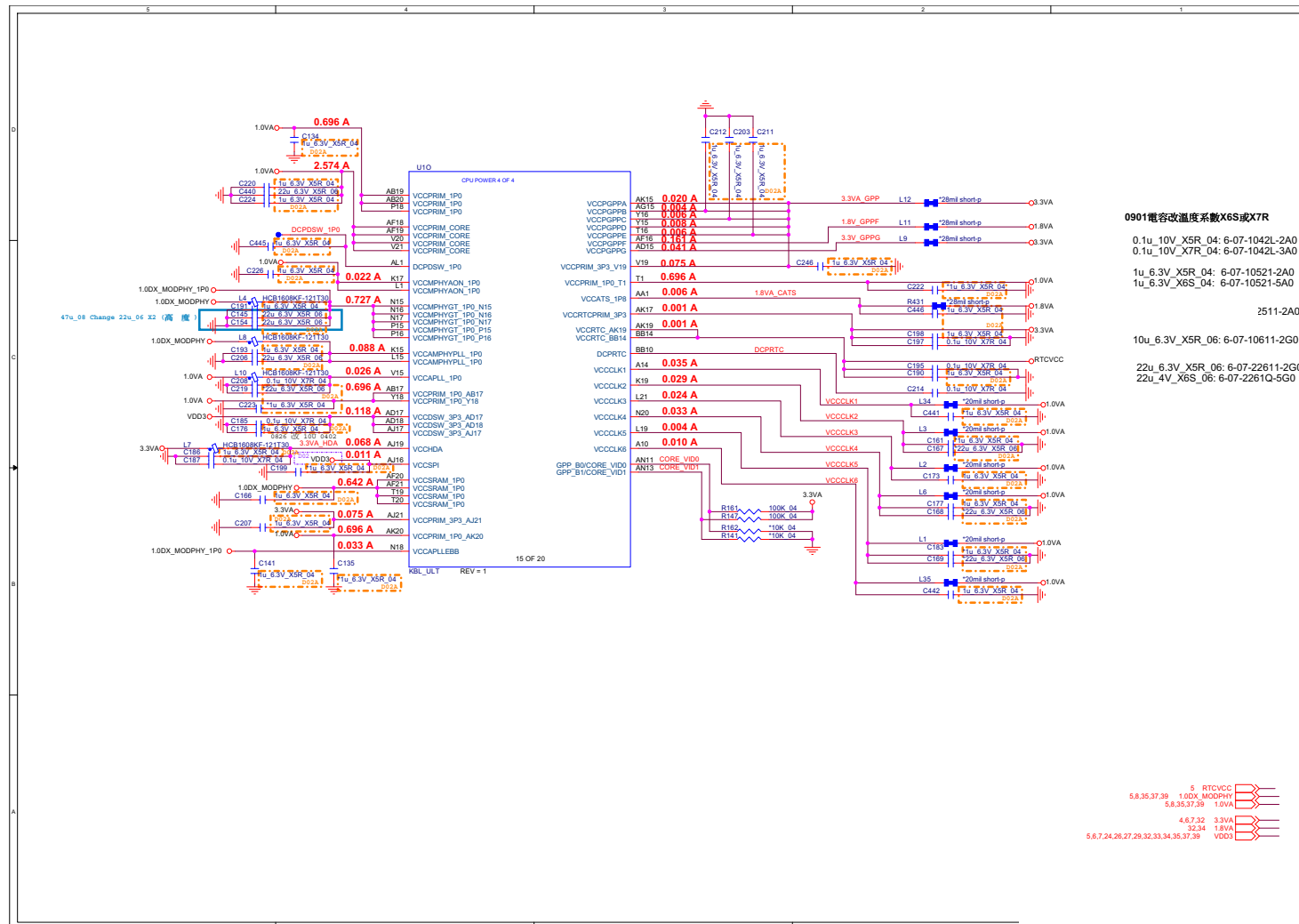
Schematic Diagrams

Processor 8/10

Sheet 9 of 45
Processor 8/10



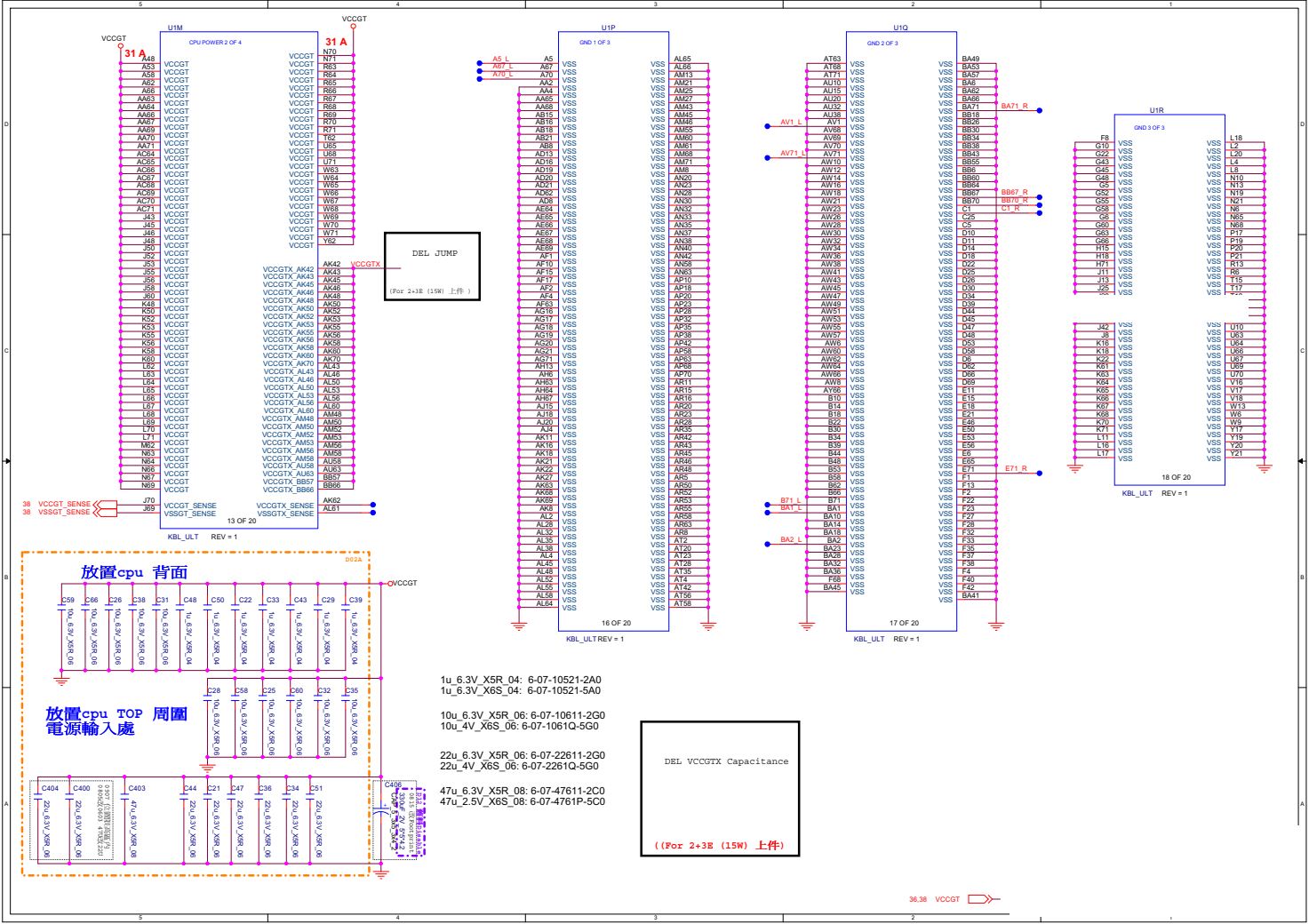
B.Schematic Diagrams



Schematic Diagrams

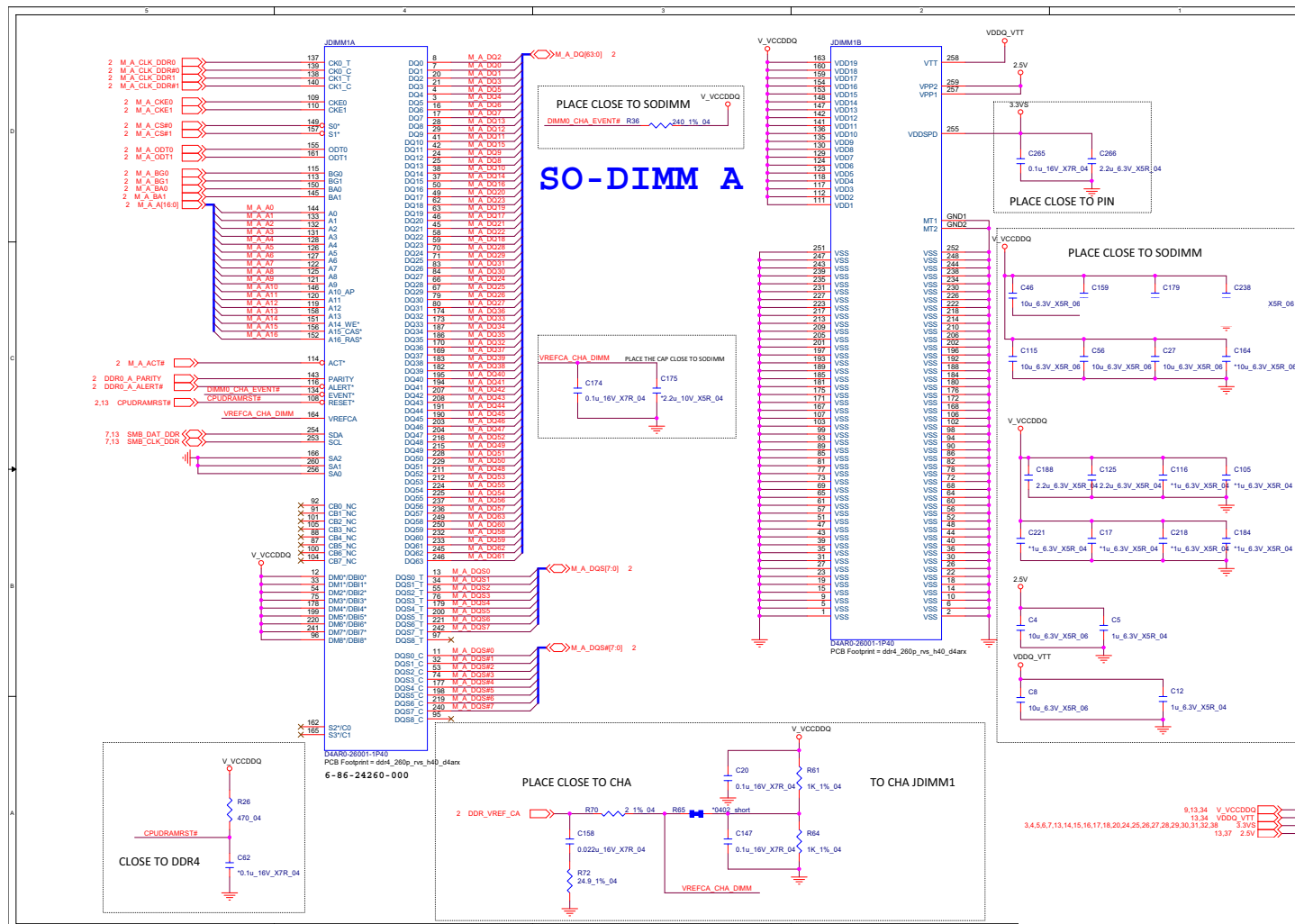
Processor 10/10

Sheet 11 of 45
Processor 10/10



Schematic Diagrams

DDR4 SO-DIMM_0



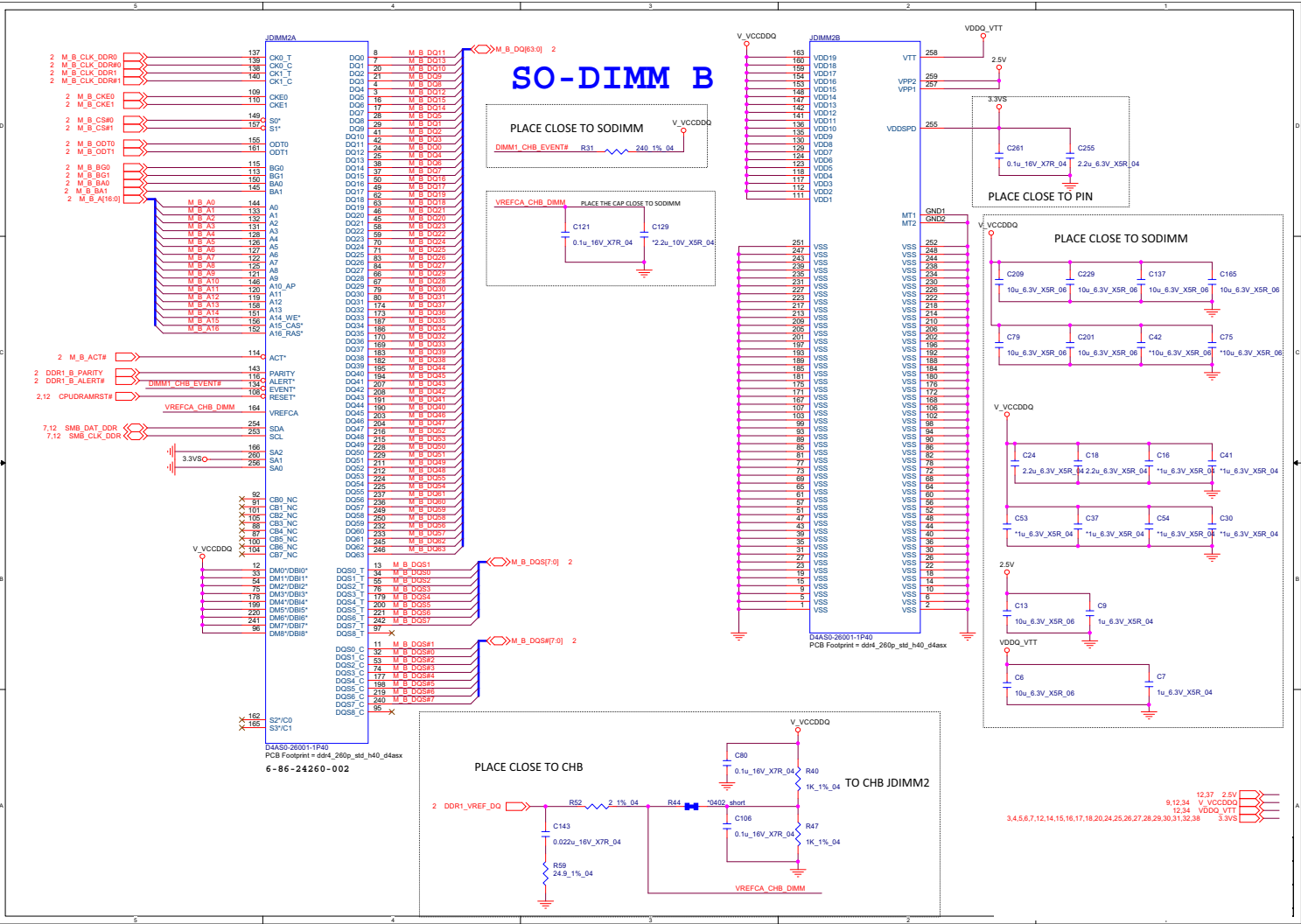
Sheet 12 of 45
DDR4 SO-DIMM_0

B.Schematic Diagrams

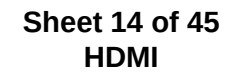
Schematic Diagrams

DDR4 SO-DIMM_1

Sheet 13 of 45
DDR4 SO-DIMM_1



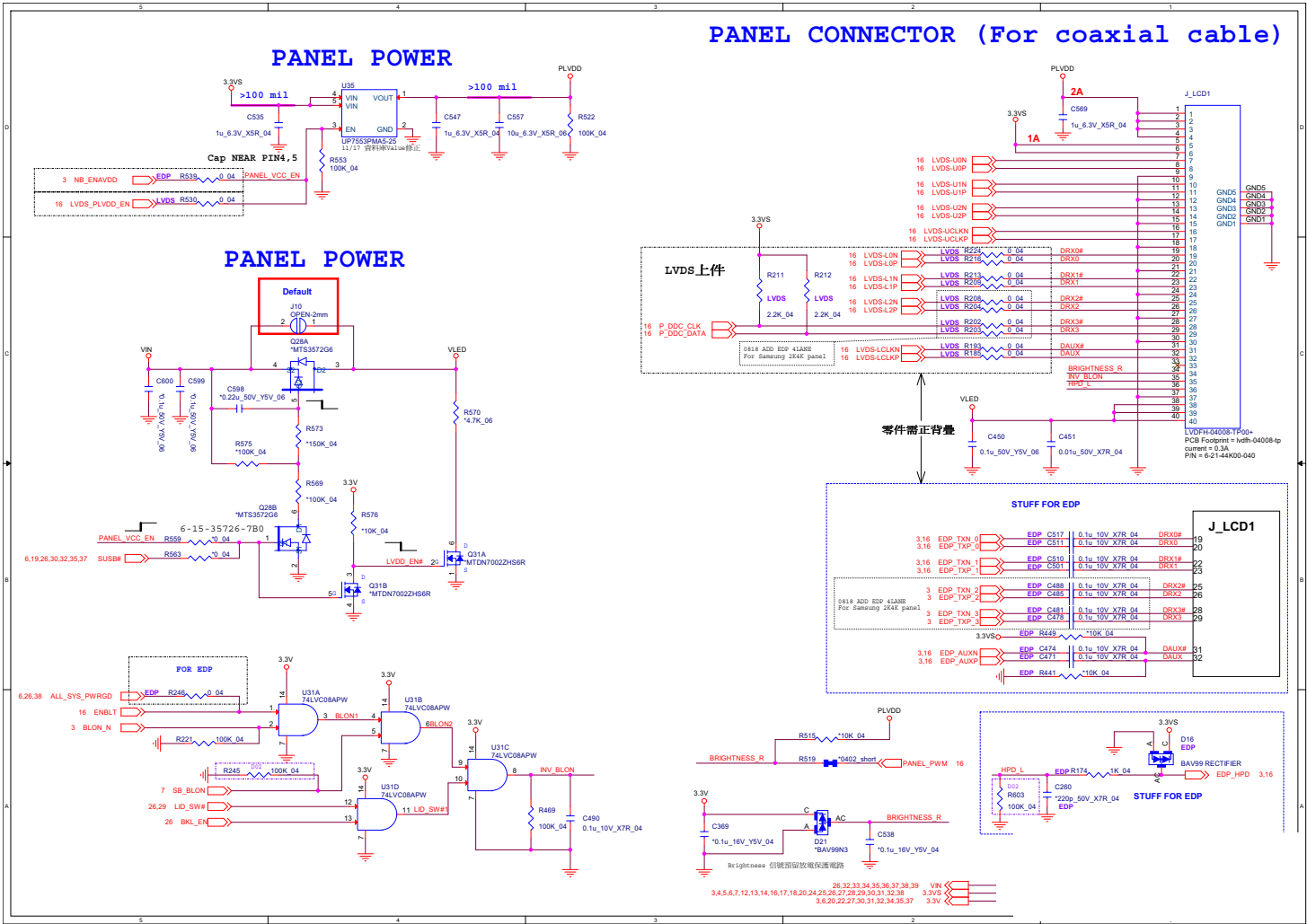
HDMI B - 15



Schematic Diagrams

Panel

Sheet 15 of 45
Panel



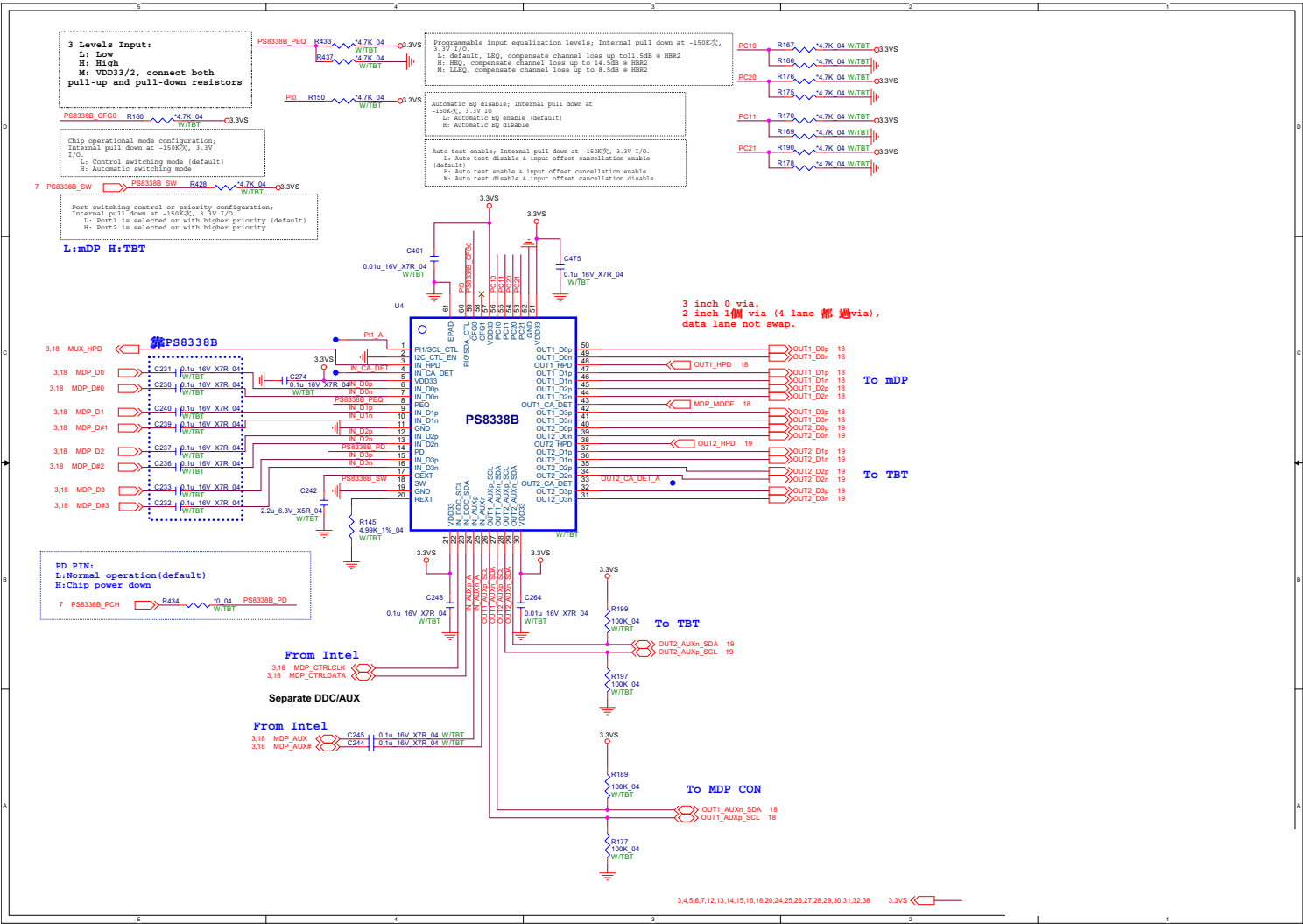
RTD2136N B - 17



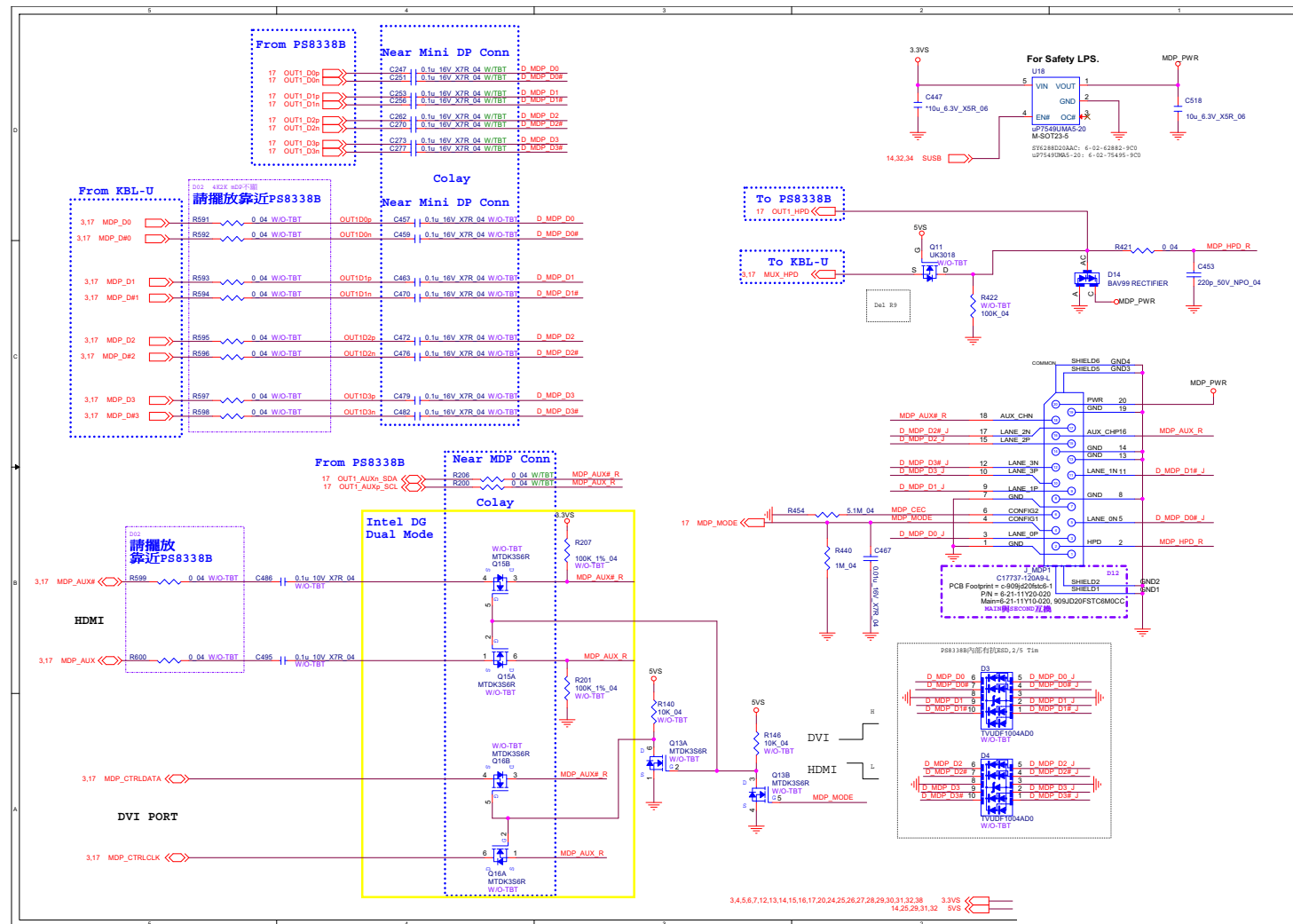
Schematic Diagrams

PS8338B

Sheet 17 of 45
PS8338B



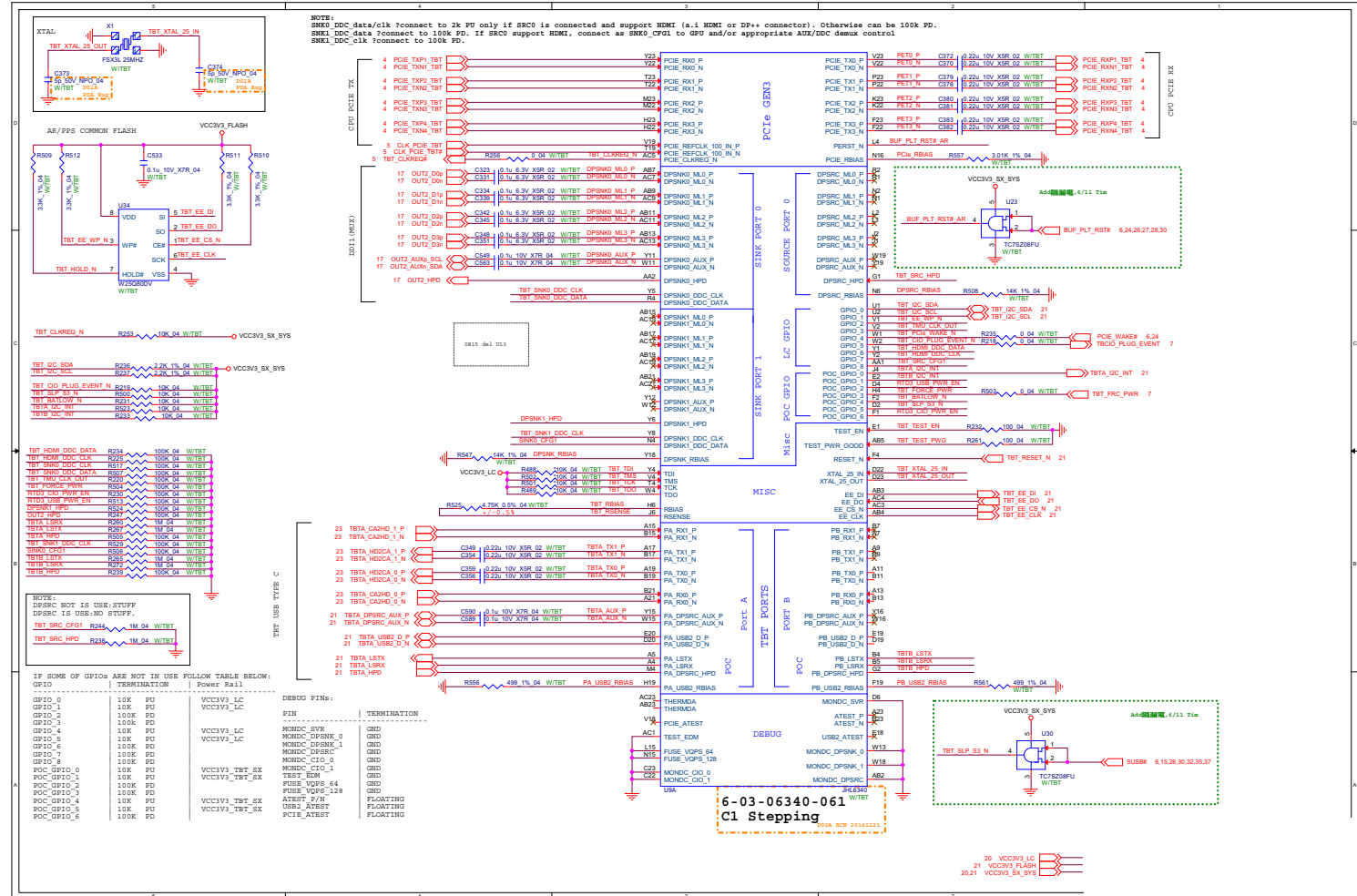
miniDP



Schematic Diagrams

AR_TBT

Sheet 19 of 45
AR_TBT



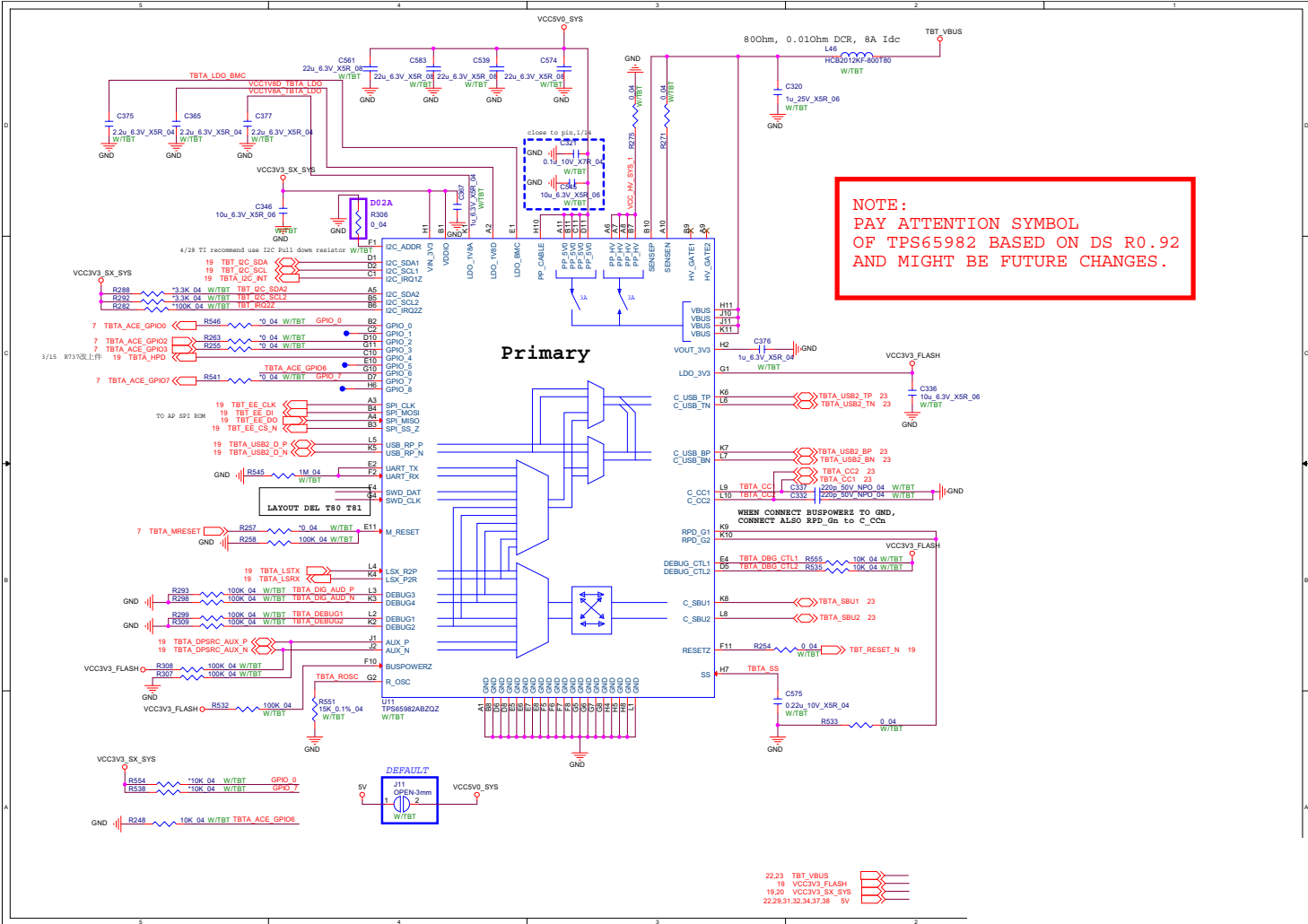


1

Schematic Diagrams

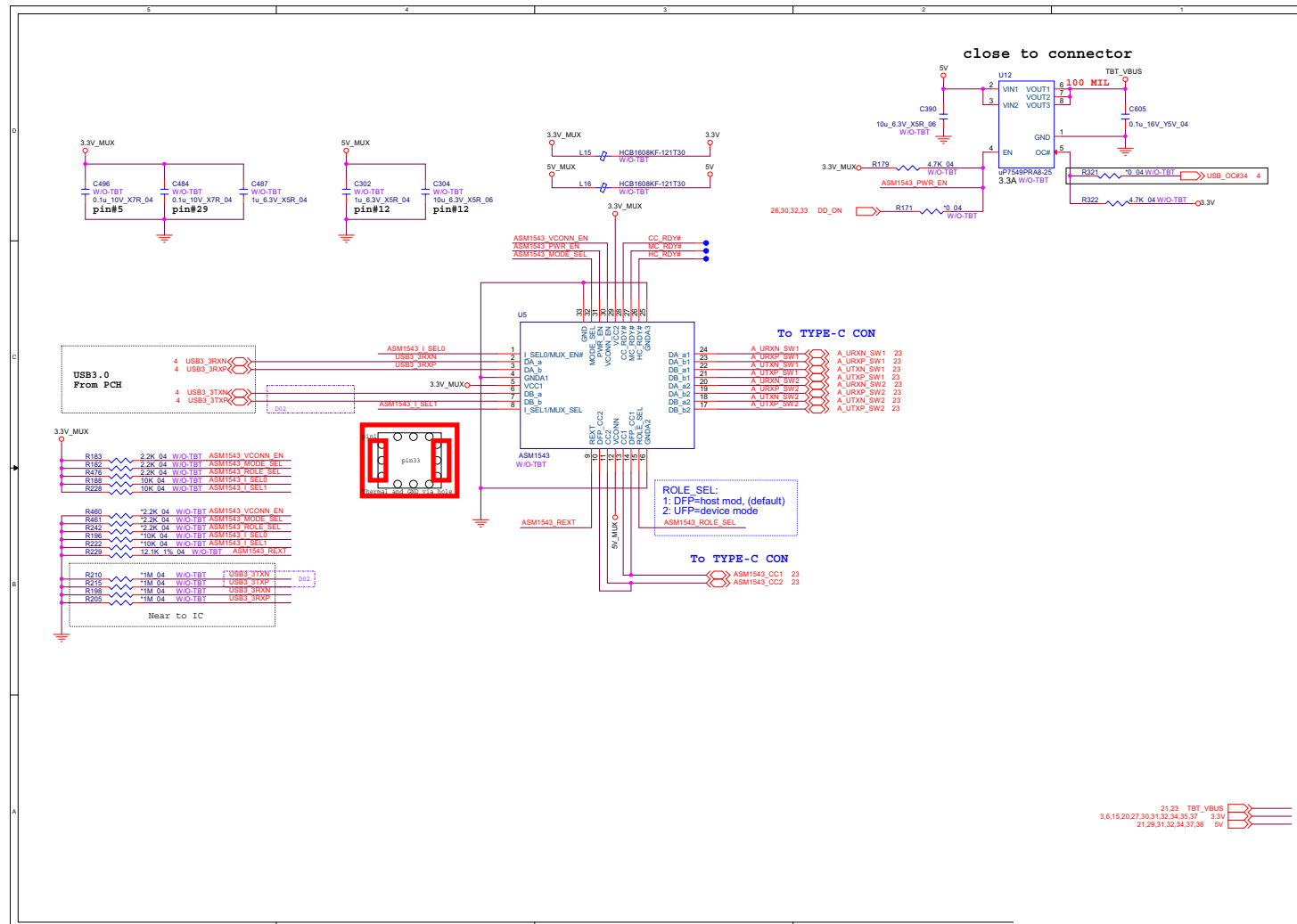
TPS65982

Sheet 21 of 45
TPS65982



Schematic Diagrams

ASM1543

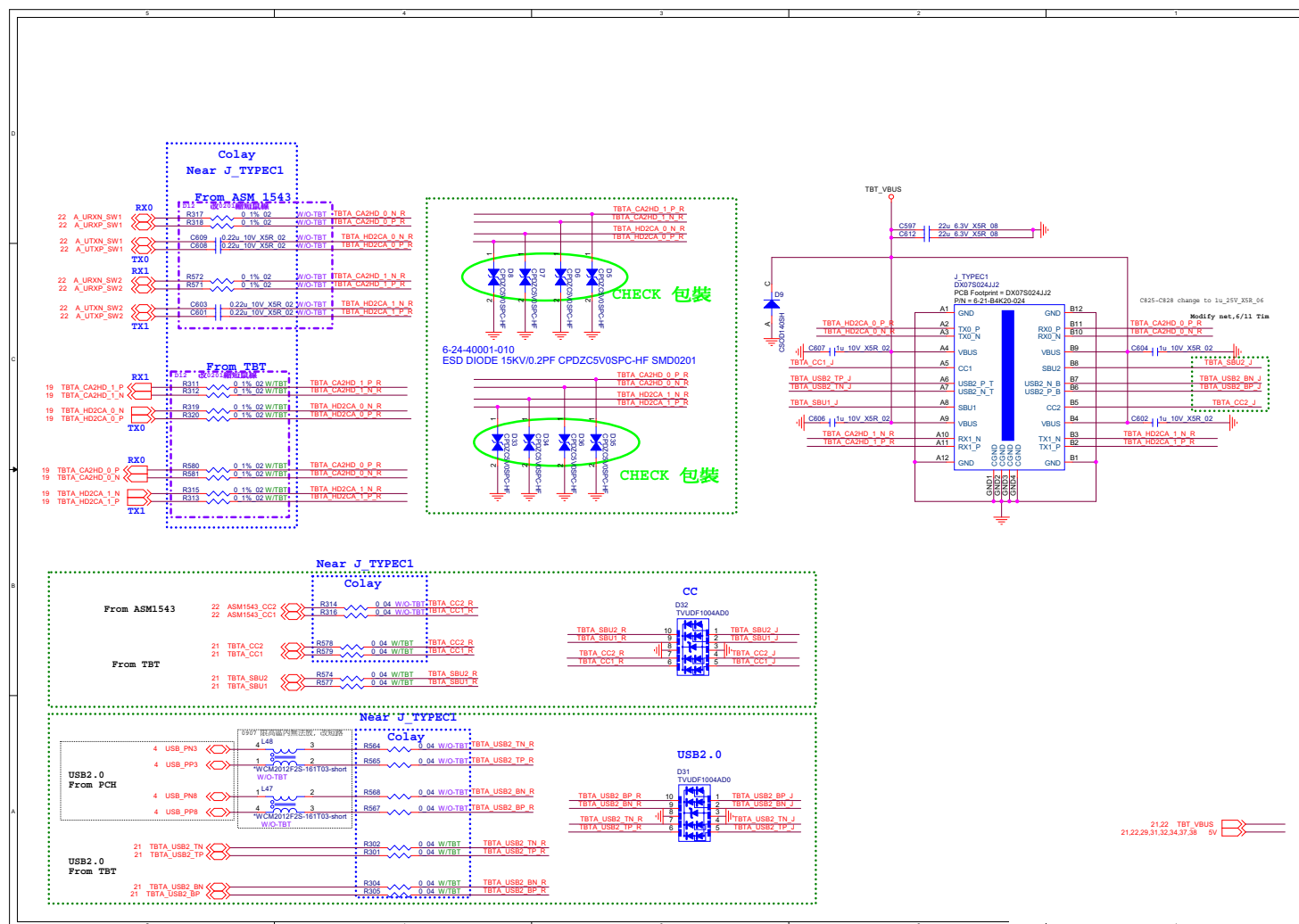


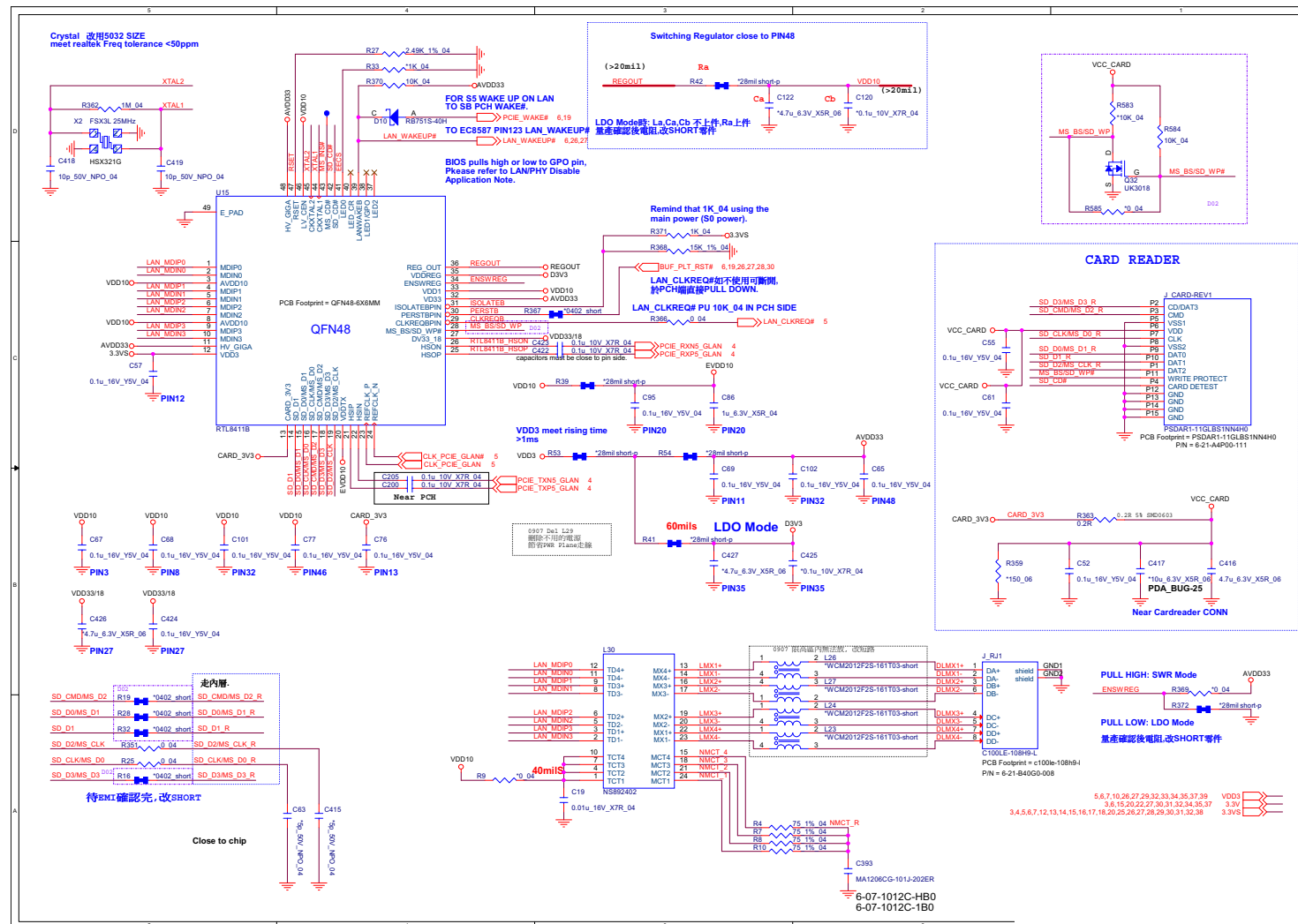
Sheet 22 of 45
ASM1543

B.Schematic Diagrams

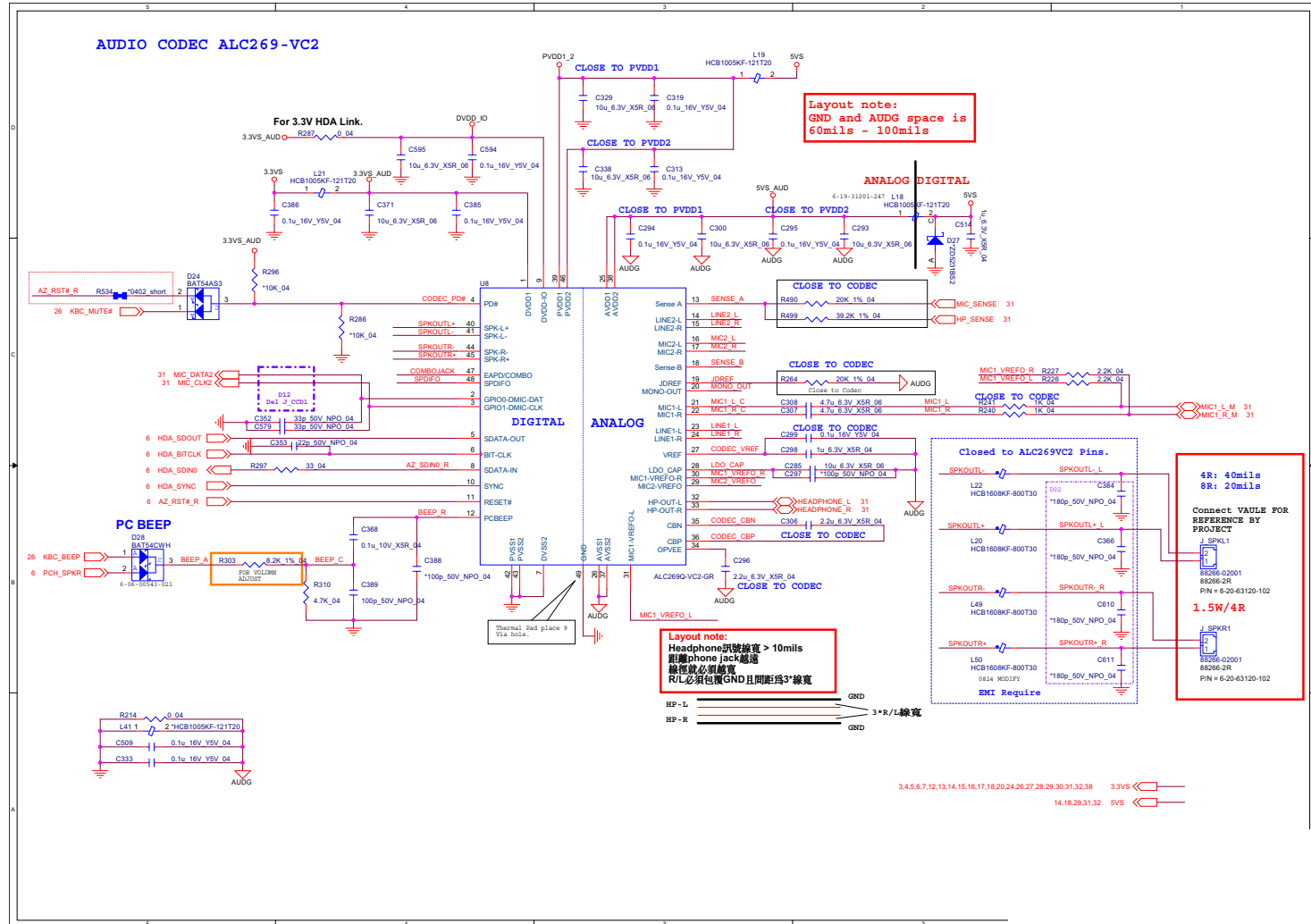
B. Schematic Diagrams

Sheet 23 of 45
Type C



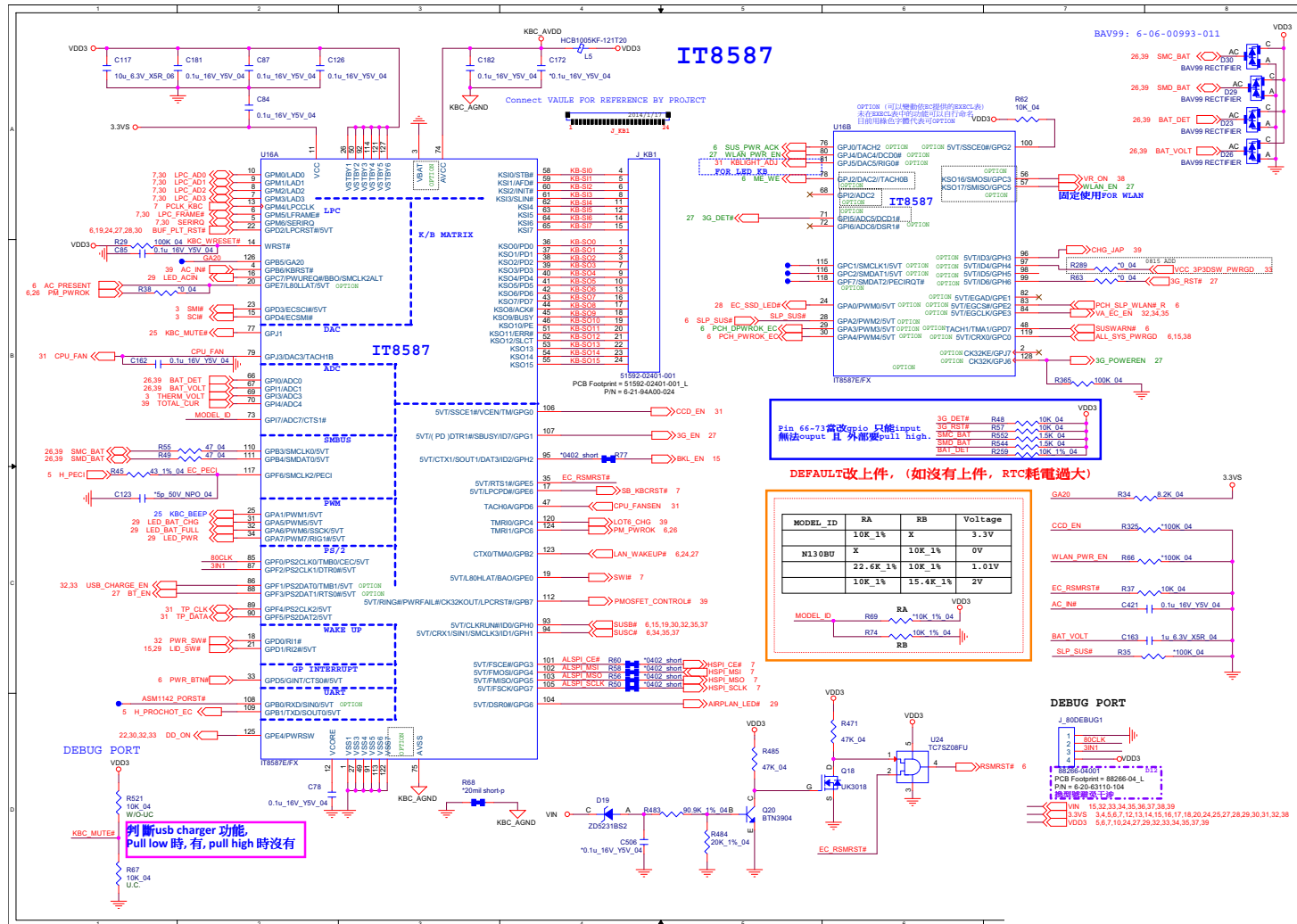


Audio Codec

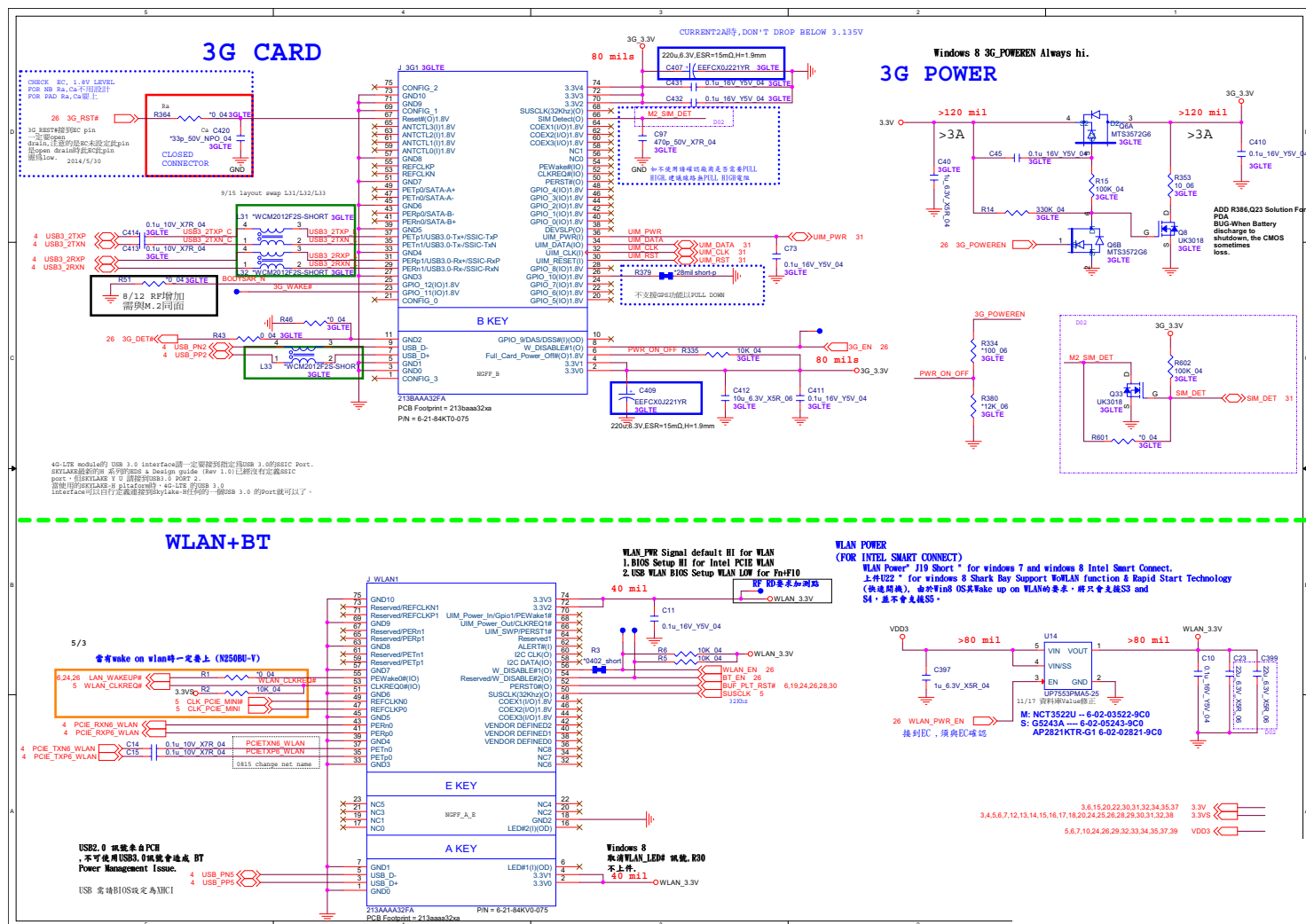


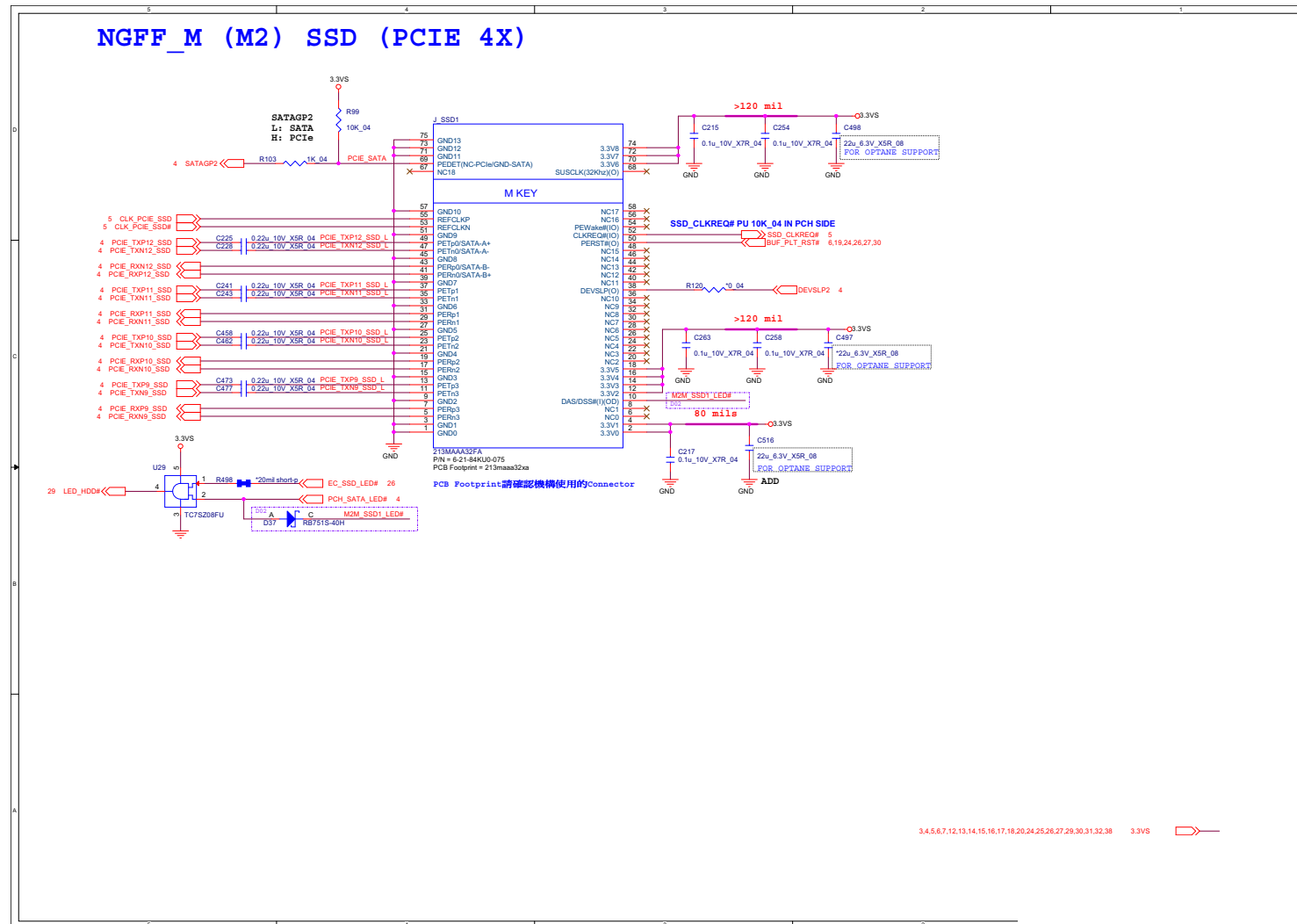
Sheet 25 of 45
Audio Codec

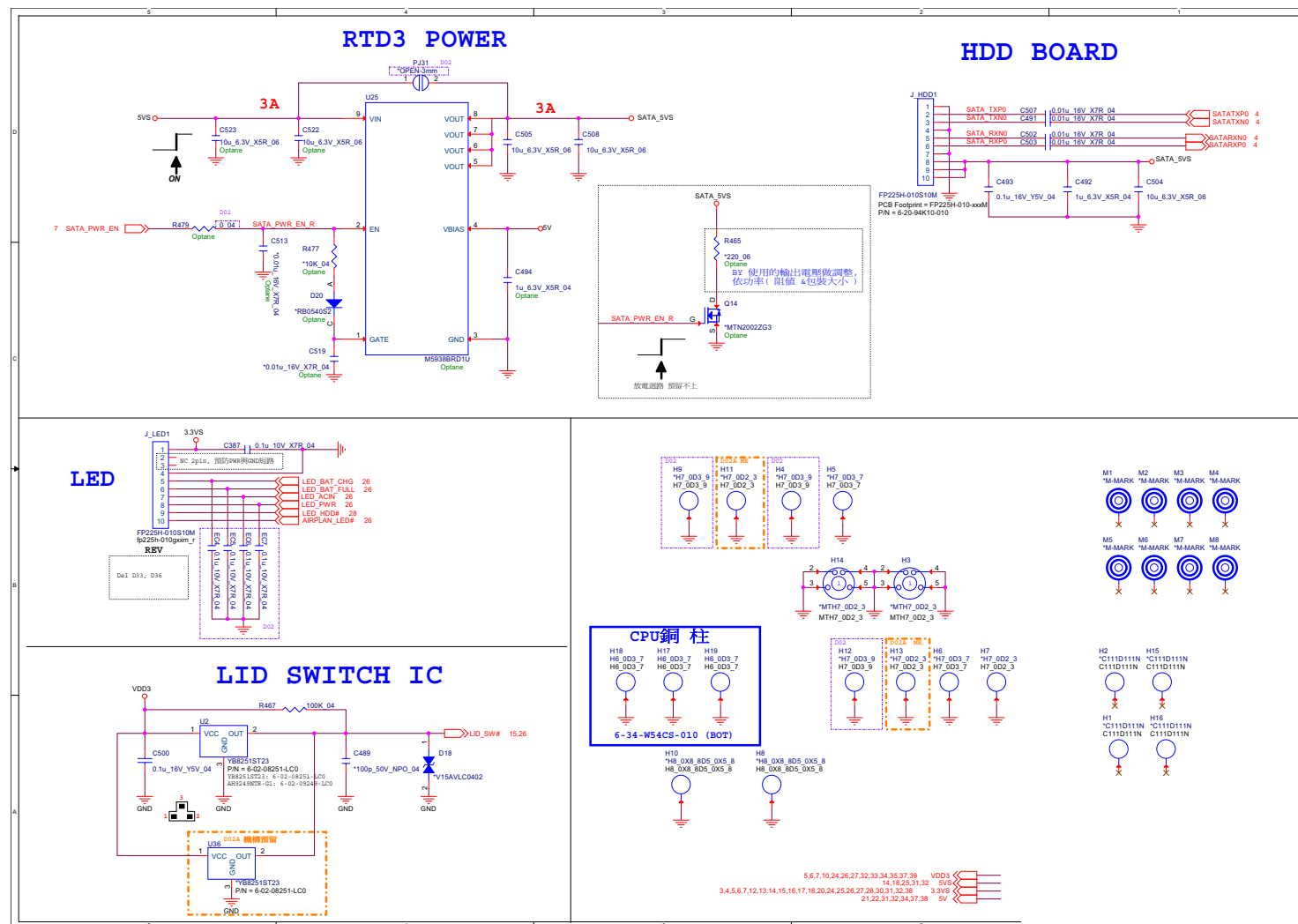
KBC ITE IT8587 B - 27



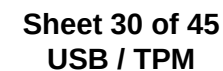
B - 28 WLAN/BT, 3G







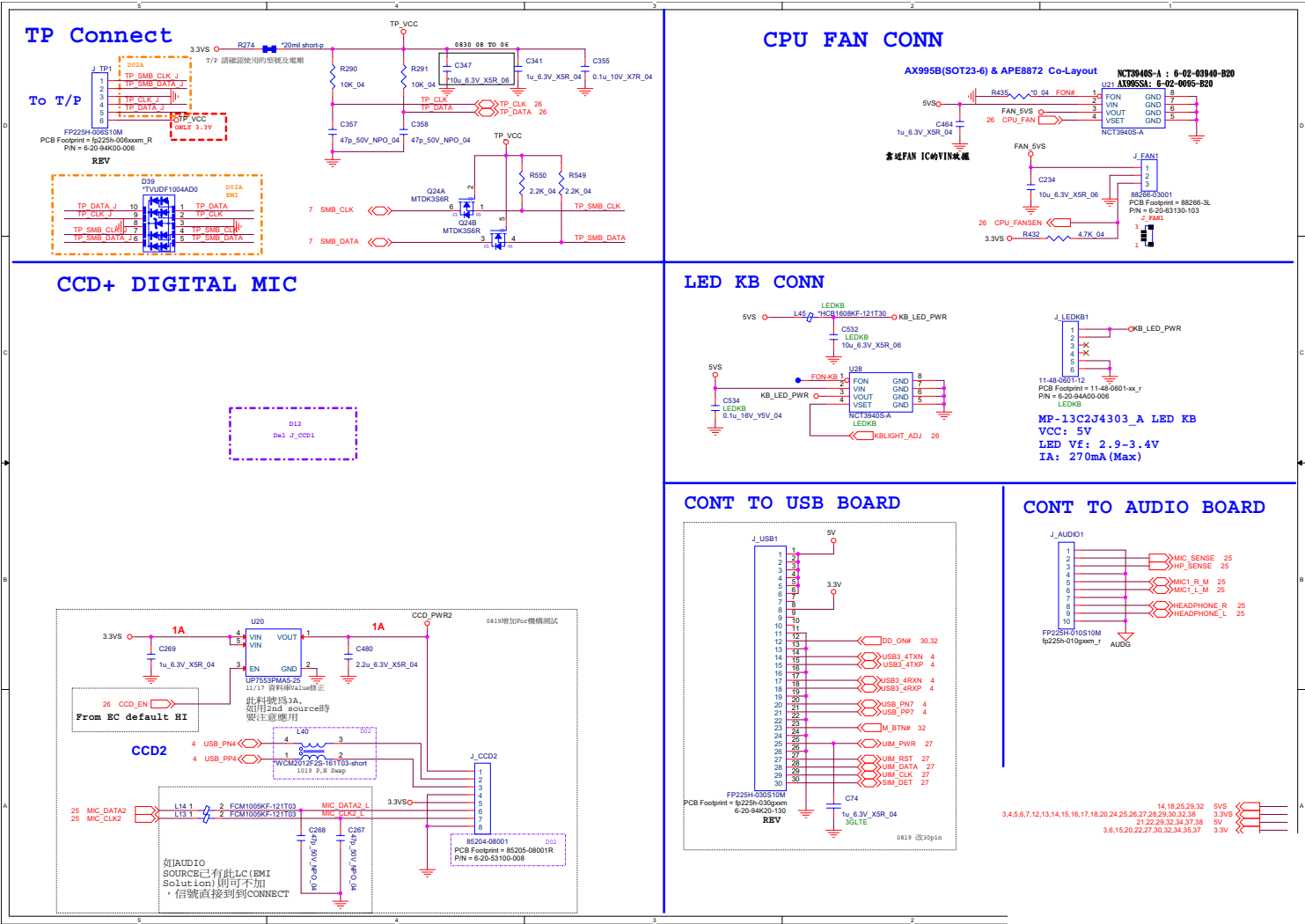
USB / TPM B - 31



Schematic Diagrams

Conn, CCD, Fan, TP, LED KB

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



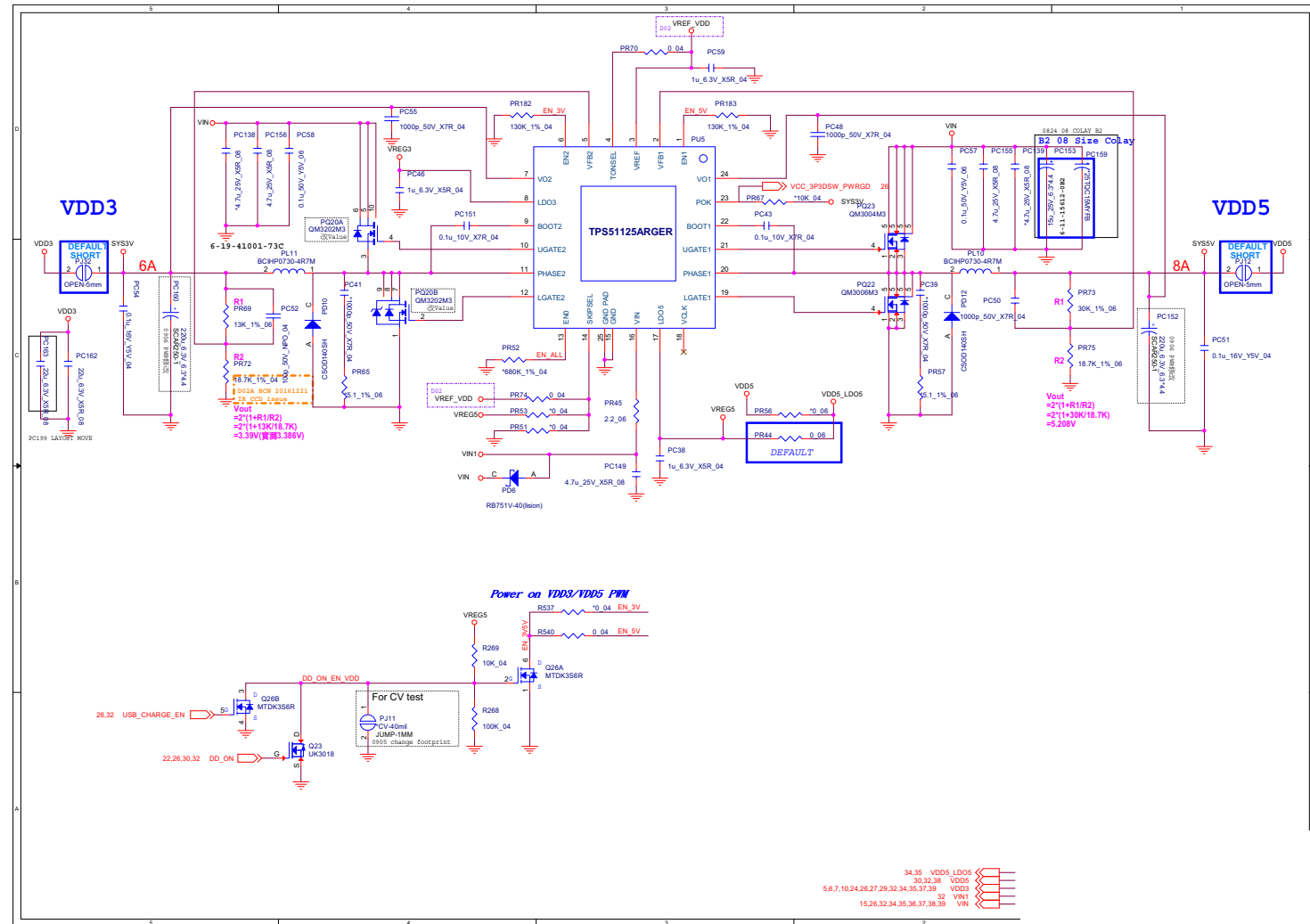
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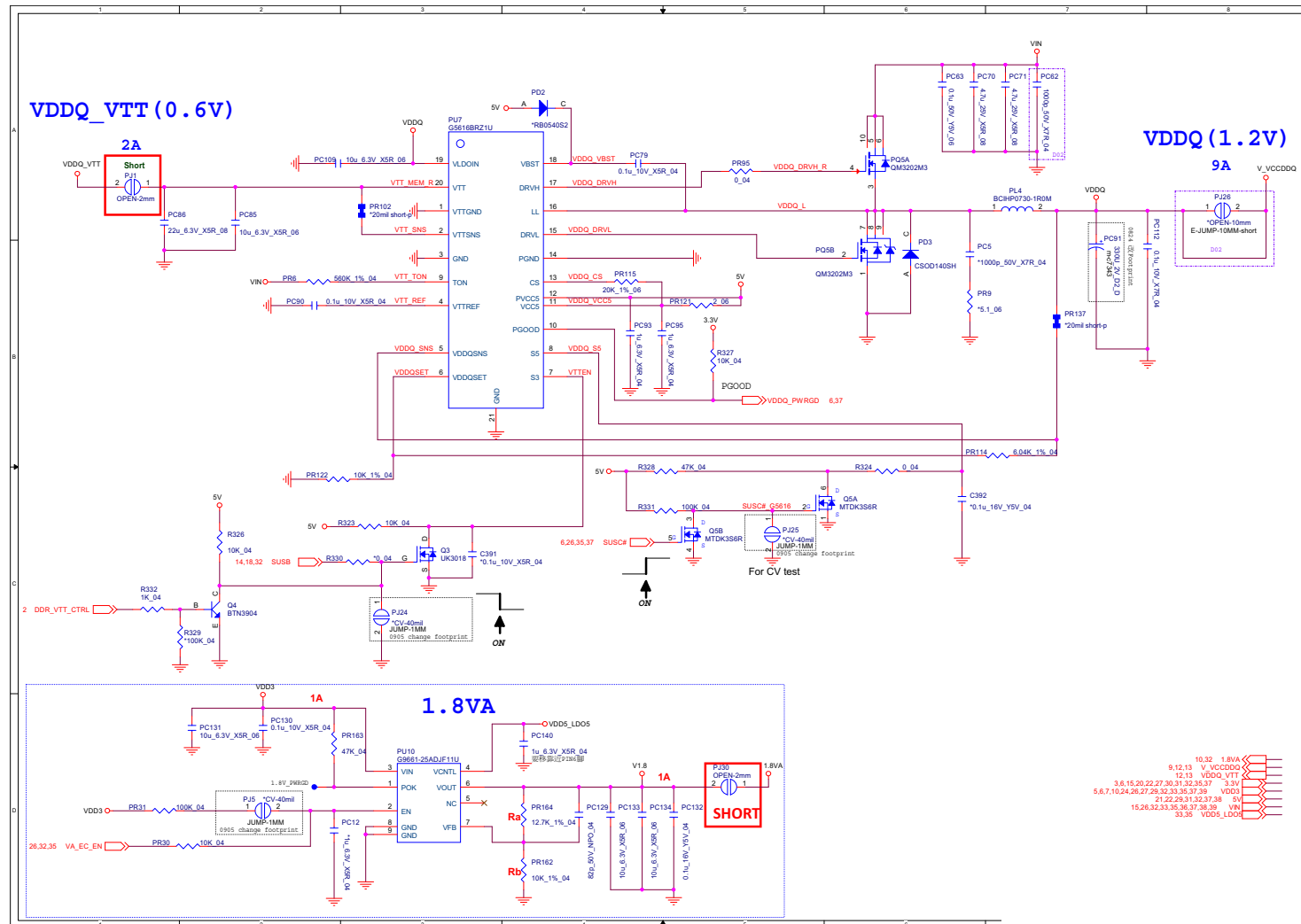
Schematic Diagrams

VDD3, VDD5

Sheet 33 of 45
VDD3, VDD5



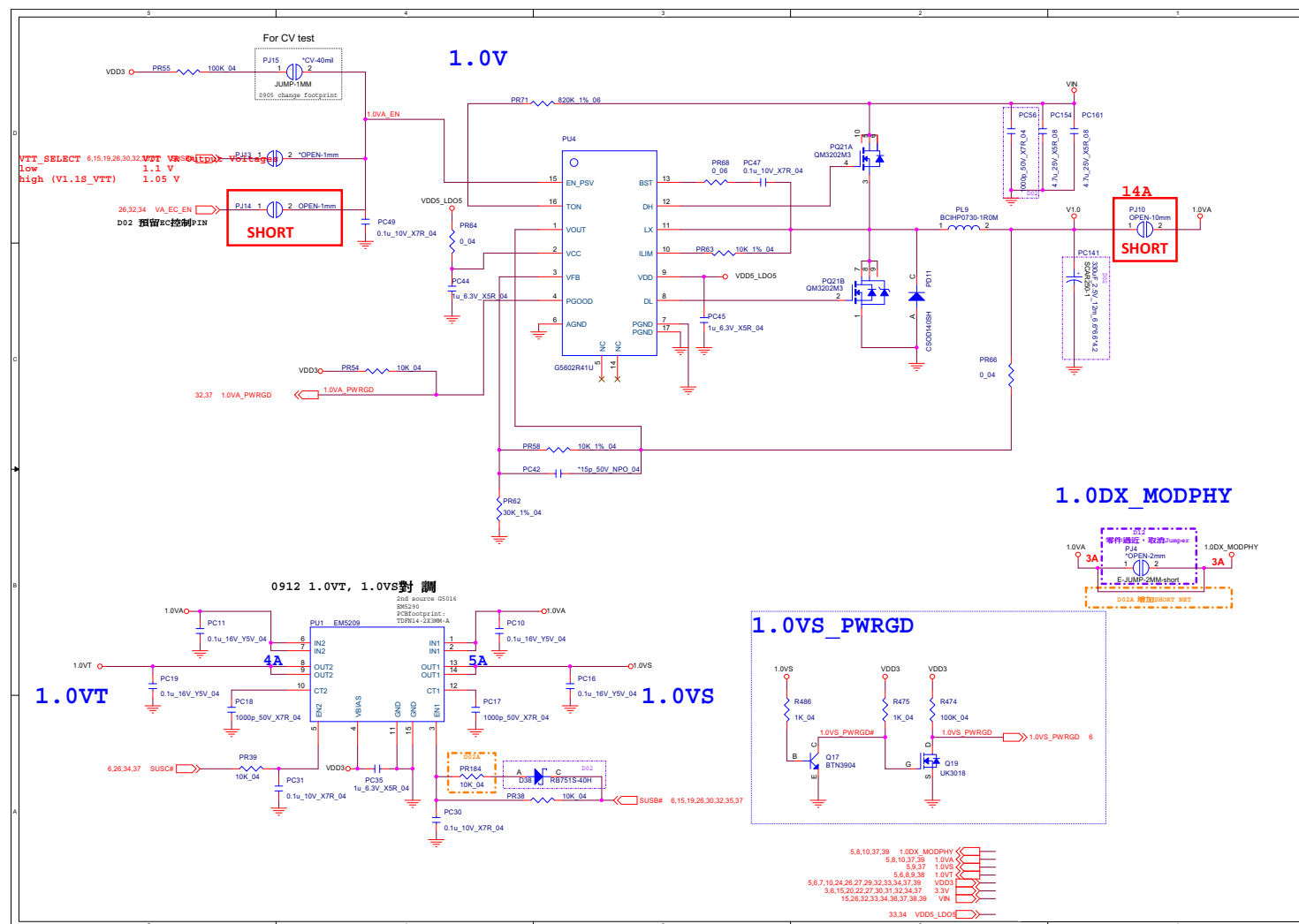
VDDQ, VDDQ_VTT, 1.5VS, 1.8VA



Sheet 34 of 45
VDDQ, VDDQ_VTT,
1.5VS, 1.8VA

1.0V Series

Sheet 35 of 45
1.0V Series

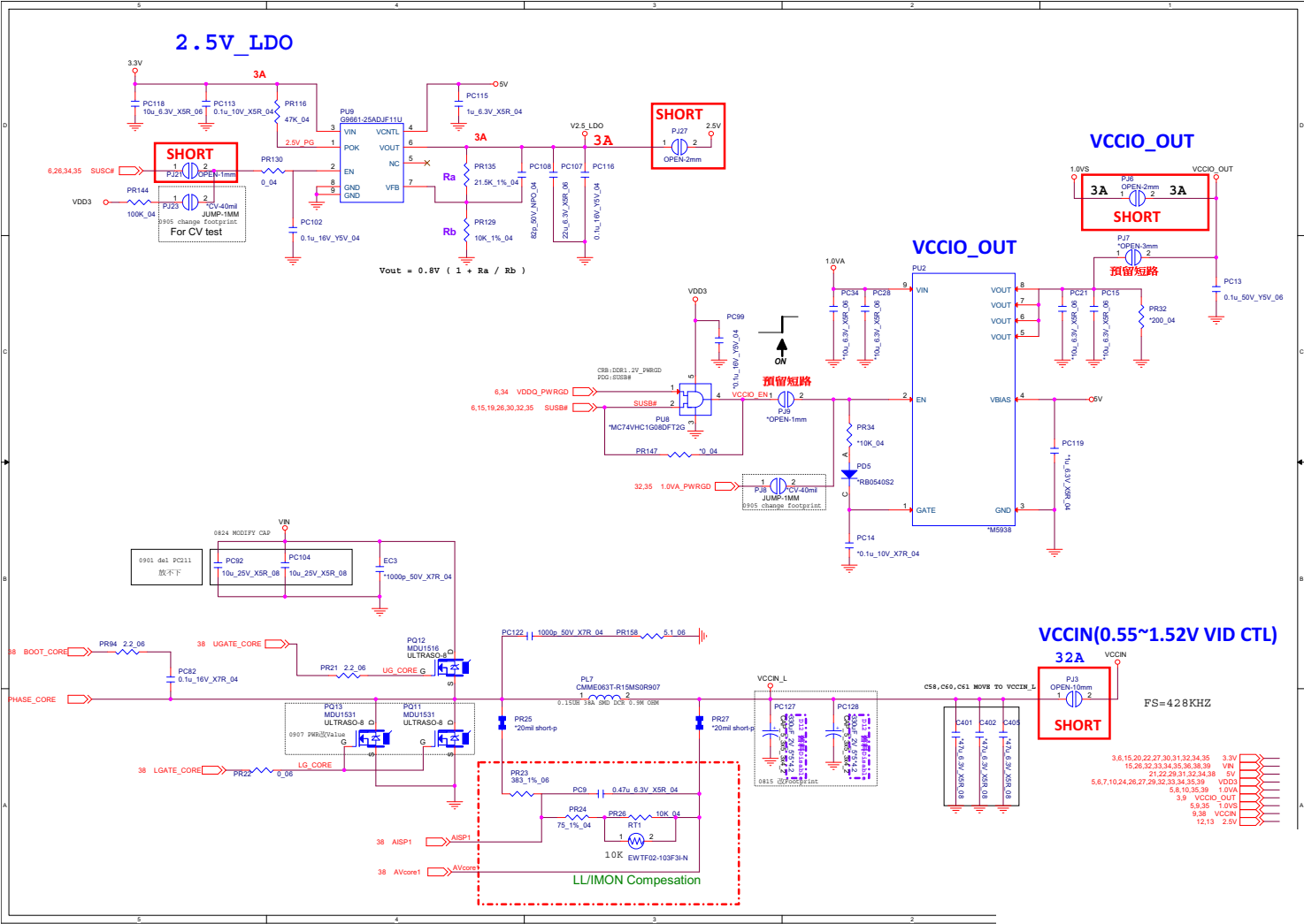


VCCGT, VCCSA B - 37

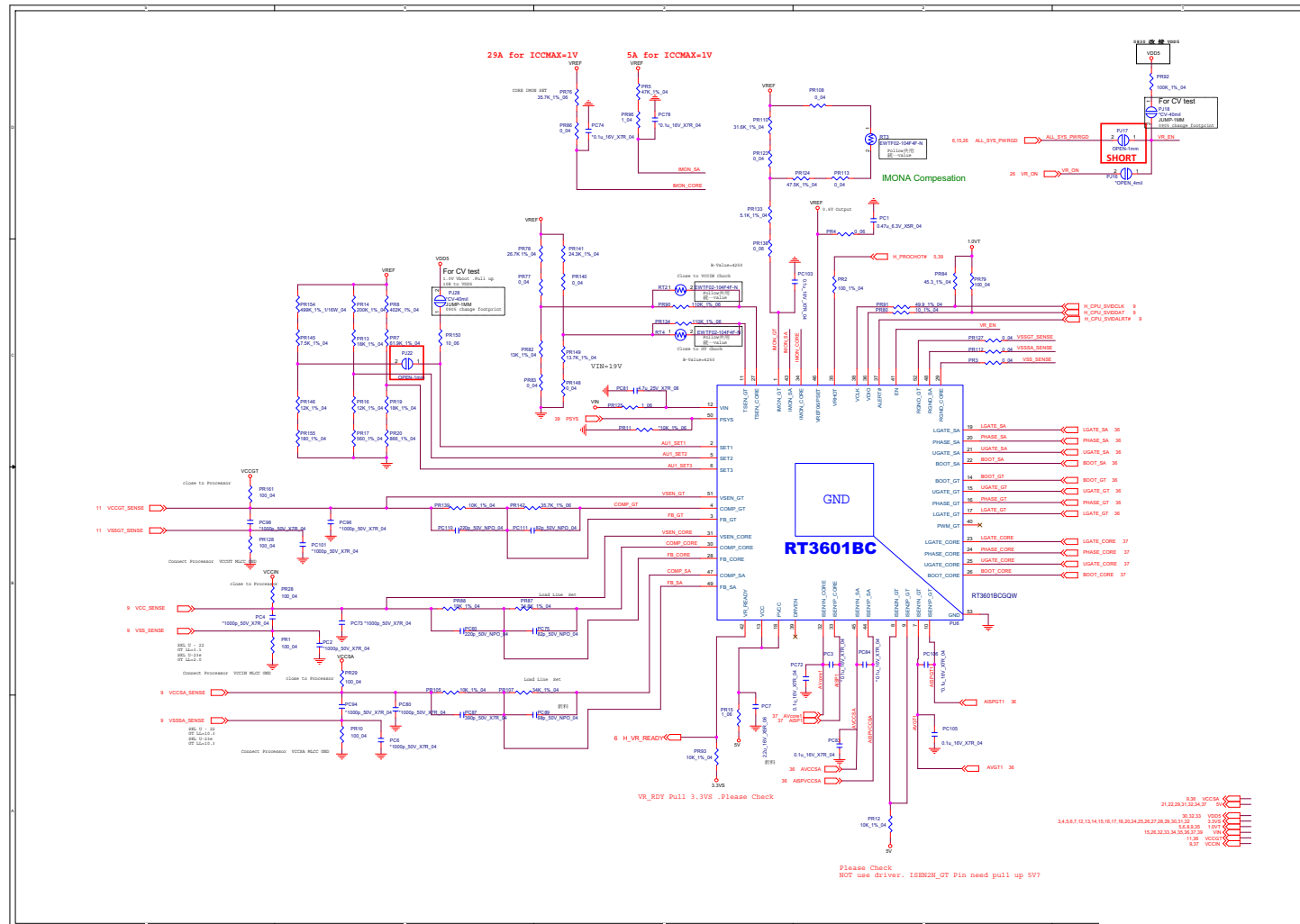
Schematic Diagrams

2.5V, VCCIO_Out, VCCIN

Sheet 37 of 45
2.5V, VCCIO-Out,
VCCIN

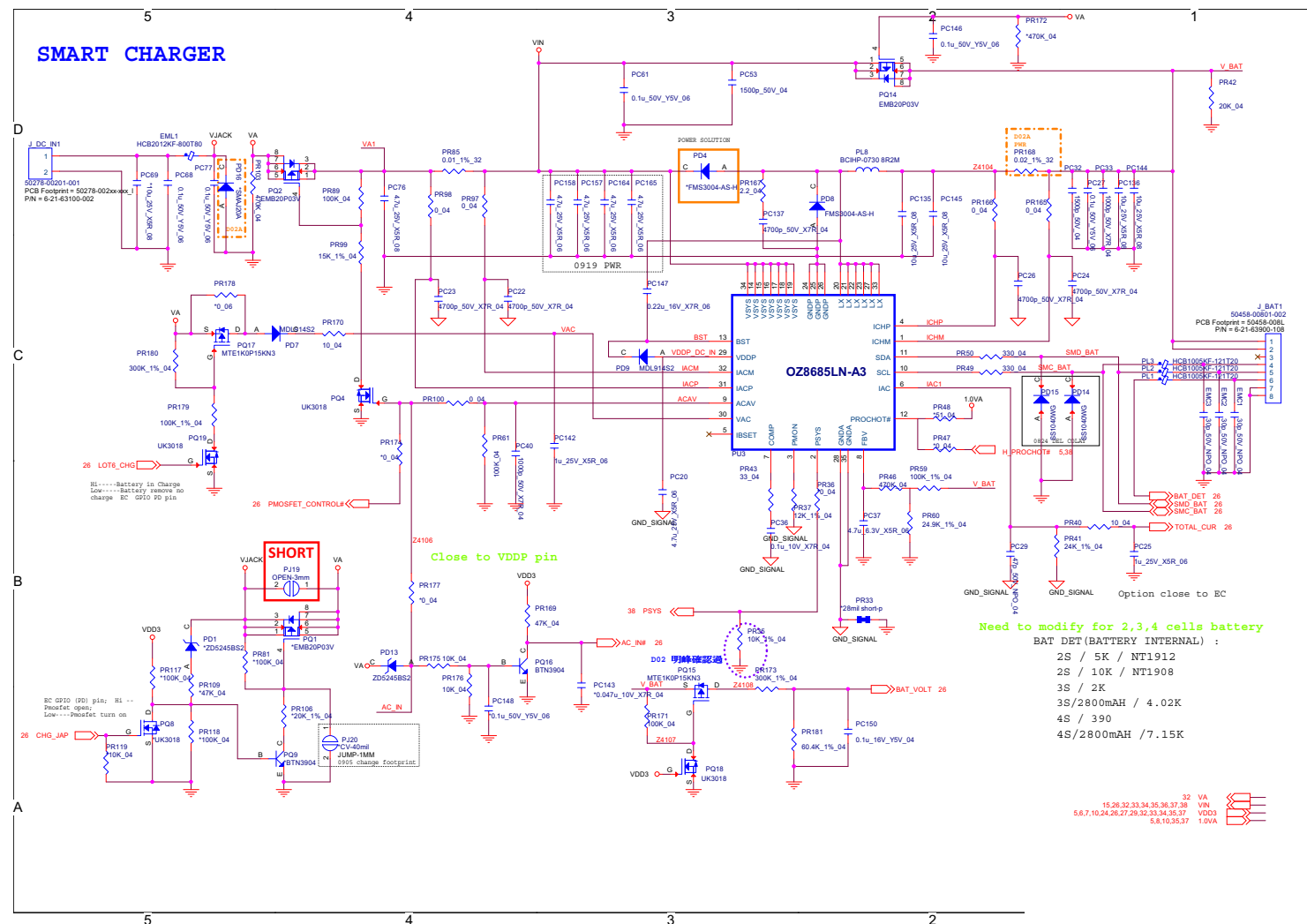


RT3601BC

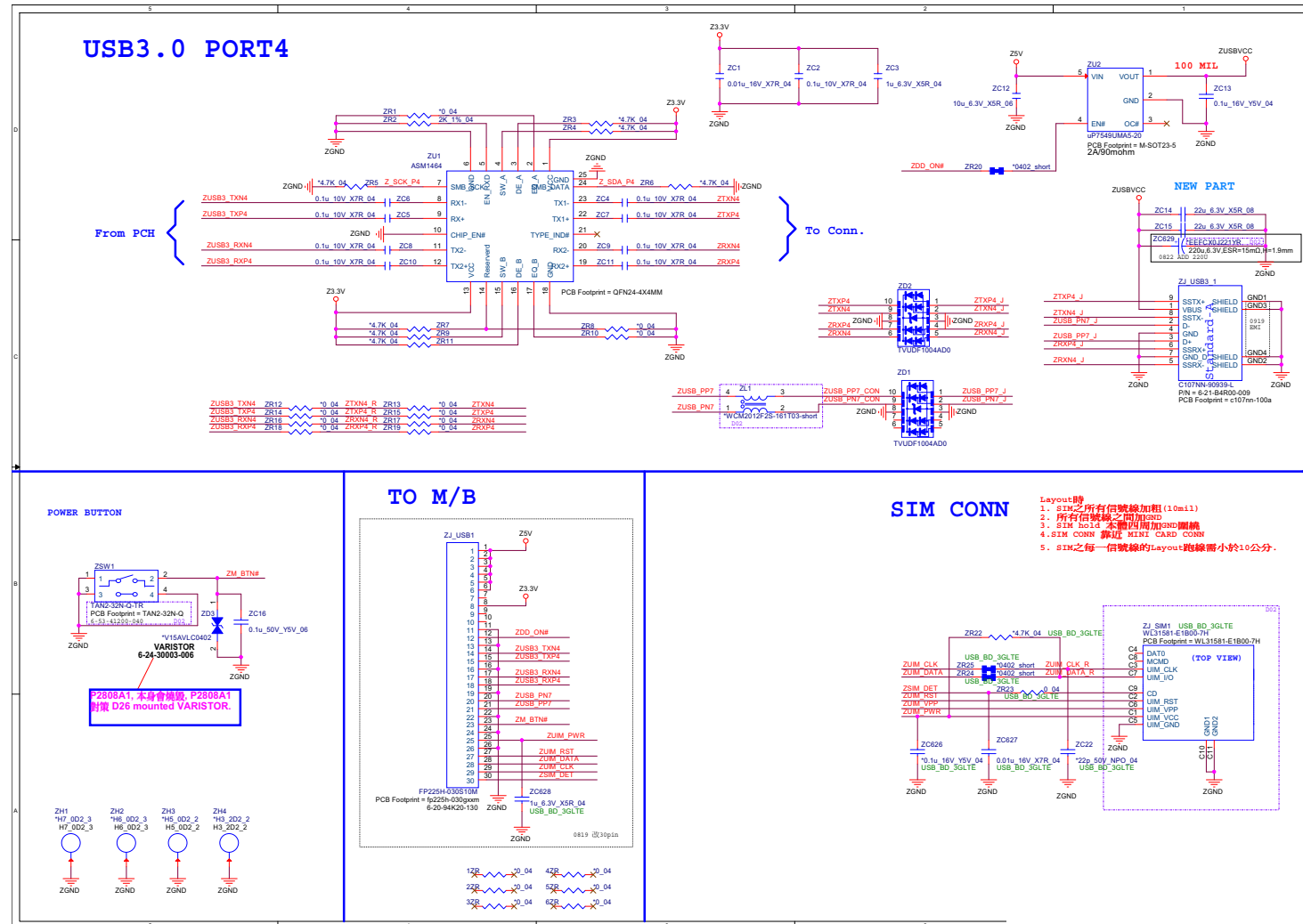
Sheet 38 of 45
RT3601BC

Charger, DC IN

Sheet 39 of 45
Charger, DC IN

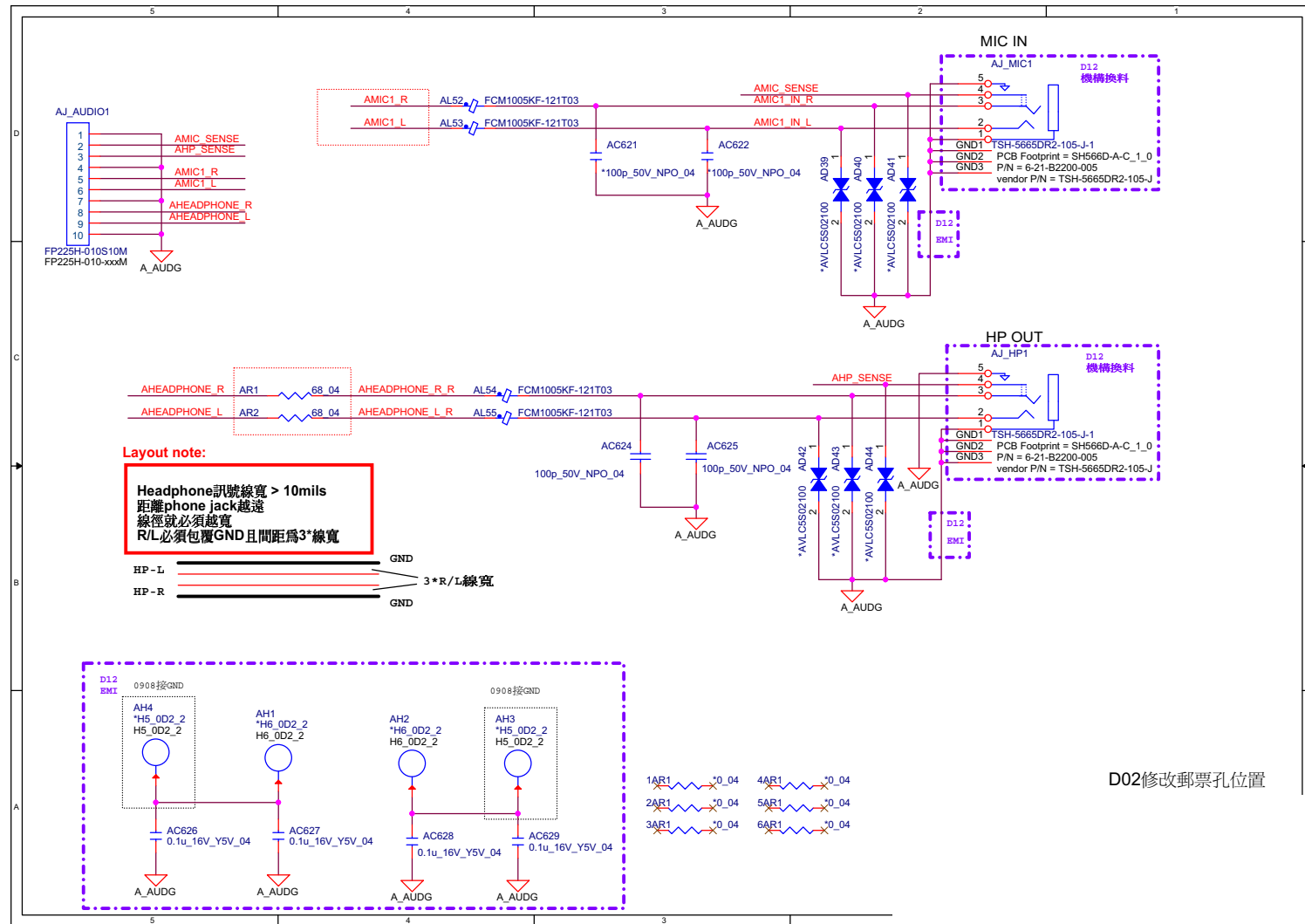


USB Board

Sheet 40 of 45
USB Board

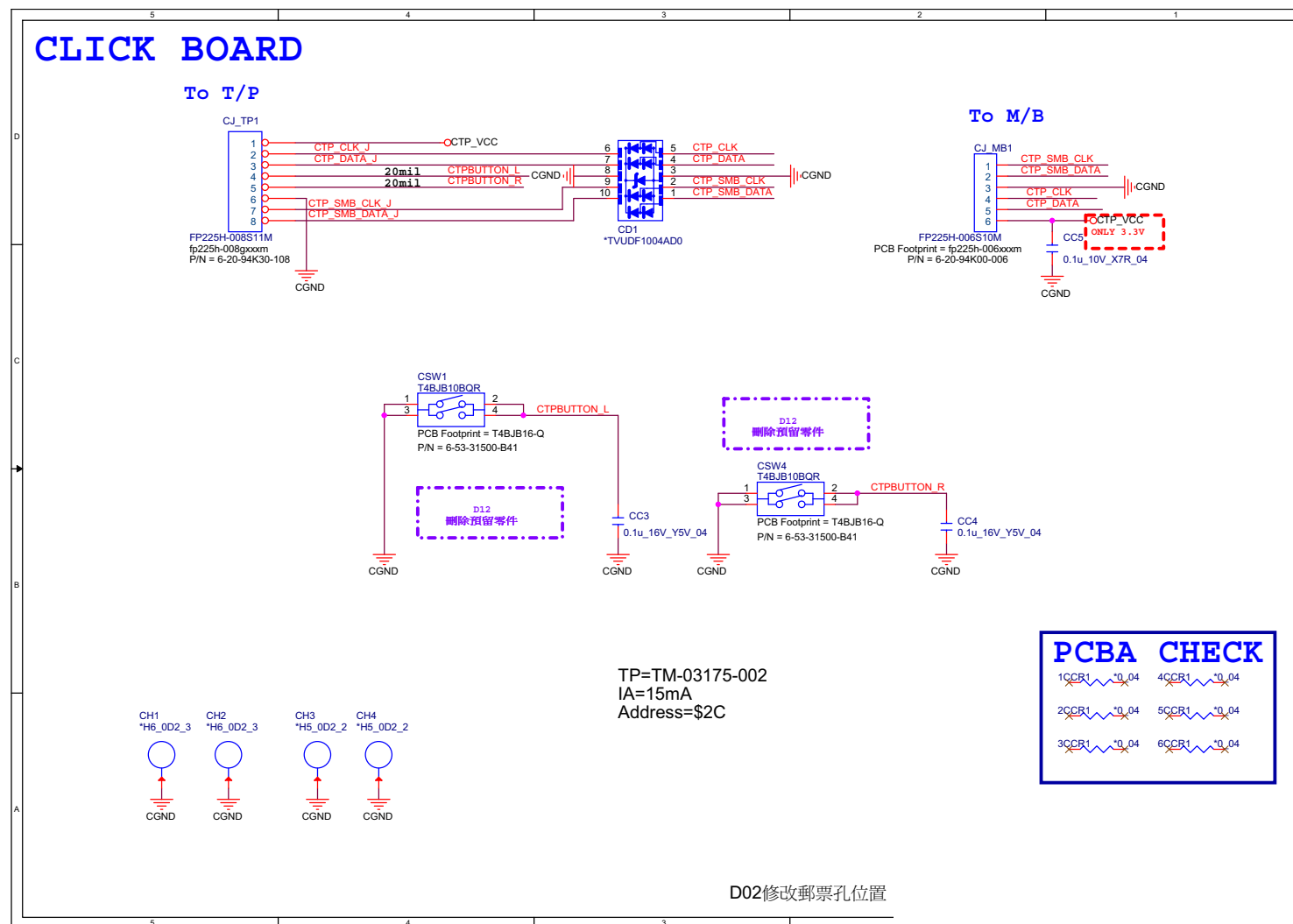
Schematic Diagrams

Audio Board

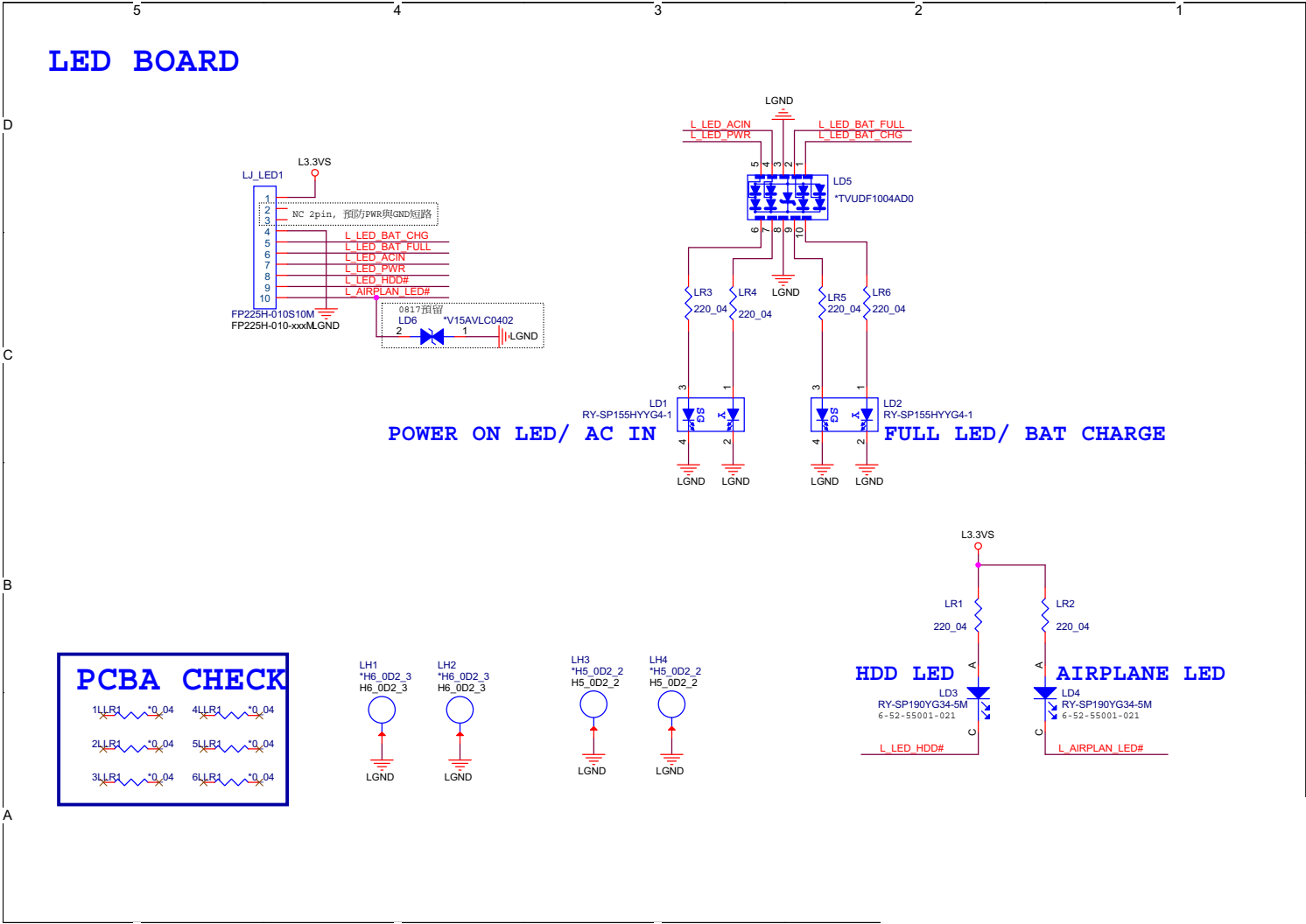
Sheet 41 of 45
Audio Board

D02修改郵票孔位置

Click Board

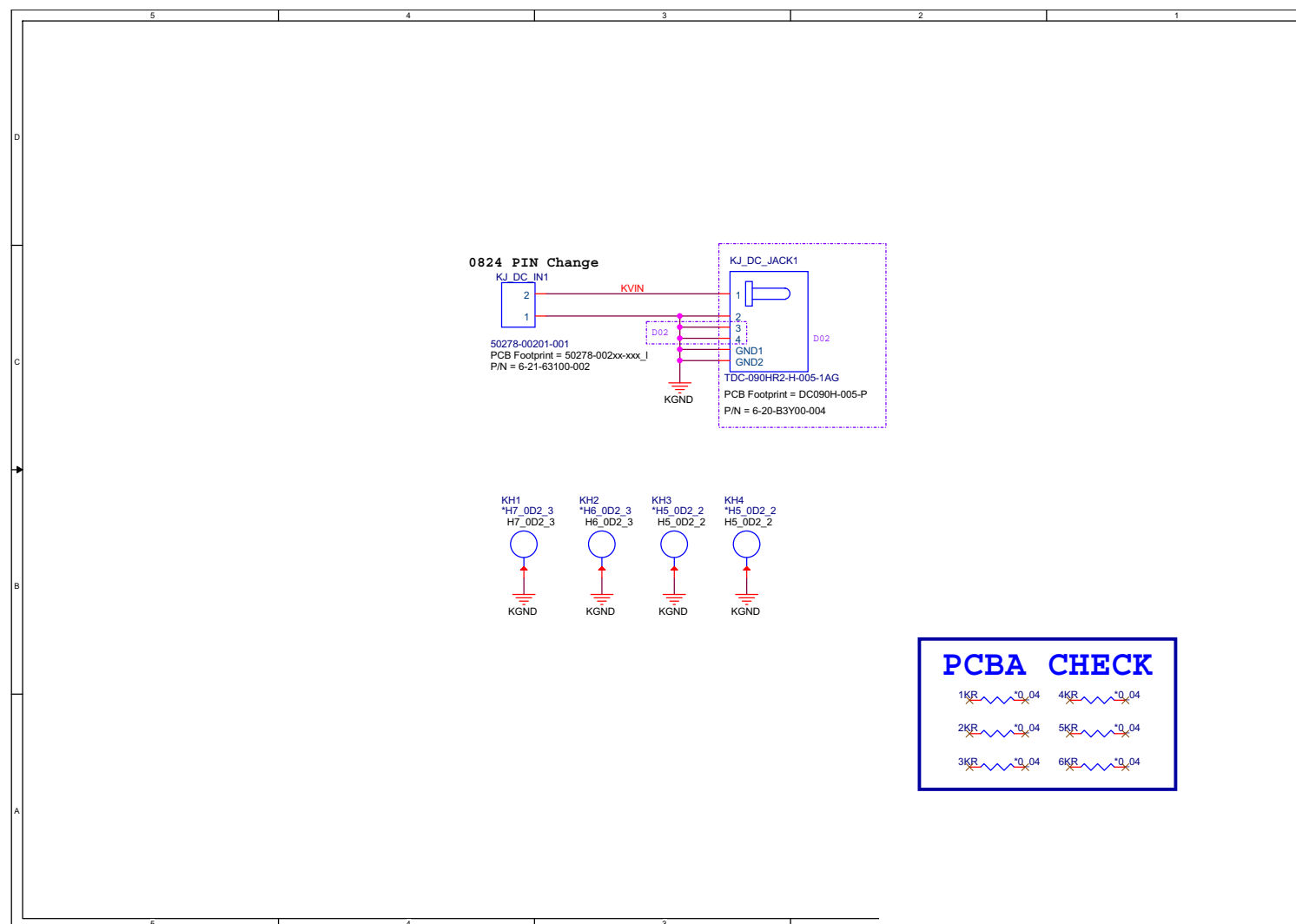
Sheet 42 of 45
Click Board

LED Board



Sheet 43 of 45
LED Board

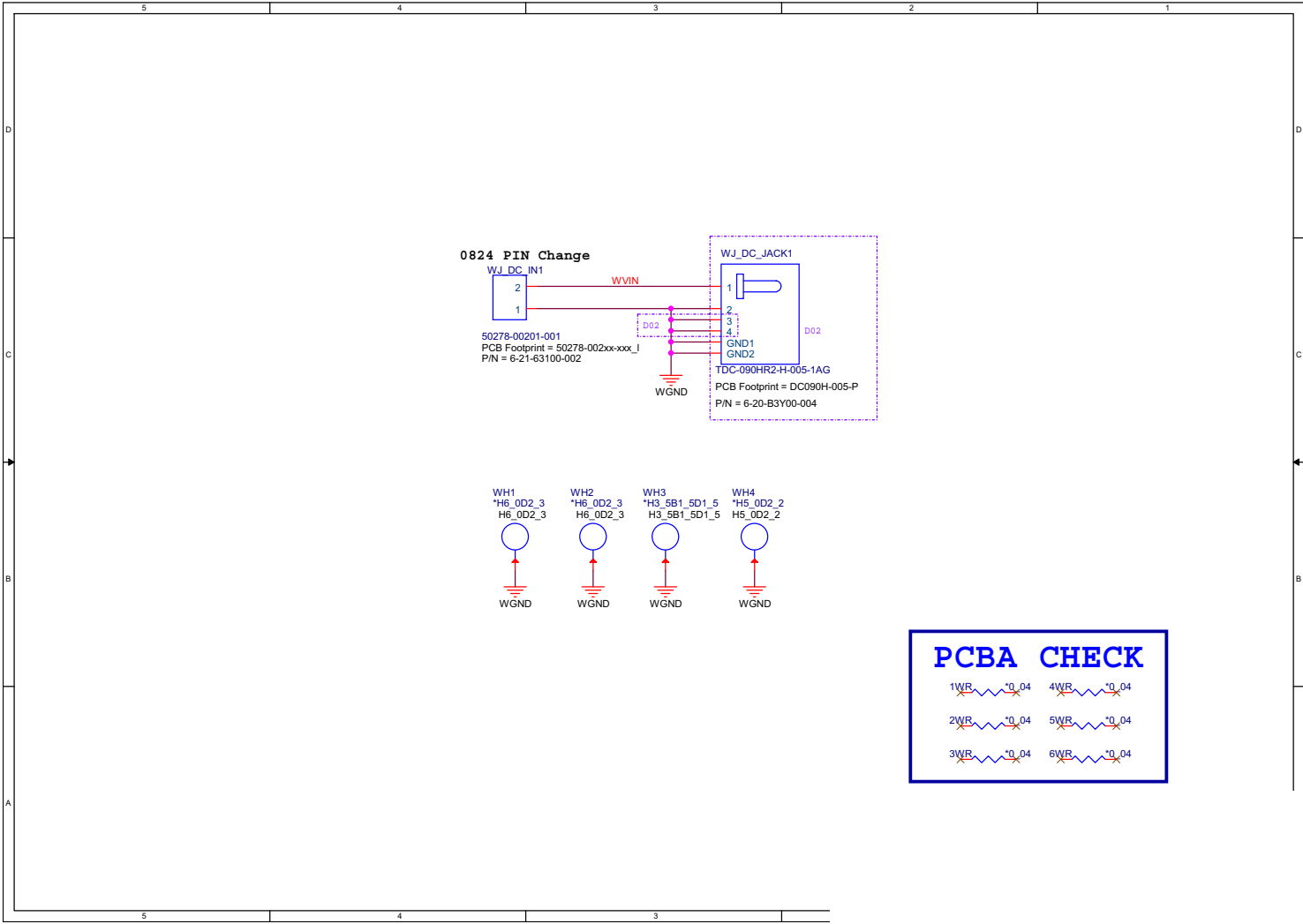
DC Jack Board

Sheet 44 of 45
DC Jack Board

DC Jack Board_W

B.Schematic Diagrams

Sheet 45 of 45
DC Jack Board_W



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

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

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

Set the computer to boot from the external drive

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



BIOS Version

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

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

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

BIOS Update

Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**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 **F3**) and select “**Yes**” to confirm the selection.
5. Press **F4** to save any changes you have made and exit the BIOS to restart the computer.

Your computer is now running normally with the updated BIOS

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