

SERVICE MANUAL

W740SU

notebook



Notebook Computer

W740SU

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 **W740SU** 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, 4.74A (**90 Watts**) minimum AC/DC Adapter.

CAUTION

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

FCC Statement

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

This device may not cause harmful interference.

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

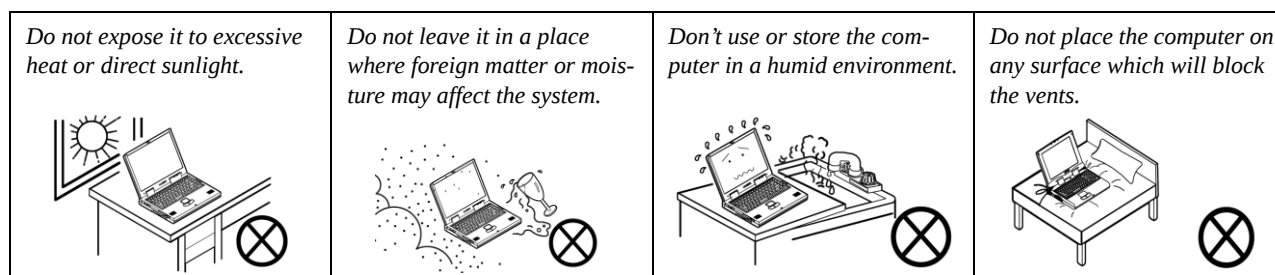
Instructions for Care and Operation

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

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



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

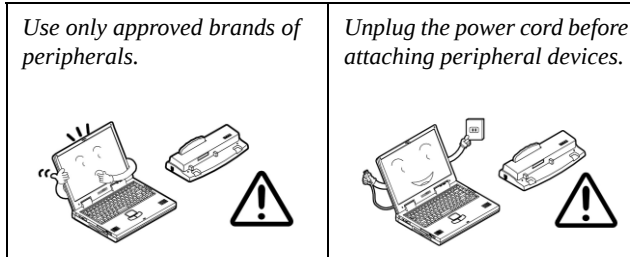


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



Preface

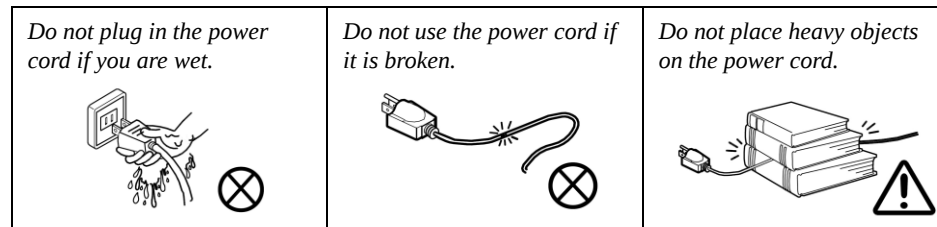
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



Power Safety

The computer has specific power requirements:

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



Power Safety Warning

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

Battery Precautions

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

Battery Guidelines

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

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



Battery Disposal

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

Caution

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

Battery Level

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

Preface

Related Documents

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

User's Manual on CD/DVD

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

System Startup

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

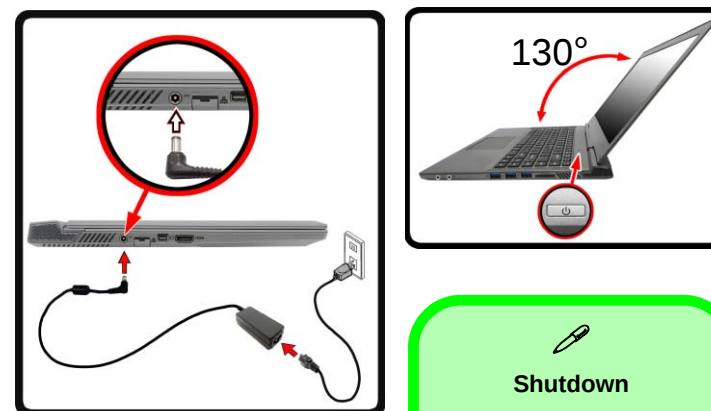


Figure 1
Opening the Lid/LCD/
Computer with AC/DC
Adapter Plugged-In

Shutdown

Note that you should always shut your computer down by choosing the **Shut Down** command from the **Power** item in **Settings** in the **Charms Bar** (use the **Windows Logo Key** + **C** key combination to access the **Charms Bar**) in **Windows 8**. This will help prevent hard disk or system problems.

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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the **W740SU** 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 8*, 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 **W740SU** 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
i7-4750HQ (2.0GHz)
6MB L3 Cache, **22nm**, DDR3L-1600MHz, TDP 47W

Core Logic

Intel® HM87 Chipset

BIOS

48Mb SPI Flash ROM
AMI BIOS

Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3L 1600MHz** Memory
Memory Expandable up to 16GB
(The real memory operating frequency depends on the FSB of the processor.)

LCD

14" (35.56cm) HD/ FHD LCD

Storage

(Factory Option) One Changeable 2.5" 9.5mm (h)/7.0mm (h) SATA HDD
(Factory Option) One mSATA Solid State Drive (SSD)

Audio

High Definition Audio Compliant Interface
2 * Built-In Speakers
Built-In Microphone

Security

Security (Kensington® Type) Lock Slot
BIOS Password

Keyboard

"WinKey" keyboard (with embedded numeric keypad)

Pointing Device

Built-in Touchpad

Interface

Three USB 3.0 Ports (Including one AC/DC Powered USB port)
One HDMI-Out Port
One Mini Display Port
One Headphone-Out Jack
One Microphone-In Jack
One RJ-45 LAN Jack
One DC-in Jack

Mini Card Slot

Slot 1 for **WLAN** Module or **WLAN and Bluetooth** Combo Module
(Factory Option) Slot 2 for mSATA **SSD**

Video Adapter

Intel® HD Graphics 5200
Dynamic Frequency (Intel Dynamic Video Memory Technology for up to **1.7GB**)
Microsoft DirectX®11 Compatible

Card Reader

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

Communication

Built-In Gigabit Ethernet LAN
1.0M HD PC Camera Module

WLAN/ Bluetooth Half Mini-Card Modules:

(Factory Option) Intel® Centrino® Advanced-N 6235
Wireless LAN (802.11a/g/n) + Bluetooth 4.0

(Factory Option) Intel® Centrino® Advanced-N 6205
Wireless LAN (802.11a/g/n)

(Factory Option) Third-Party Wireless LAN (802.11b/g/n)

(Factory Option) Third-Party Wireless LAN (802.11b/g/n)
+ Bluetooth 4.0

Environmental Spec

Temperature

Operating: 5°C - 35°C

Non-Operating: -20°C - 60°C

Relative Humidity

Operating: 20% - 80%

Non-Operating: 10% - 90%

Power

Full Range AC/DC Adapter

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

DC Output: 19V, 4.74A (**90W**)

Polymer Smart Lithium-Ion Battery Pack, 53.28WH

Dimensions & Weight

340mm (w) * 253mm (d) * 20.8mm (h)

1.9kg (with Battery)

Introduction

Figure 1
Top View

1. Built-in PC Camera
(Optional)
2. PC Camera LED
3. Built-In Microphone
4. LCD
5. Power Button
6. Keyboard
7. Touchpad & Buttons

External Locator - Top View with LCD Panel Open



External Locator - Front & Right Side Views

FRONT VIEW



RIGHT SIDE VIEW



Figure 2
Front View

1. LED Power Indicator

Figure 3
Right Side View

1. Headphone-Out Jack
2. Microphone-In Jack
3. USB 3.0 Port
4. 1 * Powered (AC/DC) USB 3.0 Port
5. Multi-in-1 Card Reader
6. Vent/Fan Intake/Outlet

Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. Vent/Fan Intake/Outlet
2. DC-In Jack
3. RJ-45 LAN Jack
4. Mini Display Port
5. HDMI-Out Port

LEFT SIDE VIEW



Figure 5
Rear View

1. Security Lock Slot
2. Vent/Fan Intake/Outlet

REAR VIEW



External Locator - Bottom View



Figure 6
Bottom View

1. Vent/Fan Intake/Outlet
2. Speakers



Overheating

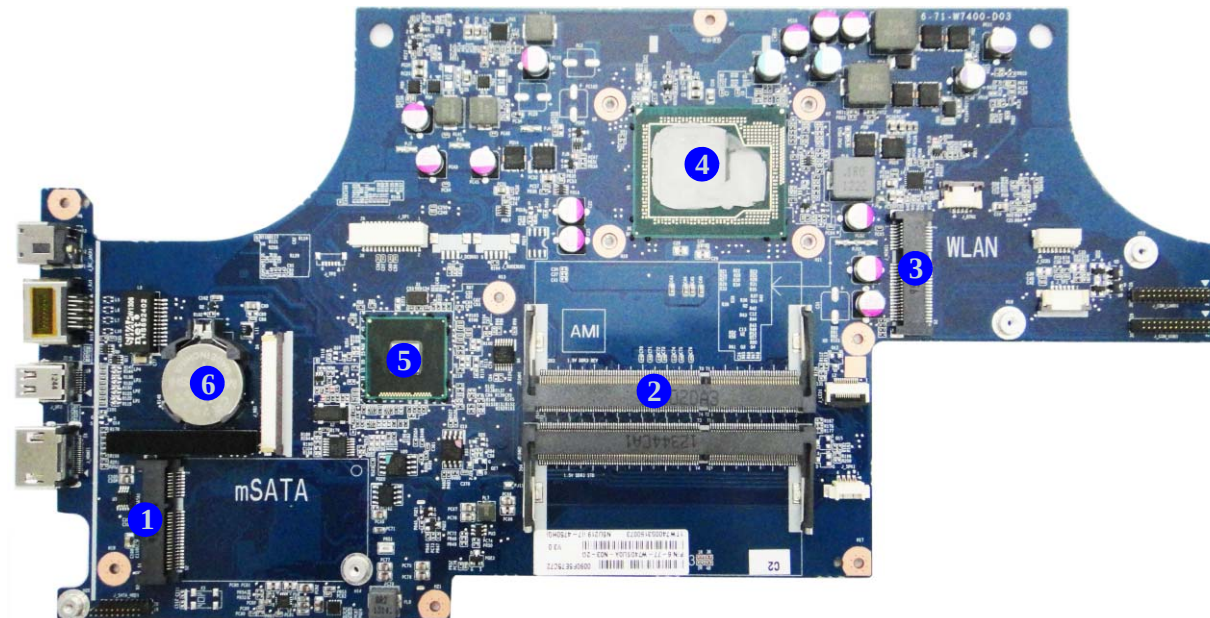
To prevent your computer from overheating, make sure nothing blocks any vent while the computer is in use.

Introduction

Figure 7
**Mainboard Top
Key Parts**

1. Mini-Card Connector (mSATA Module)
2. Memory Slots
DDR3 SO-DIMM x 2
3. Mini-Card Connector (WLAN Module)
4. Intel CPU
5. Platform Controller Hub
6. CMOS Battery

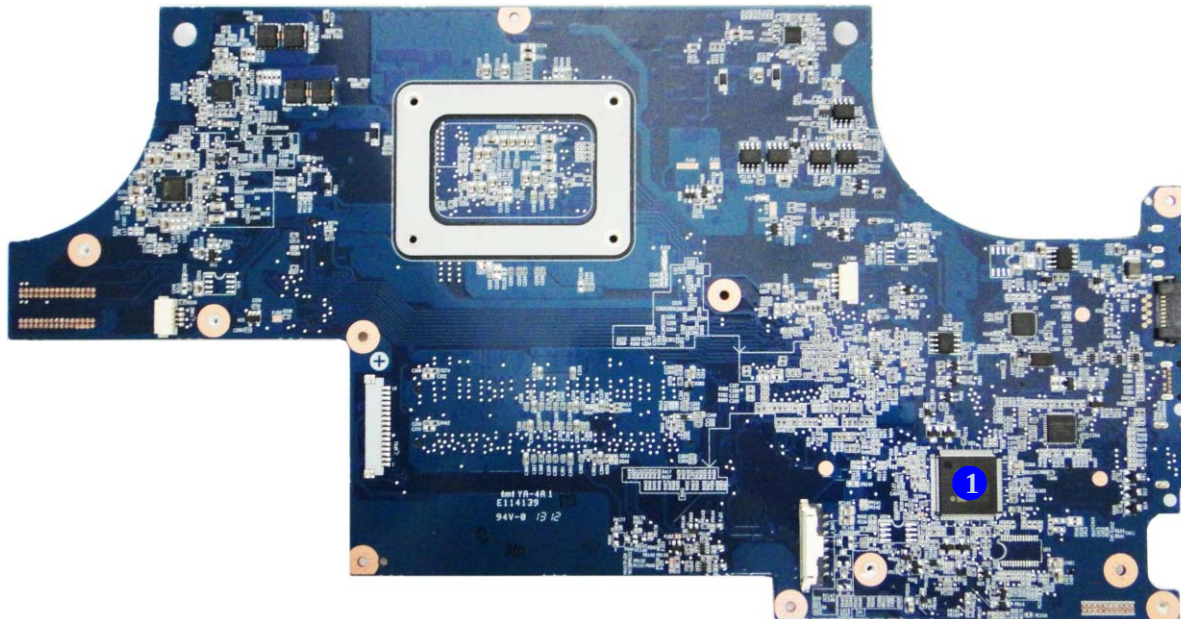
Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)

Figure 8
**Mainboard Bottom
Key Parts**

1. KBC-ITE IT8587

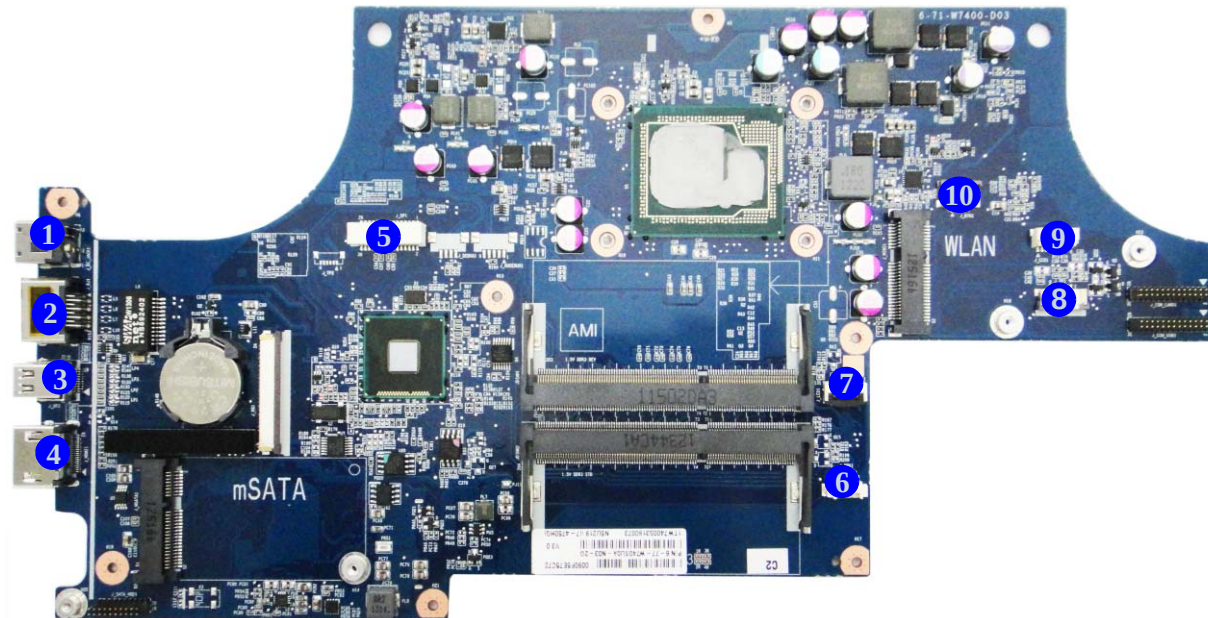


Introduction

Figure 9
**Mainboard Top
Connectors**

1. DC-In Jack
2. RJ-45 LAN Jack
3. Mini Display Port
4. HDMI-Out Port
5. EDP Connector
6. Speaker Connector
7. LED Connector
8. TP Connector
9. CCD Connector
10. Power Button Connector

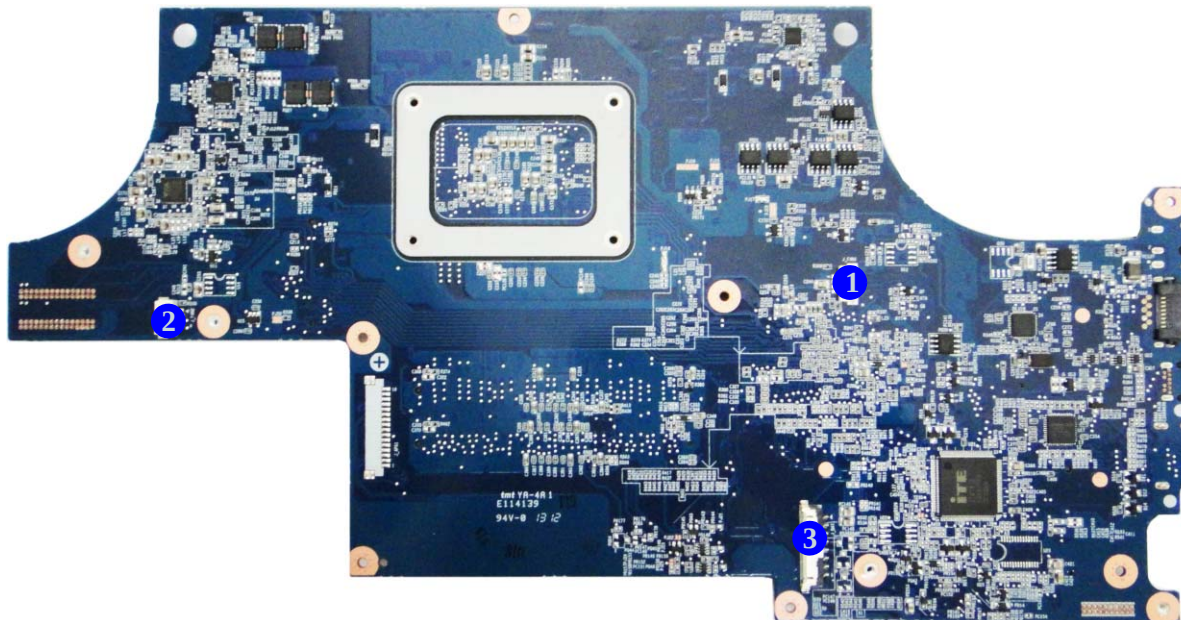
Mainboard Overview - Top (Connectors)



Mainboard Overview - Bottom (Connectors)

Figure 10
**Mainboard Bottom
Connectors**

1. Fan 1 Connector
2. Fan 2 Connector
3. Battery Connector



Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the **W740SU** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

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

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

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

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

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


Information

Warning

Disassembly

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

Maintenance Tools

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

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

Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

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

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

Cleaning

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

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



Power Safety Warning

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

Disassembly Steps

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

To remove the Battery:

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

To remove the HDD:

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

To remove the Keyboard:

1. Remove the battery [page 2 - 5](#)
2. Remove the keyboard [page 2 - 8](#)

To remove the System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)

To remove the Wireless LAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the WLAN [page 2 - 11](#)

To remove the mSATA Module:

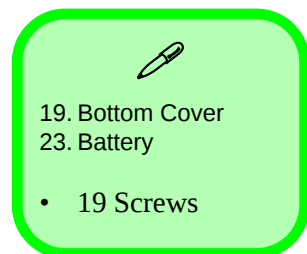
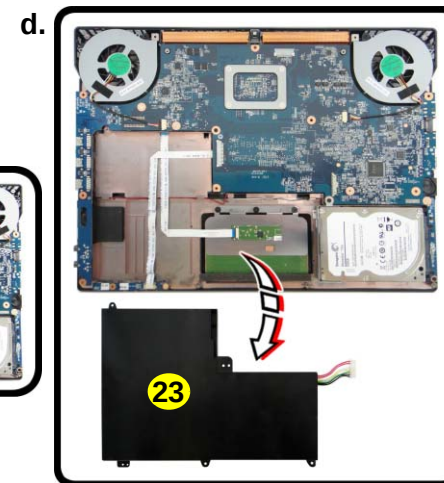
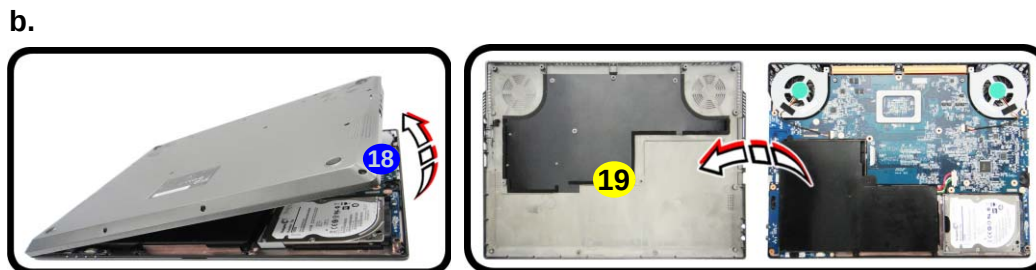
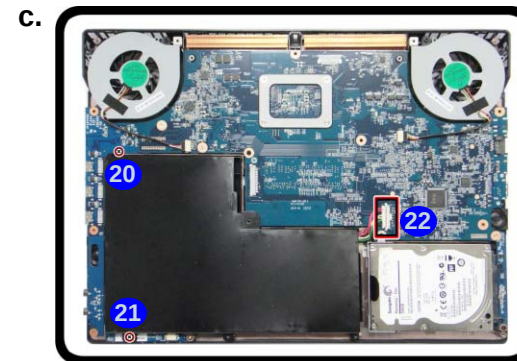
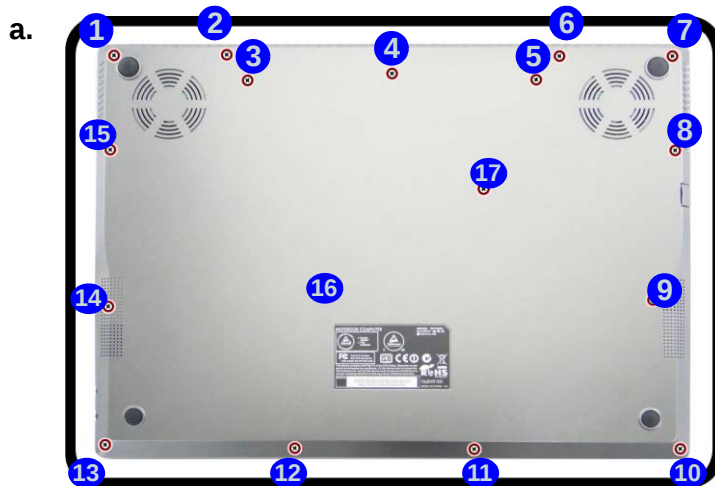
1. Remove the battery [page 2 - 5](#)
2. Remove the mSATA module [page 2 - 12](#)

Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Remove screws **1** - **17** from the bottom cover (*Figure 1a*).
3. Lift the bottom cover from point **18** (*Figure 1b*).
4. Remove the bottom cover **19** (*Figure 1b*).
5. Remove screws **20** - **21** and disconnect cable **22** from the computer (*Figure 1c*).
6. Lift the battery **23** out of the computer (*Figure 1d*).

Figure 1
Battery Removal

- a. Remove the screws.
- b. Remove the bottom cover.
- c. Remove the screw and disconnect cable.
- d. Lift the battery out.



Disassembly

Figure 2
**HDD Assembly
Removal (cont'd.)**

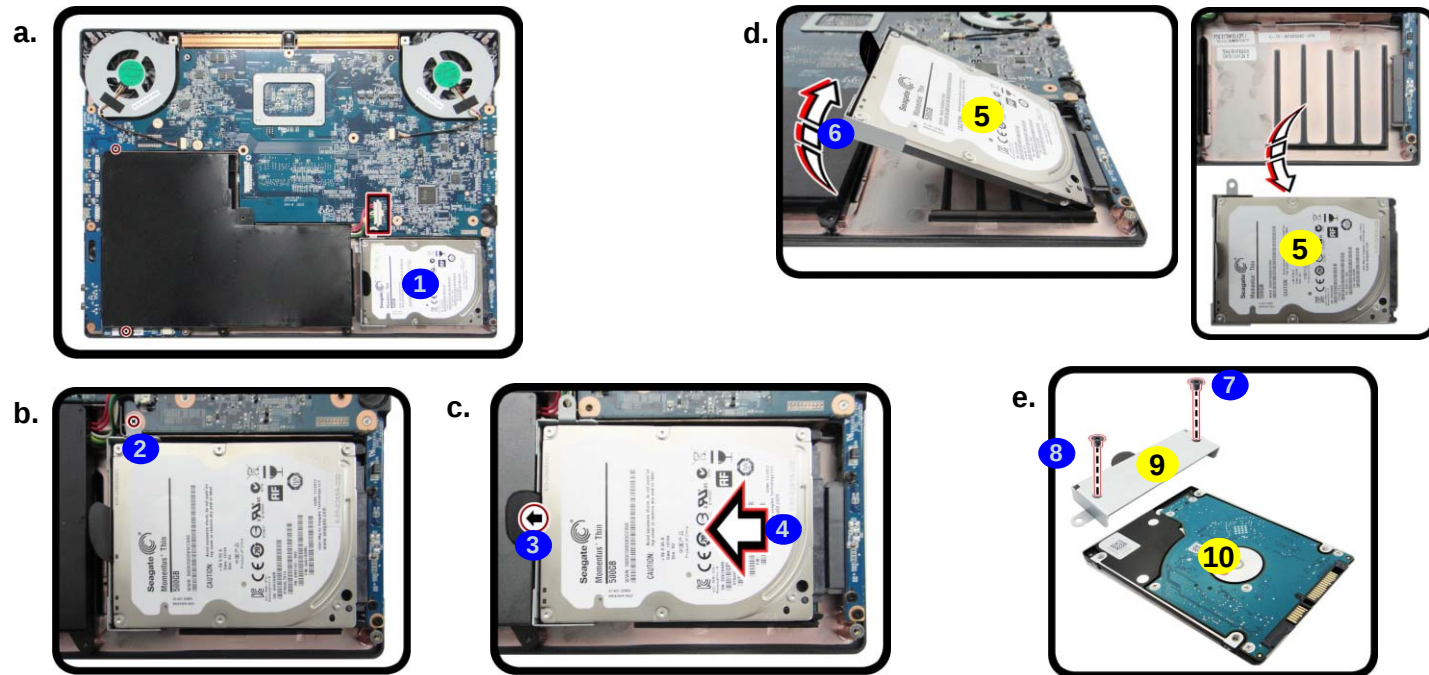
- Locate the haddisk.
- Remove the screw.
- Grip the tab and slide the HDD assembly in the direction of the arrow.
- Lift the HDD assembly out of the bay.
- Remove the screws and bracket from HDD.

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 9.5mm or 7mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Upgrade Process

- Turn **off** the computer, turn it over, remove the bottom cover and battery ([page 2 - 5](#)).
- The haddisk will be visible at point **1** ([Figure 2a](#)).
- Remove the screw **2** from the hard disk assembly ([Figure 2b](#)).
- Grip the tab **3** and slide the hard disk assembly in the direction of arrow **4** ([Figure 2c](#)).
- Lift the hard disk assembly **5** out of the bay **6** ([Figure 2d](#)).
- Remove the screws **7** - **8** and the hard disk bracket **9** from the hard disk **10** ([Figure 2e](#)).
- Reverse the process to install a new hard disk (do not forget to replace all the screws and bottom cover).



9. HDD Bracket
10. HDD

- 3 Screws

Removing the Keyboard

1. Turn **off** the computer, turn it over, remove the battery ([page 2 - 5](#)).
2. Lift the center cover at point **1** toward the direction of the arrow **2** ([Figure 4a](#)).
3. Remove the center cover module **3** and screws **4** - **5** ([Figure 4b](#)).
4. Carefully lift the keyboard **6** up, being careful not to bend the keyboard ribbon cable **7** ([Figure 4c](#)).
5. Disconnect the keyboard ribbon cable from the locking collar socket **8** ([Figure 4c](#)).

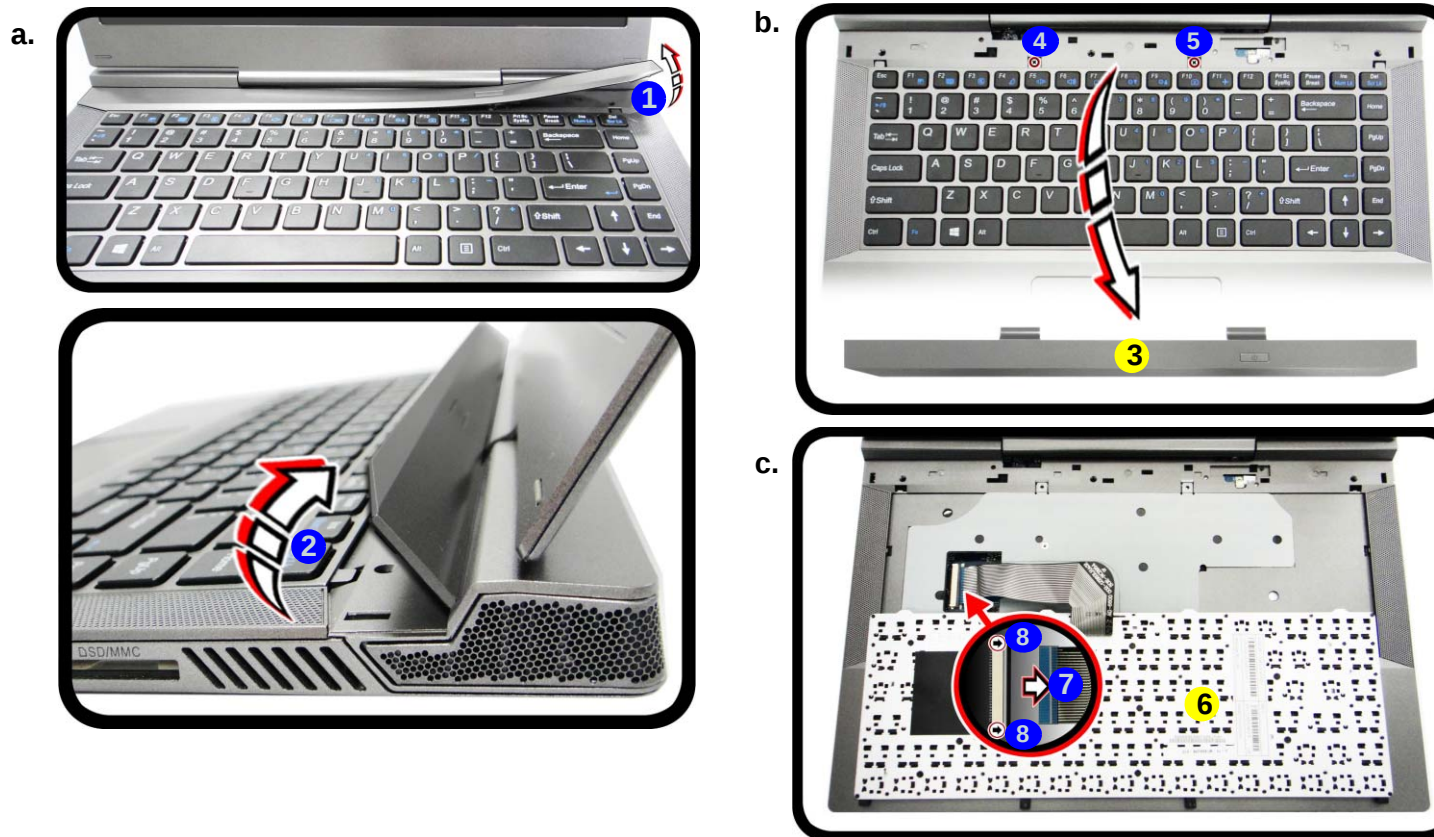


Figure 3
Keyboard Removal

- Lift the center cover.
- Remove the center cover and screws.
- Disconnect the keyboard ribbon cable from the locking collar socket.



3.Center Cover Module
6.Keyboard

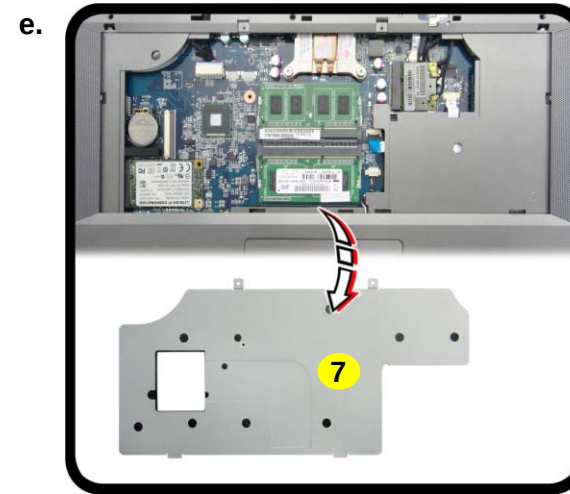
- 2 Screws

Disassembly

Figure 4
Keyboard Removal
(cont'd.)

6. Carefully lift up the keyboard **6** off the computer (*Figure 5d*).
7. Remove the keyboard shielding plate **7** up and off the bottom case (*Figure 5e*).
8. Reverse the process to install a new keyboard.

- d. Remove the keyboard.
- e. Remove the keyboard shielding plate.



7.Keyboard Shielding
Plate

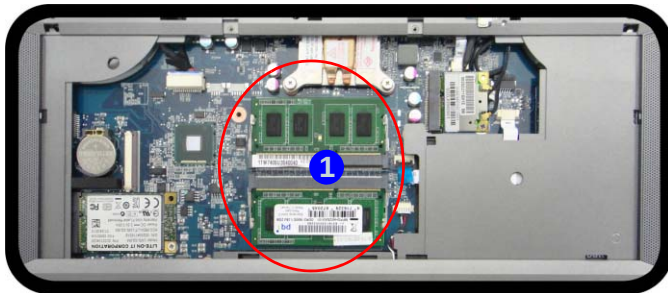
Removing the System Memory (RAM)

The computer has two memory sockets for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR3L (Up to 1600 MHz). The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1024MB and 2048MB **DDRIII** Modules. 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, remove the bottom cover, battery ([page 2 - 5](#)) and keyboard ([page 2 - 8](#)).
2. The RAM modules will be visible at point **1** on the mainboard ([Figure 6a](#)).
3. Gently pull the two release latches (**2** & **3**) on the sides of the memory socket in the direction indicated by the arrows ([Figure 6b](#)). The RAM module **4** will pop-up, and you can then remove it.

a.



b.

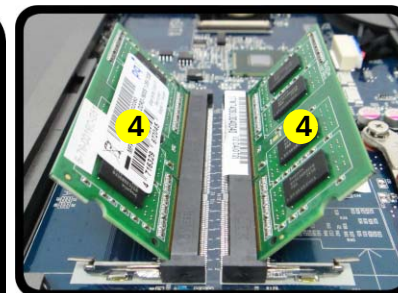
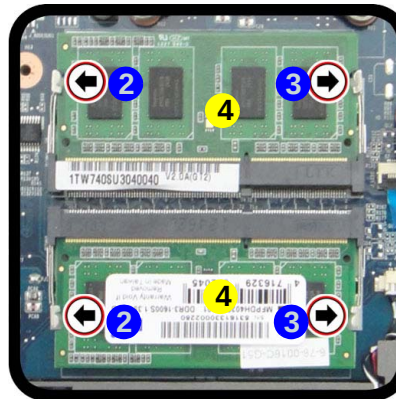


Figure 5
RAM Module Removal

- a. The RAM modules will be visible at point **1** on the mainboard.
- b. Pull the release latches to remove the module(s).



Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

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



4. RAM

Disassembly

Figure 6
**Wireless LAN
Module Removal**

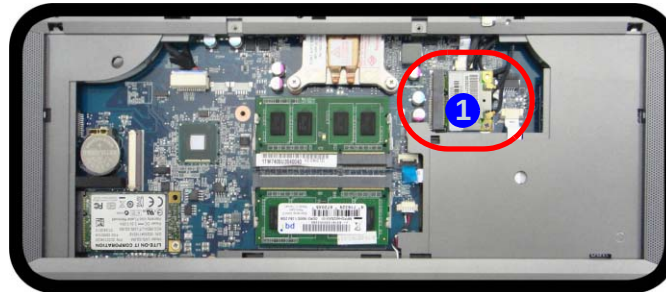
- a. Locate the WLAN.
- b. Disconnect the cables and remove the screw.
- c. The WLAN module will pop up.

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

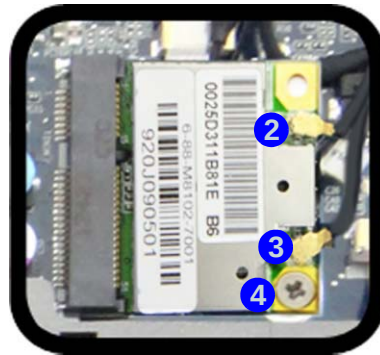
Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over, remove the battery (*page 2 - 5*) and keyboard (*page 2 - 8*).
2. The Wireless LAN module will be visible at point **1** on the mainboard and keyboard ribbon cable under the Wireless LAN module (*Figure 7a*).
3. Carefully disconnect the cable **2** & **3**, and then remove the screw **4** (*Figure 7b*).
4. The Wireless LAN module **5** (*Figure 7c*) will pop-up, and you can remove it from the computer.

a.



b.



c.



5. Wireless LAN Module

- 1 Screw

Removing the mSATA Module

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

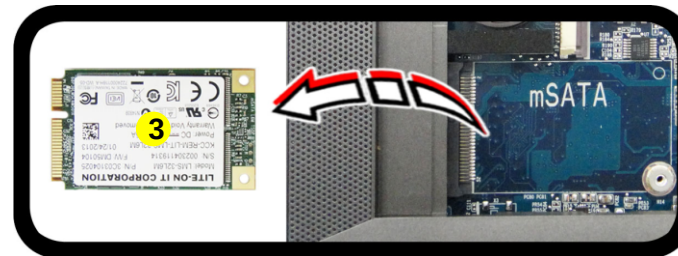
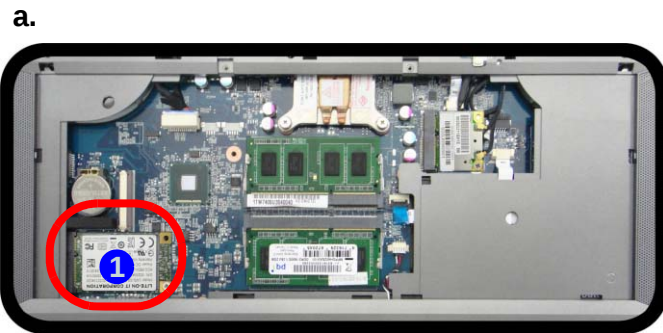


Figure 7
mSATA Module Removal

- a. Locate the mSATA module.
- b. Remove the screw.
- c. The module will pop-up.
- d. Remove the mSATA module.



3. mSATA Module

- 1 Screw

Appendix A:Part Lists

This appendix breaks down the **W740SU** 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.

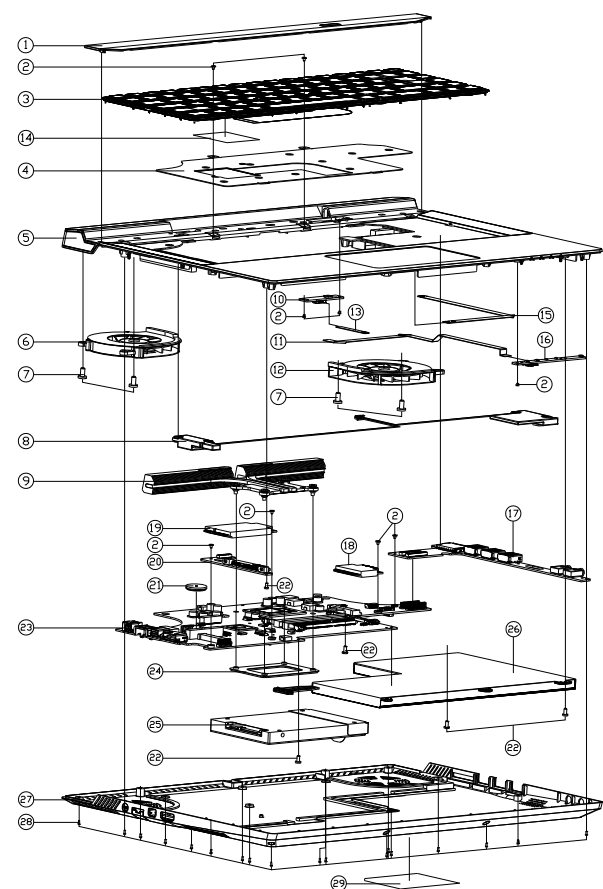
Part List Illustration Location

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

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

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

Top-Bottom

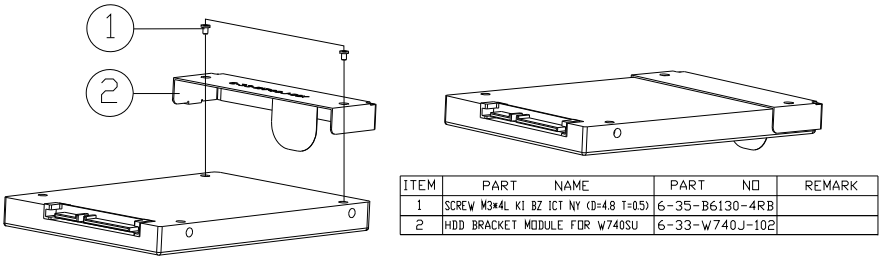


ITEM	PART NAME	PART NO	REMARK
1	CENTER COVER MODULE W740SU	6-42-W7402-102	
2	SCREW M2*4L KI NI ICT NY (00-#45,01-04)	6-35-B1120-3RE	
3	K/B SHIELD MODULE FOR W740SU	6-79-W740SU0K-010	
4	KB SHIELD MODULE FOR W740SU	6-33-W7407-102	
5	TOILE 24H TOP CASE MODULE ASSY W740SU	6-79-W740SU02-010	
6	FAN MODULE (L) FOR W740SU	6-31-W740S-L02	
7	SCREW M2*4L KI BZ ICT NY	6-35-B6120-4RA	
8	PRODUCT LABEL FOR W740SU (00-#45,01-04)	6-23-SW740-052	
9	CPU HEATSINK MODULE FOR W740SU	6-31-W740N-103	
10	POWER BUTTON BOARD V2.0A W740SU	6-77-W740C-D02A	
11	FFC LED TO MB (PITCH=0.5, 2P) W740SU	6-43-W7400-021	
12	FAN MODULE (R) FOR W740SU	6-31-W740S-R02	
13	FFC POWER TO MB (PITCH=1.4, 2P) W740SU	6-43-W7400-031	
14	MYLAR 50*50*0.15 FOR W740SU	6-40-W7400-051	
15	FFC CLICK TO MB (PITCH=1.4, 2P) W740SU	6-43-W7400-011	
16	LED BOARD V2.0A W740SU	6-77-W7404-D02A	
17	FUNCTION I/O BOARD V3.0 W740SU	6-77-W7401-D03	
18	MAIN BOARD V3.0 W740SU	6-88-W345F-8700	
19	MAIN BOARD V3.0 W740SU	6-88-P3702-9400	
20	MAIN BOARD V3.0 W740SU	6-88-W345F-9400	
21	MAIN BOARD V3.0 W740SU	6-88-P1702-4200	
22	MAIN BOARD V3.0 W740SU	6-88-W255F-4200	
23	MAIN BOARD V3.0 W740SU	6-88-P3702-7000	
24	MAIN BOARD V3.0 W740SU	6-85-D4032-L02	
25	HDD BOARD V3.0 W740SU	6-77-W740N-D03	
26	BATTERY 3V 210MA CR2032 (MITSUBISHI)	6-23-62015-607	
27	SCREW M2*4L KI11-08 B=40 BK/Z ICT NY	6-35-B6120-5R0	
28	MAIN BOARD V3.0 W740SU	6-77-W740SU00-D03	
29	MAIN BOARD V3.0 W740SU	6-77-W740SU00-D03-1	
30	CPU SUPPORT SECC T=1.0MM W740SU	6-33-W740S-010	
31	W/O HDD ASSY W740SU	6-79-W740SU0J-010	
32	W/O HDD ASSY W740SU	6-79-W740SU0J-020	
33	MAIN BOARD V3.0 W740SU	6-87-W740S-42E1	
34	BOTTOM CASE MODULE FOR W740SU	6-39-W7403-012	
35	SCREW M2*4L KI11-08 B=40 BK/Z ICT NY	6-35-B6120-6R0	
36	PRODUCT LABEL FOR W740SU	6-45-W740SU03-010	

Figure A - 1
Top-Bottom

HDD

Figure A - 2
HDD



LCD

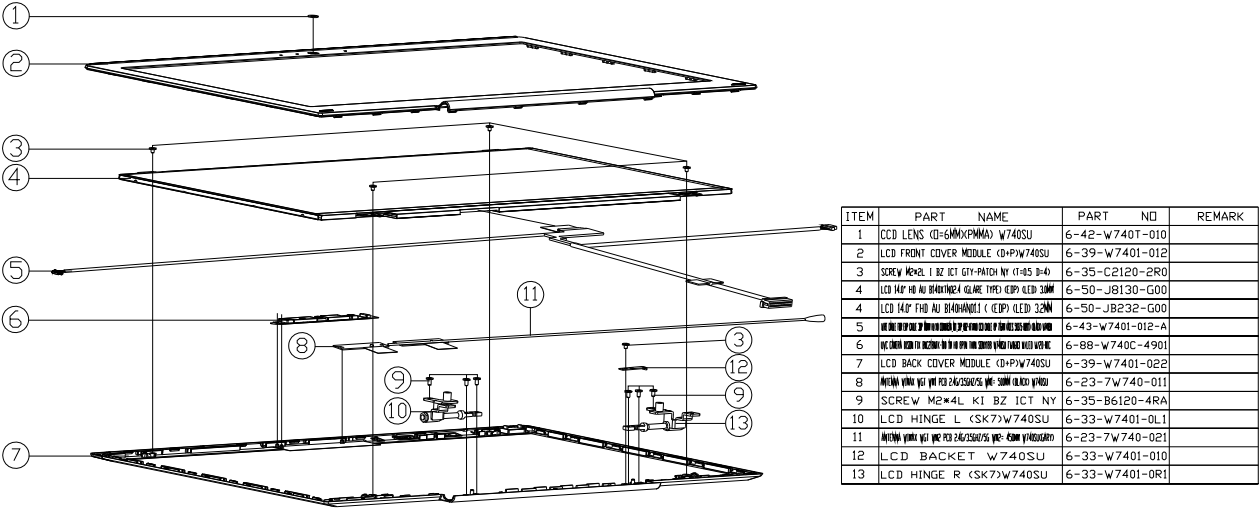


Figure A - 3
LCD

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the **W740SU** 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	PCH 1/10 - RTC, HDA, SATA - Page B - 16	KBC-ITE IT8587E - Page B - 30
TPM - Page B - 3	PCH 2/10 - LPC, SMBUS SPI, CL - Page B - 17	5VS, 3.3VS, 5V, 3.3V, VCCDDQ - Page B - 31
Processor 1/7- DMI, FDI, PEG - Page B - 4	PCH 3/10 - DMI, FDI, PWRGD - Page B - 18	1.05V - Page B - 32
Processor 2/7- CLK, MISC - Page B - 5	PCH 4/10 - CRT, Display, PCI - Page B - 19	VDD3, VDD5, 3.3VM - Page B - 33
Processor 3/7- (DDR3) - Page B - 6	PCH 5/10 - PCIe, USB - Page B - 20	VDDQ, VDDQ_VTT, 1.5VS - Page B - 34
Processor 4/7- Display - Page B - 7	PCH 6/10 - GPIO, Misc - Page B - 21	VCORE - Page B - 35
Processor 5/7- Power - Page B - 8	PCH 7/10 - CLK - Page B - 22	AC-IN, Charger - Page B - 36
Processor 6/7- GND - Page B - 9	PCH 8/10 - POWER - Page B - 23	POWER SWITCH BOARD - Page B - 37
Processor 7/7- RSVD - Page B - 10	PCH 9/10 - Power - Page B - 24	HDD Board - Page B - 38
DDR3 SO-DIMM_0 - Page B - 11	PCH 10/10 - GND - Page B - 25	LED Board - Page B - 39
DDR3 SO-DIMM_1 - Page B - 12	WLAN, mSATA - Page B - 26	Card Reader - Page B - 40
PANEL - Page B - 13	CCD, FAN, CLICK - Page B - 27	USB - Page B - 41
HDMI - Page B - 14	LAN, RJ-45 - Page B - 28	USB, Audio Board - Page B - 42
Mini Display Port - Page B - 15	VT1802S - Page B - 29	Power Diagram - Page B - 43

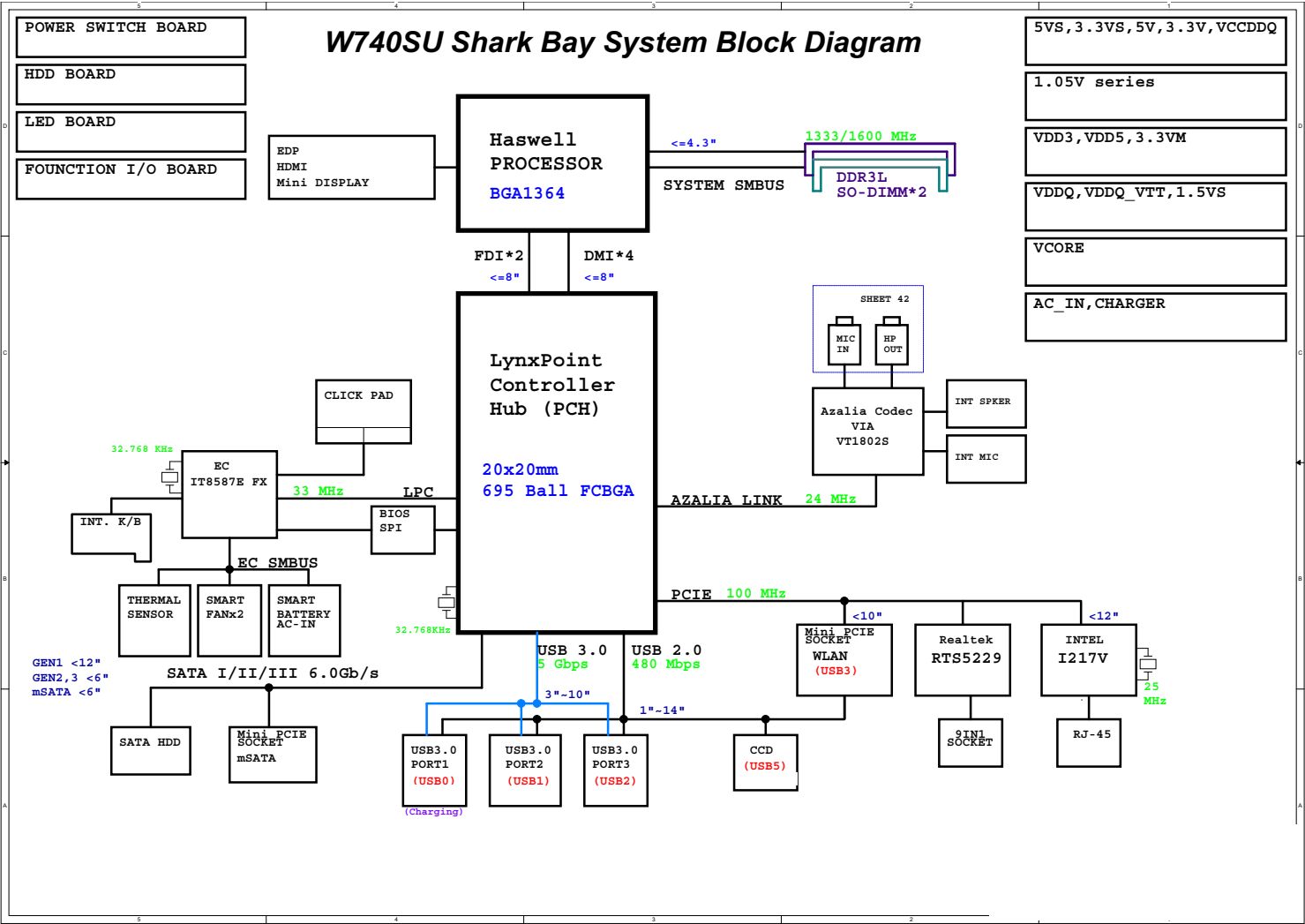
Table B - 1
**SCHEMATIC
DIAGRAMS**



Version Note

The schematic diagrams in this chapter are based upon version 6-7P-W7405-004. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

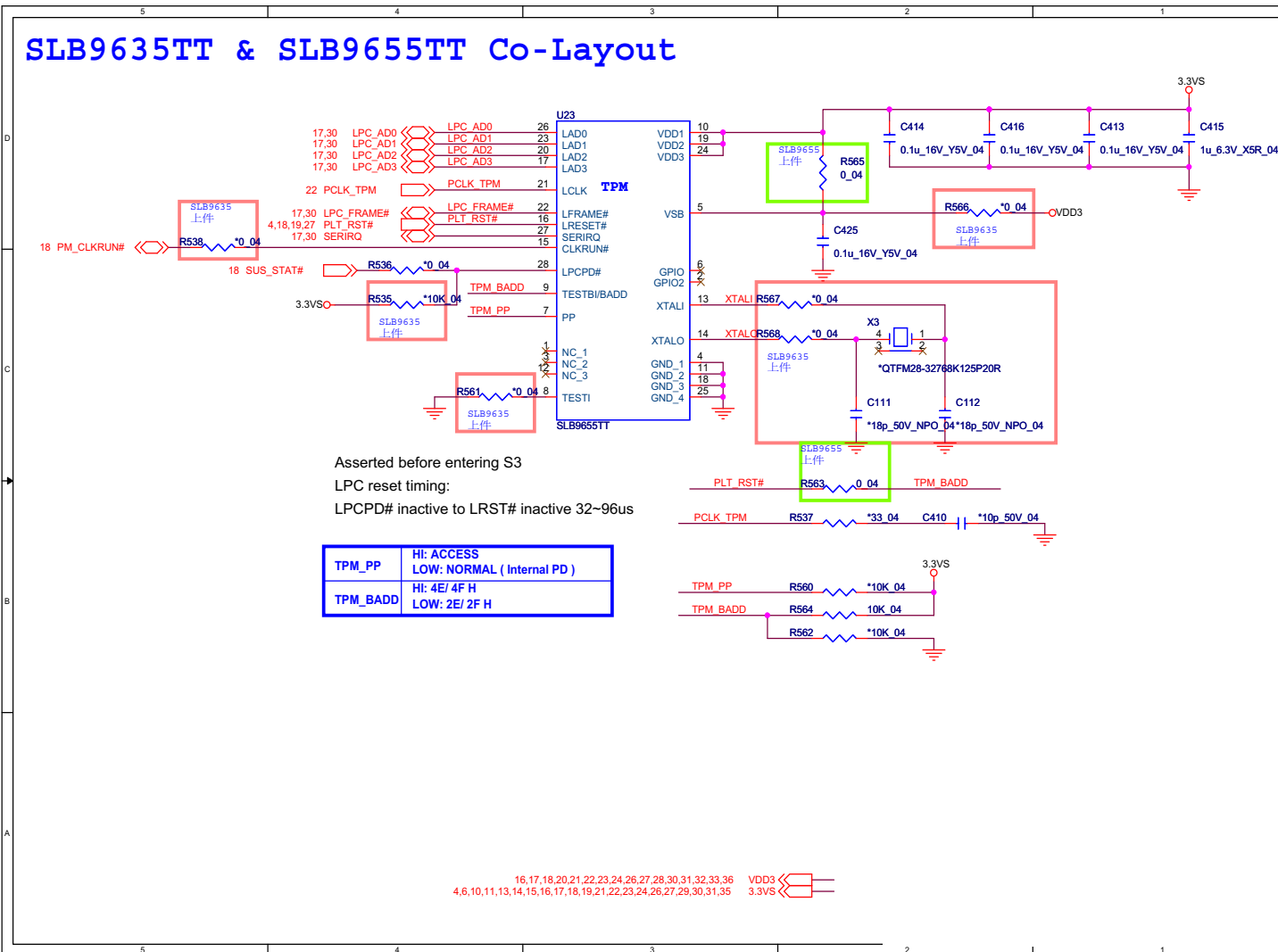
System Block Diagram



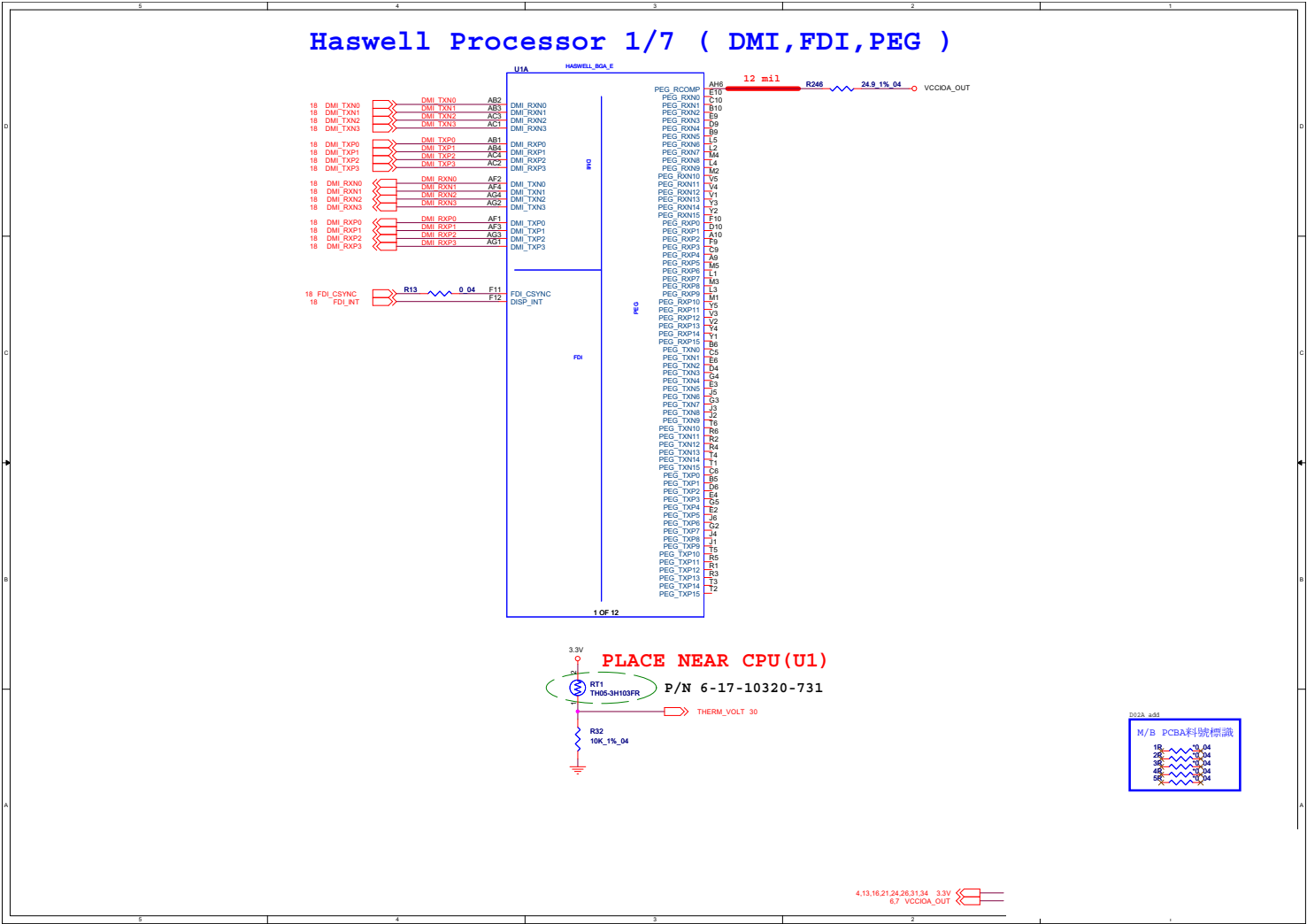
Sheet 1 of 42
System Block
Diagram

B.Schematic Diagrams

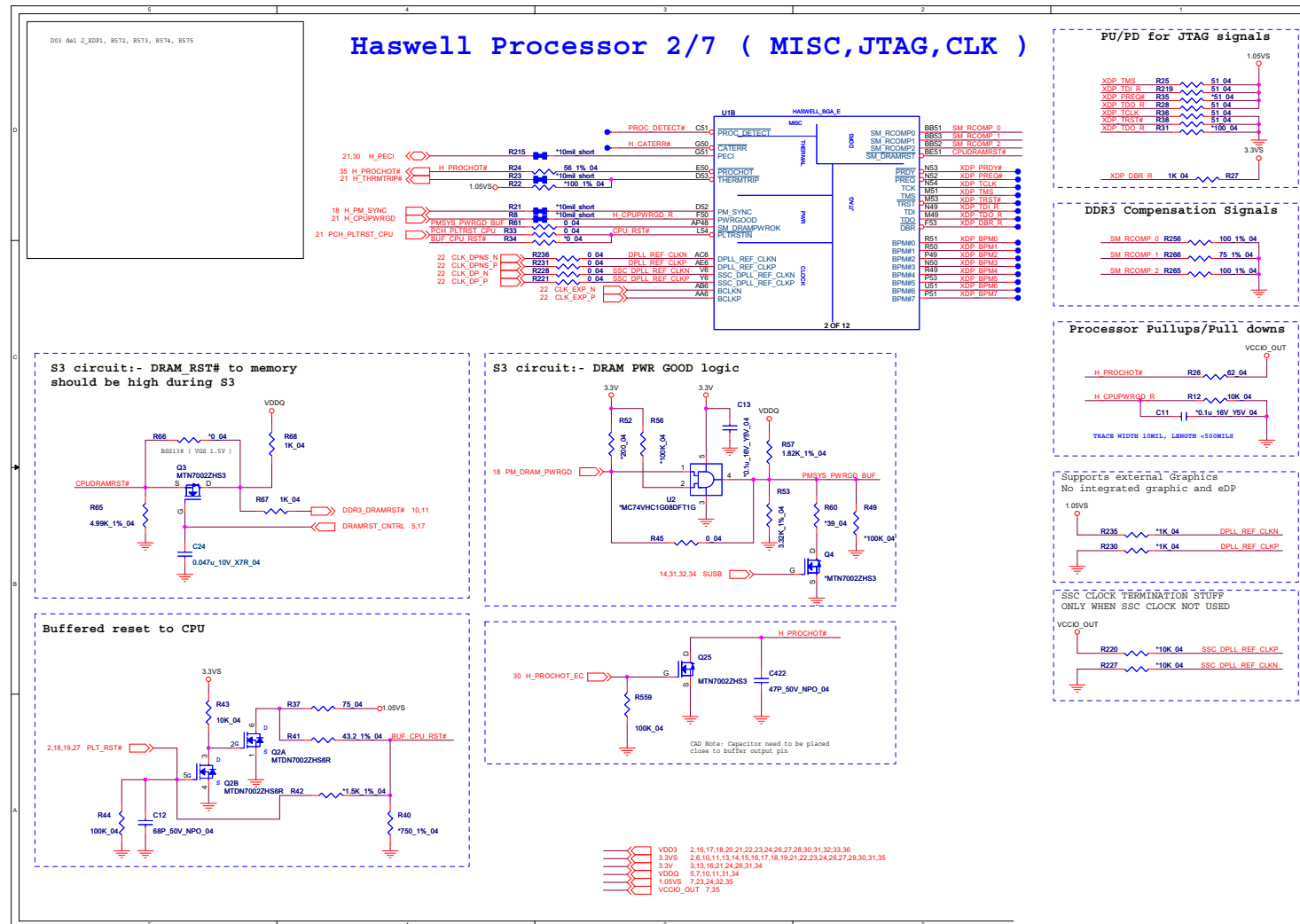
TPM

Sheet 2 of 42
TPM

Processor 1/7-DMI, FDI, PEG



Processor 2/7- CLK, MISC

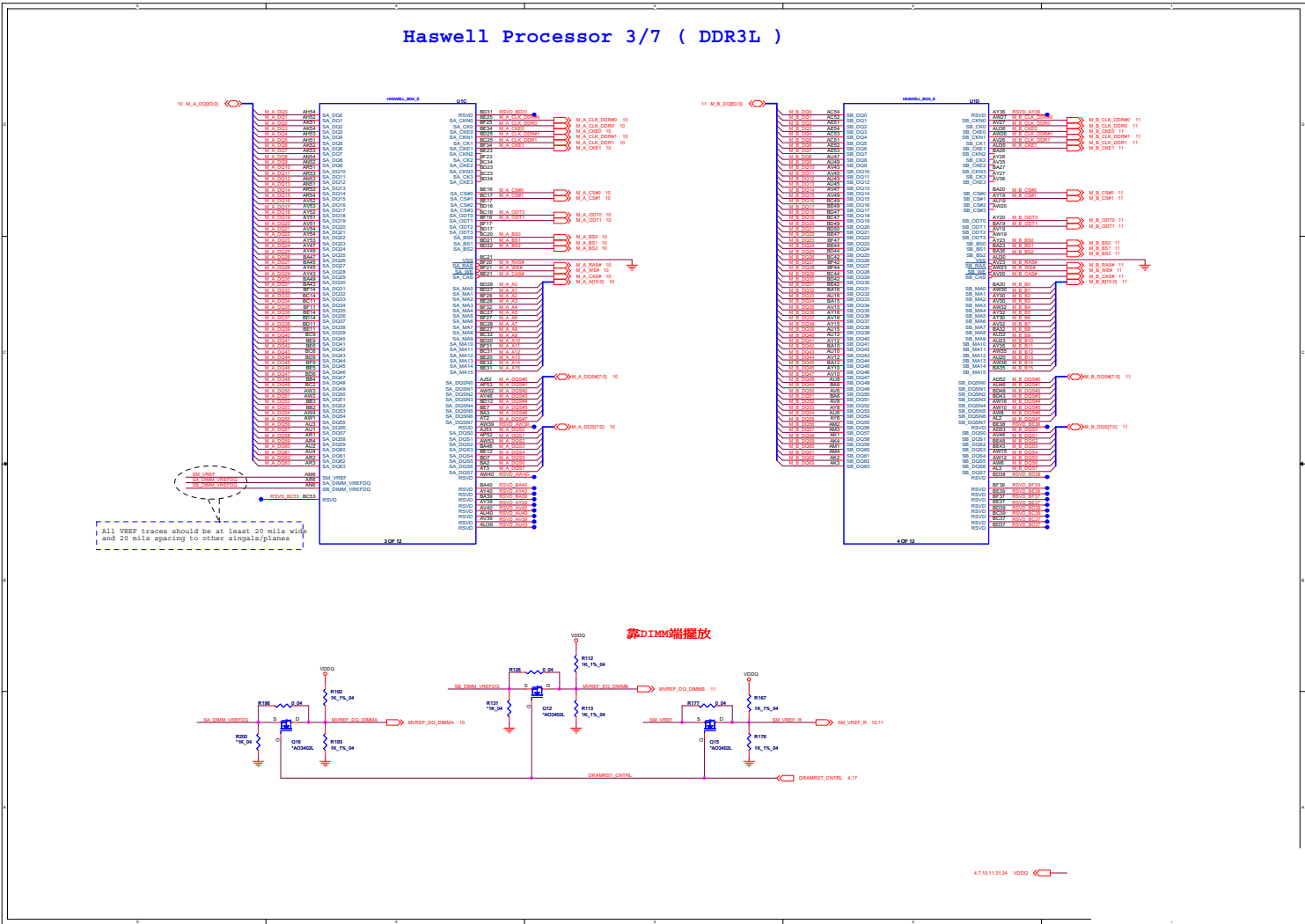


Sheet 4 of 42
Processor 2/7-CLK,
MISC

Schematic Diagrams

Processor 3/7- (DDR3)

Sheet 5 of 42
Processor 3/7-
(DDR3)



Sheet 6 of 42
Processor 4/7-
Display

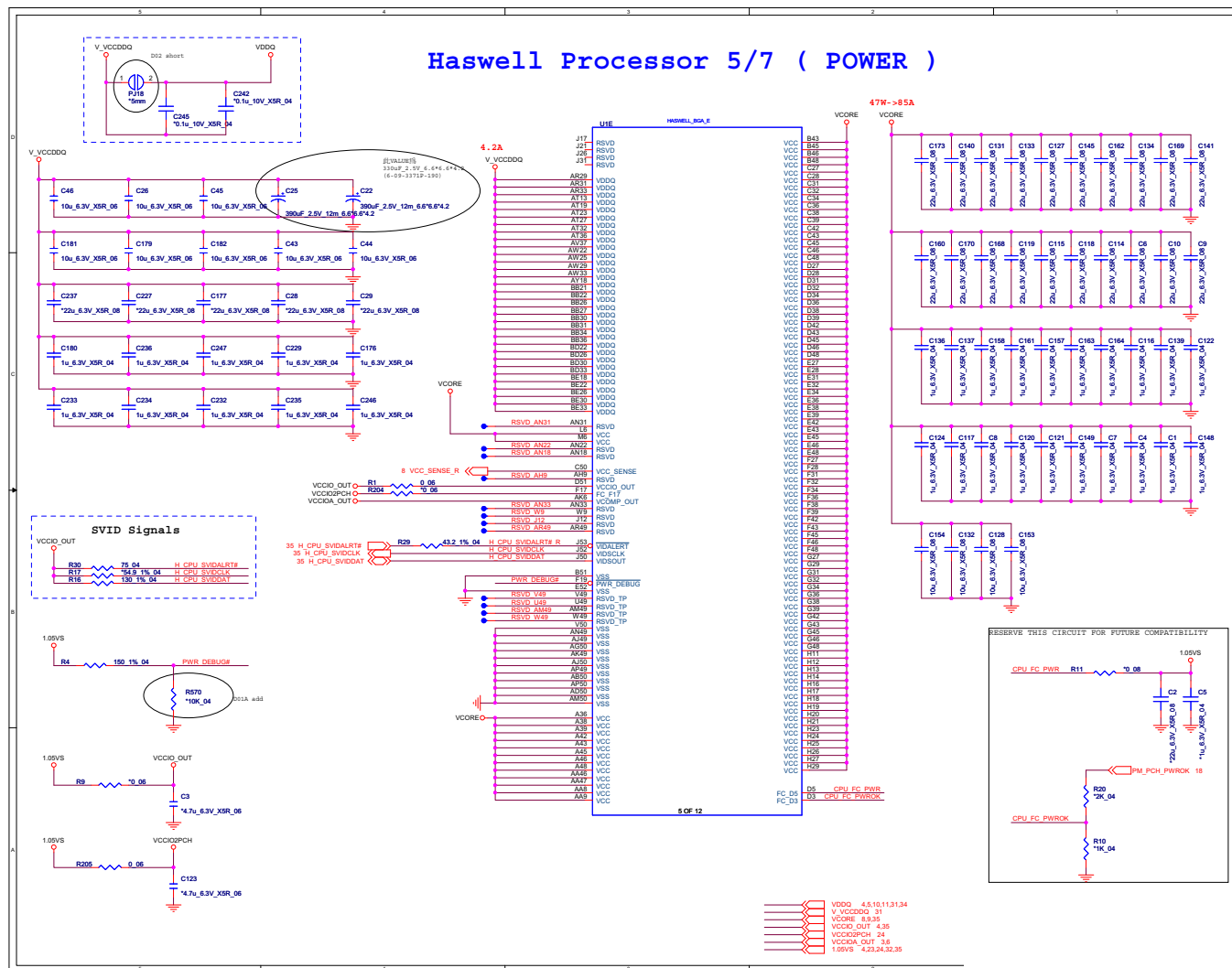


Schematic Diagrams

Processor 5/7- Power

B.Schematic Diagrams

Sheet 7 of 42
Processor 5/7-
Power



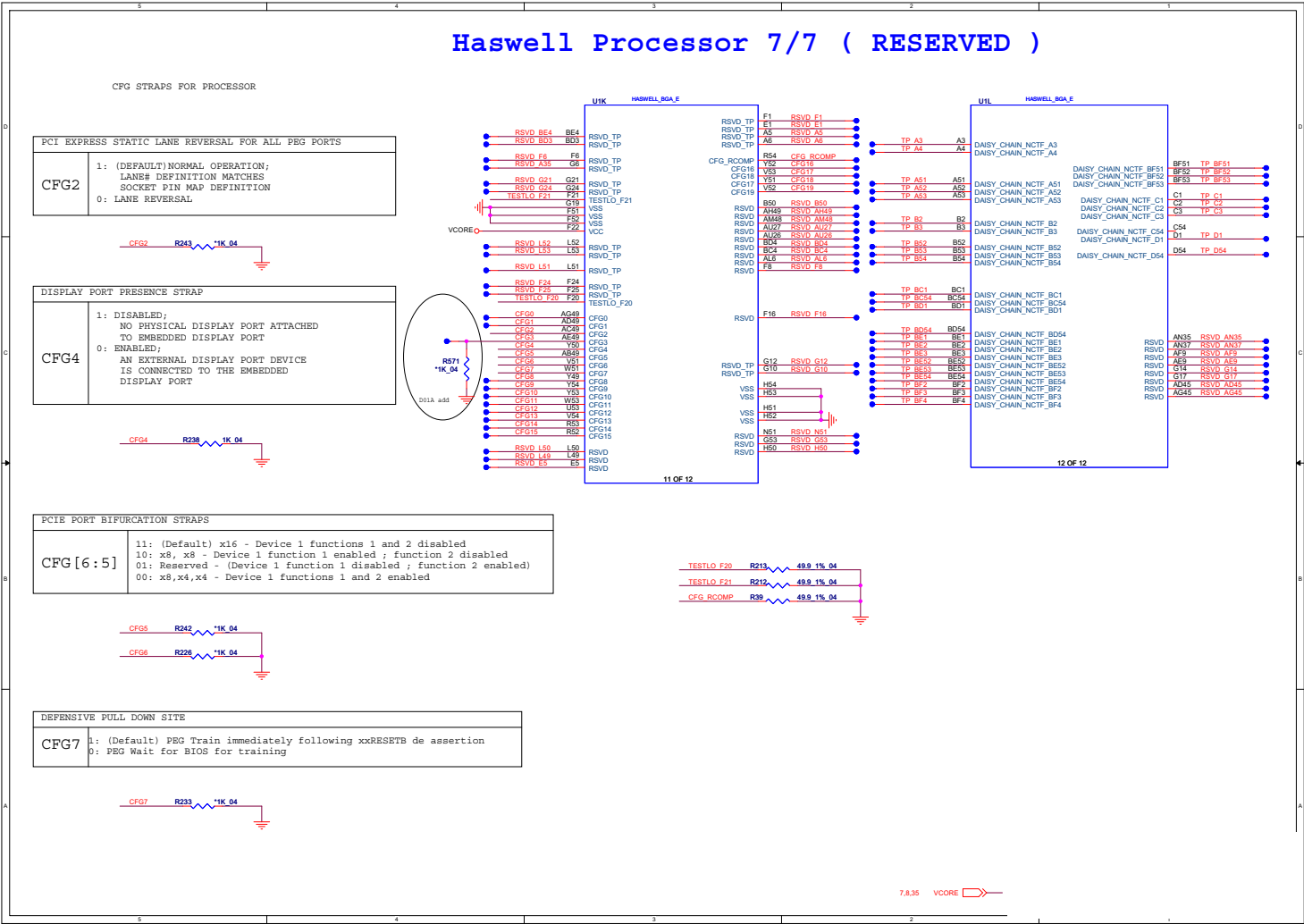
cessor 6/7- GND B - 9



Schematic Diagrams

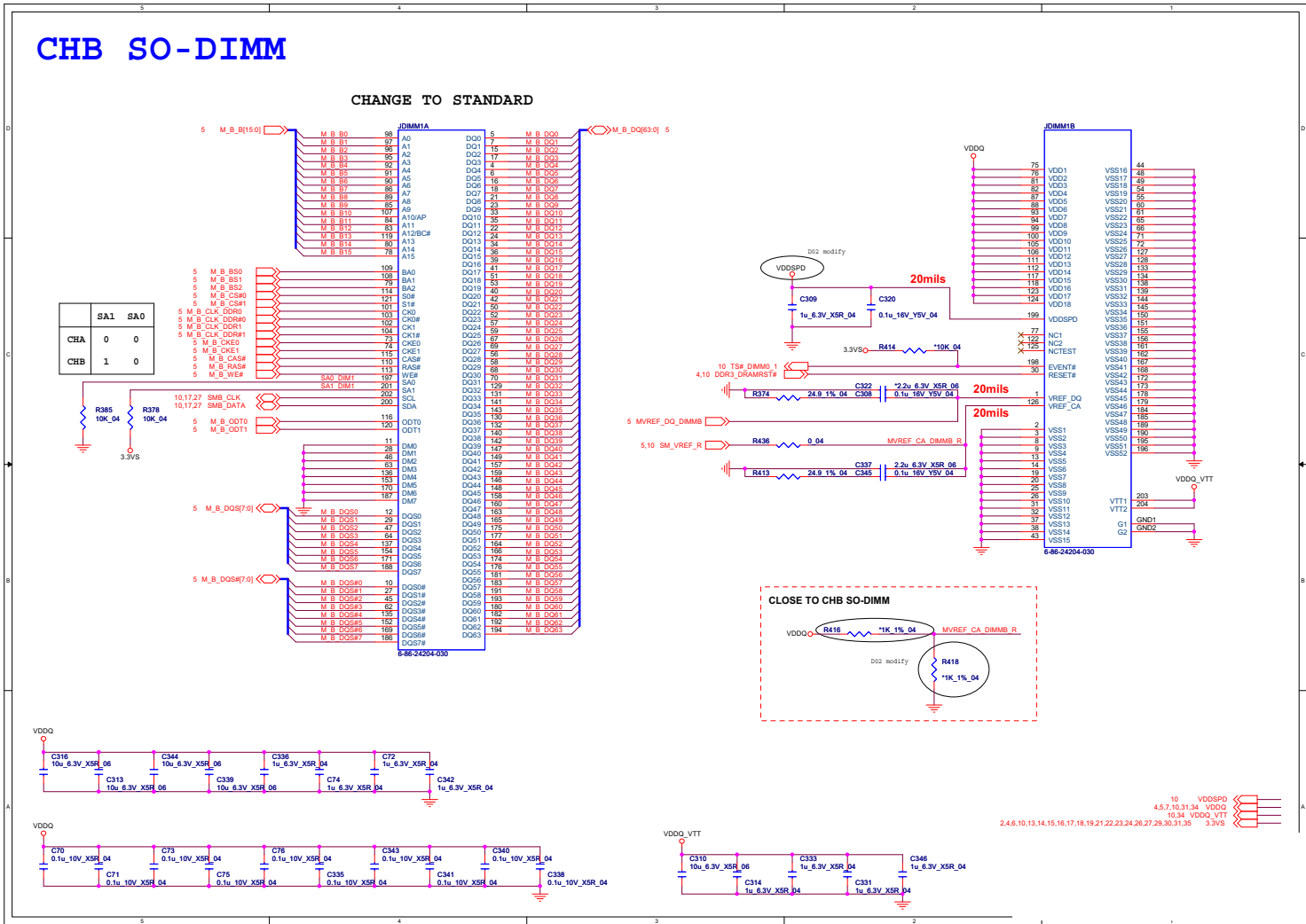
Processor 7/7- RSVD

Sheet 9 of 42
Processor 7/7-
RSVD



R3 SO-DIMM_0 B - 11

DDR3 SO-DIMM_1



eDP PANEL

3.3VS

U1 SAV99K3

U9 FCM1609K-121T06

R262 10K_04

C238 220p_50V_NPO_04

EDP_HPD_0

PLVDD

J_DP1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

EDP_AUXN C249 0.1u_10V_X7R_04

EDP_AUXP C250 0.1u_10V_X7R_04

3.3VS0 R310 100K_04

R311 50K_04

0.04 R316 0.04

3.3VS0 R317 10K_04

INV_BLOM

30 BRIGHTNESS_R

3.3VS0

C59 0.1u_10V_X7R_04

C60 0.1u_10V_X7R_04

C57 0.1u_10V_X7R_04

C58 0.1u_10V_X7R_04

EDP_TXN1_0

EDP_TXN1_1

EDP_TXN0_0

EDP_TXN0_1

VLED

88107-30001

Q198 MTN7002ZH56R

Q19A MTN7002ZH56R

Q20 P2003EVO

Q275 MTN7002ZH53

Q17

R285 220_04

R282 10K_04

R273 100K_04

R274 100K_04

C216 0.1u_50V_V5V_06

C214 0.1u_50V_V5V_06

Q17 MTN7002ZH53

19 NB_ENA/DO

19 NB_ENA/DO

3.3V

U4A 74LVC08PW

U4B 74LVC08PW

U4C 74LVC08PW

U4D 74LVC08PW

U4E 74LVC08PW

U4F 74LVC08PW

U4G 74LVC08PW

U4H 74LVC08PW

U4I 74LVC08PW

U4J 74LVC08PW

U4K 74LVC08PW

U4L 74LVC08PW

U4M 74LVC08PW

U4N 74LVC08PW

U4O 74LVC08PW

U4P 74LVC08PW

U4Q 74LVC08PW

U4R 74LVC08PW

U4S 74LVC08PW

U4T 74LVC08PW

U4U 74LVC08PW

U4V 74LVC08PW

U4W 74LVC08PW

U4X 74LVC08PW

U4Y 74LVC08PW

U4Z 74LVC08PW

U4AA 74LVC08PW

U4AB 74LVC08PW

U4AC 74LVC08PW

U4AD 74LVC08PW

U4AE 74LVC08PW

U4AF 74LVC08PW

U4AG 74LVC08PW

U4AH 74LVC08PW

U4AI 74LVC08PW

U4AJ 74LVC08PW

U4AK 74LVC08PW

U4AL 74LVC08PW

U4AM 74LVC08PW

U4AN 74LVC08PW

U4AO 74LVC08PW

U4AP 74LVC08PW

U4AQ 74LVC08PW

U4AR 74LVC08PW

U4AS 74LVC08PW

U4AT 74LVC08PW

U4AU 74LVC08PW

U4AV 74LVC08PW

U4AW 74LVC08PW

U4AX 74LVC08PW

U4AY 74LVC08PW

U4AZ 74LVC08PW

U4BA 74LVC08PW

U4BB 74LVC08PW

U4BC 74LVC08PW

U4BD 74LVC08PW

U4BE 74LVC08PW

U4BF 74LVC08PW

U4BG 74LVC08PW

U4BH 74LVC08PW

U4BI 74LVC08PW

U4BJ 74LVC08PW

U4BK 74LVC08PW

U4BL 74LVC08PW

U4BM 74LVC08PW

U4BN 74LVC08PW

U4BO 74LVC08PW

U4BP 74LVC08PW

U4BQ 74LVC08PW

U4BR 74LVC08PW

U4BS 74LVC08PW

U4BT 74LVC08PW

U4BU 74LVC08PW

U4BV 74LVC08PW

U4BW 74LVC08PW

U4BX 74LVC08PW

U4BY 74LVC08PW

U4BZ 74LVC08PW

U4CA 74LVC08PW

U4CB 74LVC08PW

U4CC 74LVC08PW

U4CD 74LVC08PW

U4CE 74LVC08PW

U4CF 74LVC08PW

U4CG 74LVC08PW

U4CH 74LVC08PW

U4CI 74LVC08PW

U4CJ 74LVC08PW

U4CK 74LVC08PW

U4CL 74LVC08PW

U4CM 74LVC08PW

U4CN 74LVC08PW

U4CO 74LVC08PW

U4CP 74LVC08PW

U4CQ 74LVC08PW

U4CR 74LVC08PW

U4CS 74LVC08PW

U4CT 74LVC08PW

U4CU 74LVC08PW

U4CV 74LVC08PW

U4CW 74LVC08PW

U4CX 74LVC08PW

U4CY 74LVC08PW

U4CZ 74LVC08PW

U4DA 74LVC08PW

U4DB 74LVC08PW

U4DC 74LVC08PW

U4DD 74LVC08PW

U4DE 74LVC08PW

U4DF 74LVC08PW

U4DG 74LVC08PW

U4DH 74LVC08PW

U4DI 74LVC08PW

U4DJ 74LVC08PW

U4DK 74LVC08PW

U4DL 74LVC08PW

U4DM 74LVC08PW

U4DN 74LVC08PW

U4DO 74LVC08PW

U4DP 74LVC08PW

U4DQ 74LVC08PW

U4DR 74LVC08PW

U4DS 74LVC08PW

U4DT 74LVC08PW

U4DU 74LVC08PW

U4DV 74LVC08PW

U4DW 74LVC08PW

U4DX 74LVC08PW

U4DY 74LVC08PW

U4DZ 74LVC08PW

U4EA 74LVC08PW

U4EB 74LVC08PW

U4EC 74LVC08PW

U4ED 74LVC08PW

U4EE 74LVC08PW

U4EF 74LVC08PW

U4EG 74LVC08PW

U4EH 74LVC08PW

U4EI 74LVC08PW

U4EJ 74LVC08PW

U4EK 74LVC08PW

U4EL 74LVC08PW

U4EM 74LVC08PW

U4EN 74LVC08PW

U4EO 74LVC08PW

U4EP 74LVC08PW

U4EQ 74LVC08PW

U4ER 74LVC08PW

U4ES 74LVC08PW

U4ET 74LVC08PW

U4EU 74LVC08PW

U4EV 74LVC08PW

U4EW 74LVC08PW

U4EX 74LVC08PW

U4EY 74LVC08PW

U4EZ 74LVC08PW

U4FA 74LVC08PW

U4FB 74LVC08PW

U4FC 74LVC08PW

U4FD 74LVC08PW

U4FE 74LVC08PW

U4FF 74LVC08PW

U4FG 74LVC08PW

U4FH 74LVC08PW

U4FI 74LVC08PW

U4FJ 74LVC08PW

U4FK 74LVC08PW

U4FL 74LVC08PW

U4FM 74LVC08PW

U4FN 74LVC08PW

U4FO 74LVC08PW

U4FP 74LVC08PW

U4FQ 74LVC08PW

U4FR 74LVC08PW

U4FS 74LVC08PW

U4FT 74LVC08PW

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U4FV 74LVC08PW

U4FW 74LVC08PW

U4FX 74LVC08PW

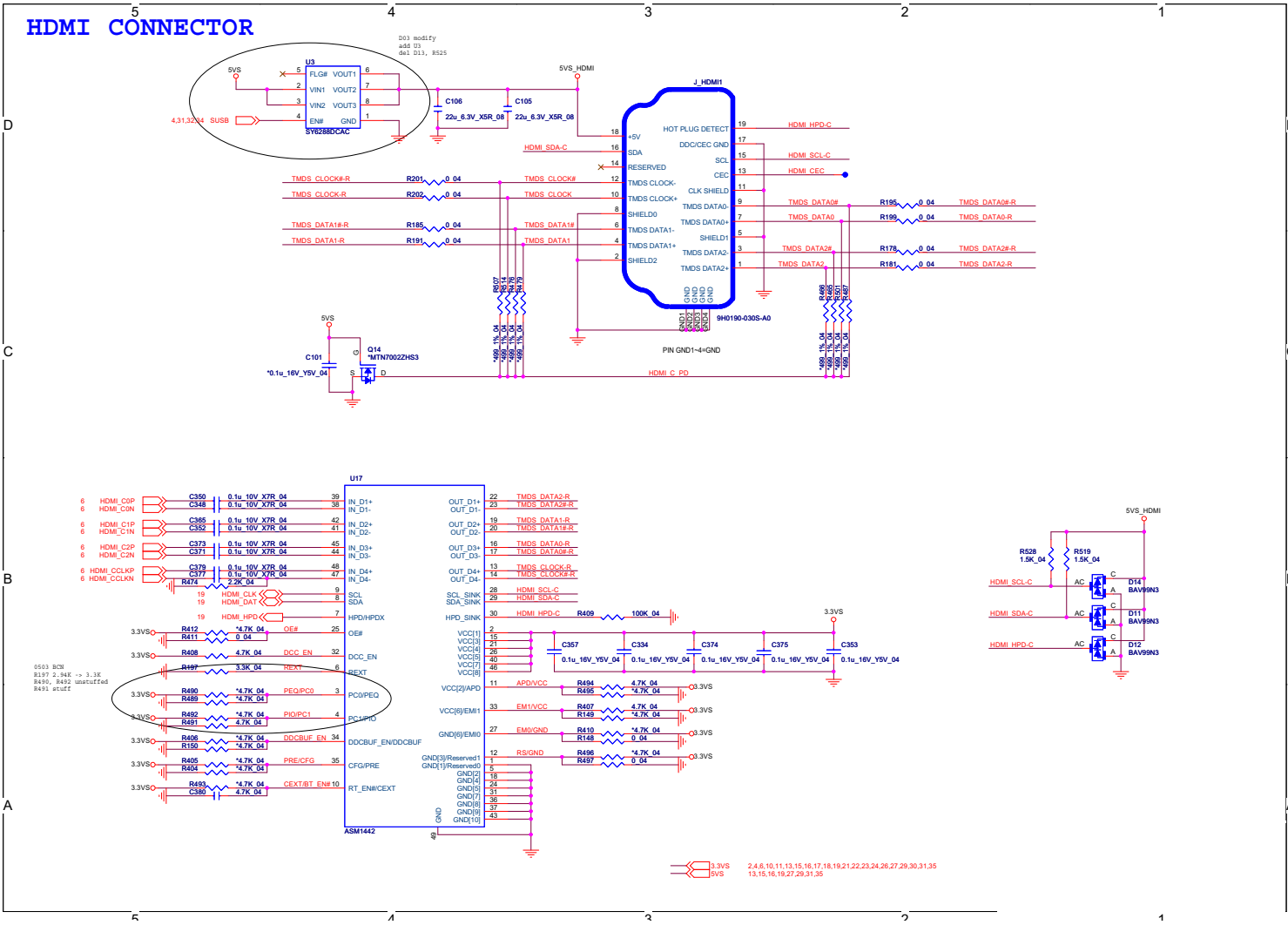
U4FY 74LVC08PW

U4FZ 74LVC08PW

U4GA 74LVC0

Sheet 12 of 42
PANEL

HDMI

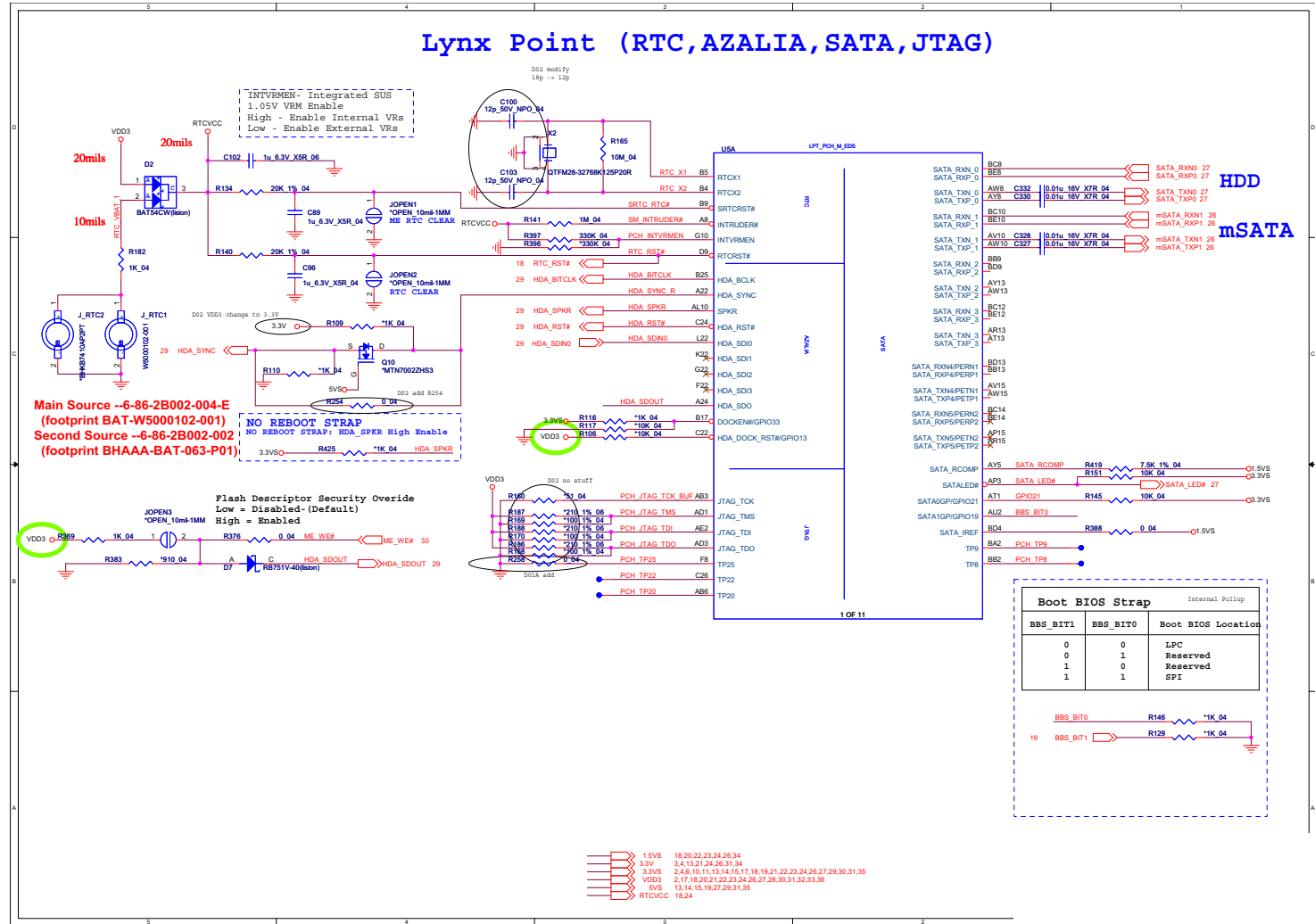


Mini Display Port B - 15



PCH 1/10 - RTC, HDA, SATA

Sheet 15 of 42
PCH 1/10 - RTC,
HDA, SATA

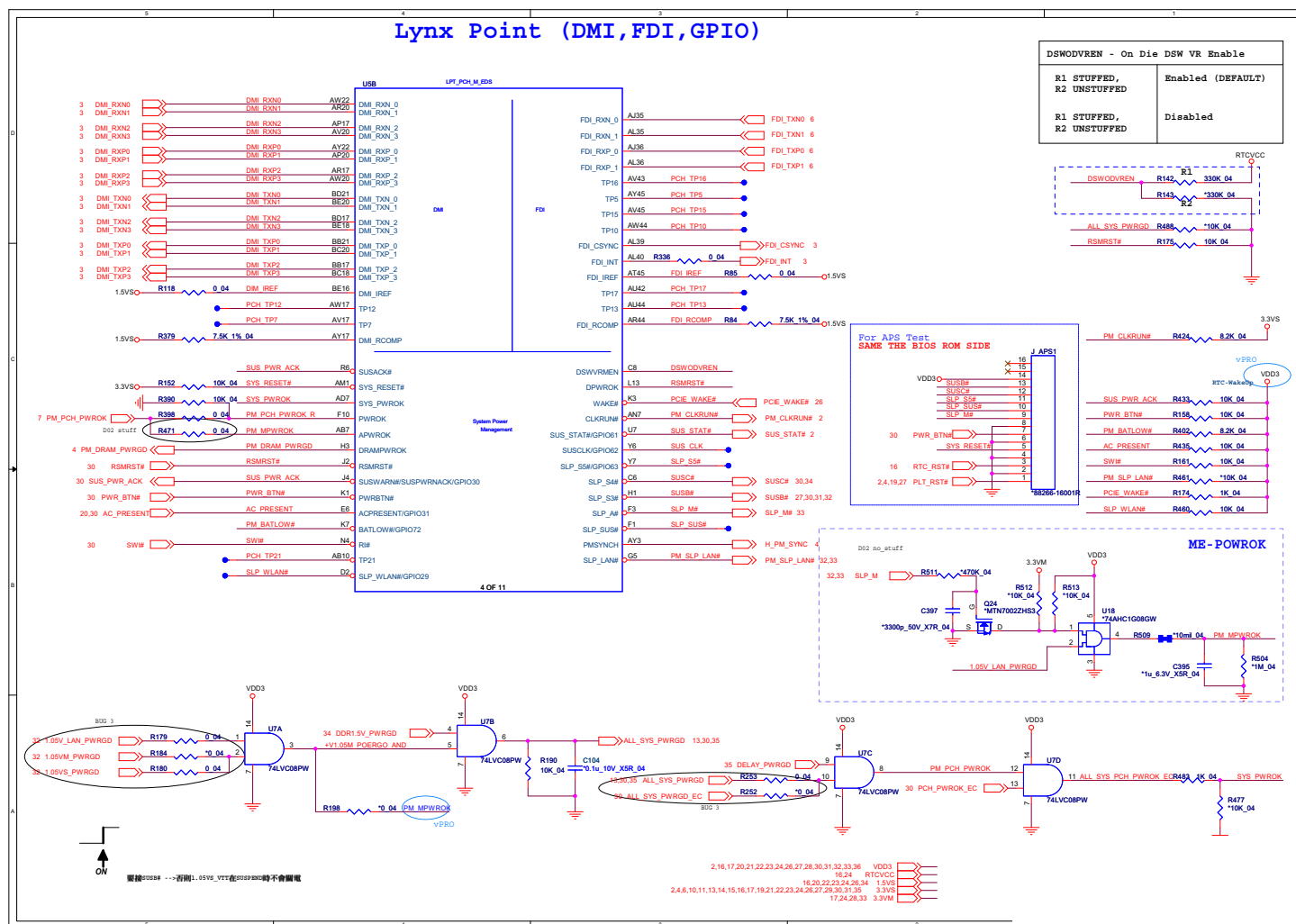


Sheet 16 of 42
PCH 2/10 - LPC,
SMBUS, SPI, CL



PCH 3/10 - DMI, FDI, PWRGD

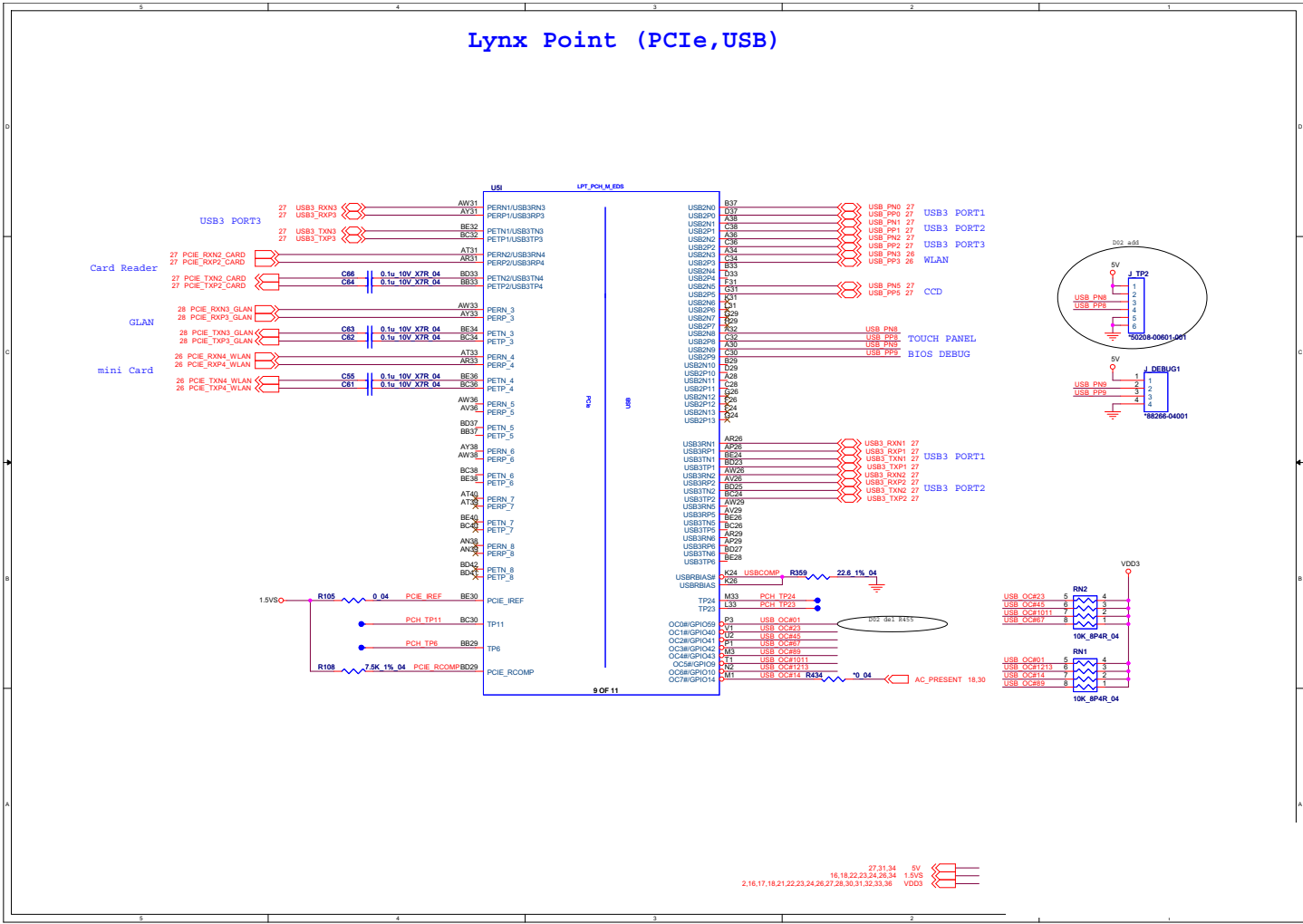
Sheet 17 of 42
PCH 3/10 - DMI, FDI,
PWRGD



Sheet 18 of 42
PCH 4/10 - CRT,
Display, PCI



PCH 5/10 - PCIe, USB



Lynx Point (GPIO, MISC, VSS)

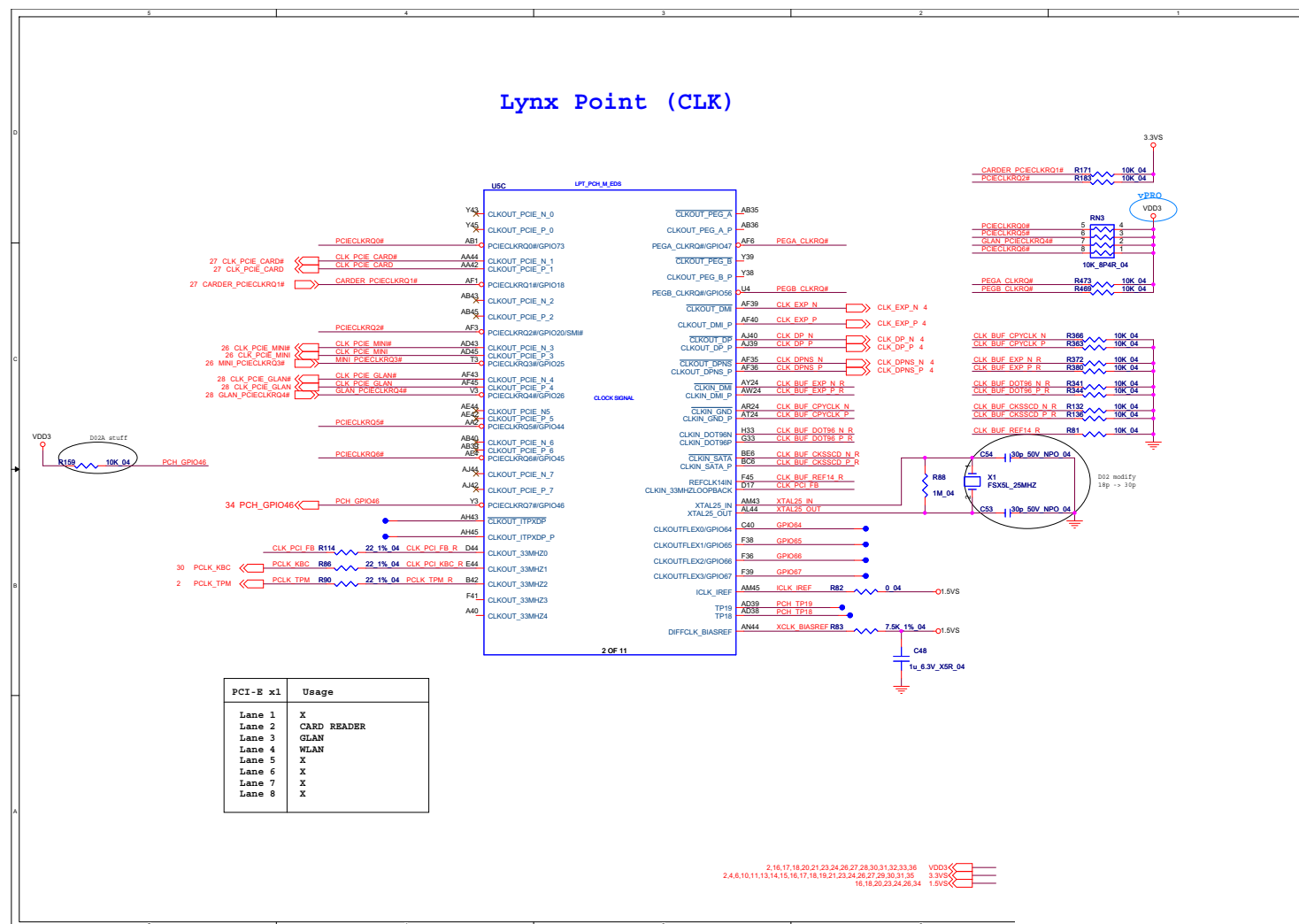
DDR GPIO OUTPUT VOLTAGE SELECT

PCH_GPIO24	PCH_GPIO46	PCH_GPIO08	DDR Vout
0	0	0	1.65V
0	0	1	1.60V
0	1	0	1.55V
0	1	1	1.50V (DEFAULT)
1	0	0	1.50V
1	0	1	1.45V
1	1	0	1.40V
1	1	1	1.35V

PCH 6/10 - GPIO, Misc B - 21

PCH 7/10 - CLK

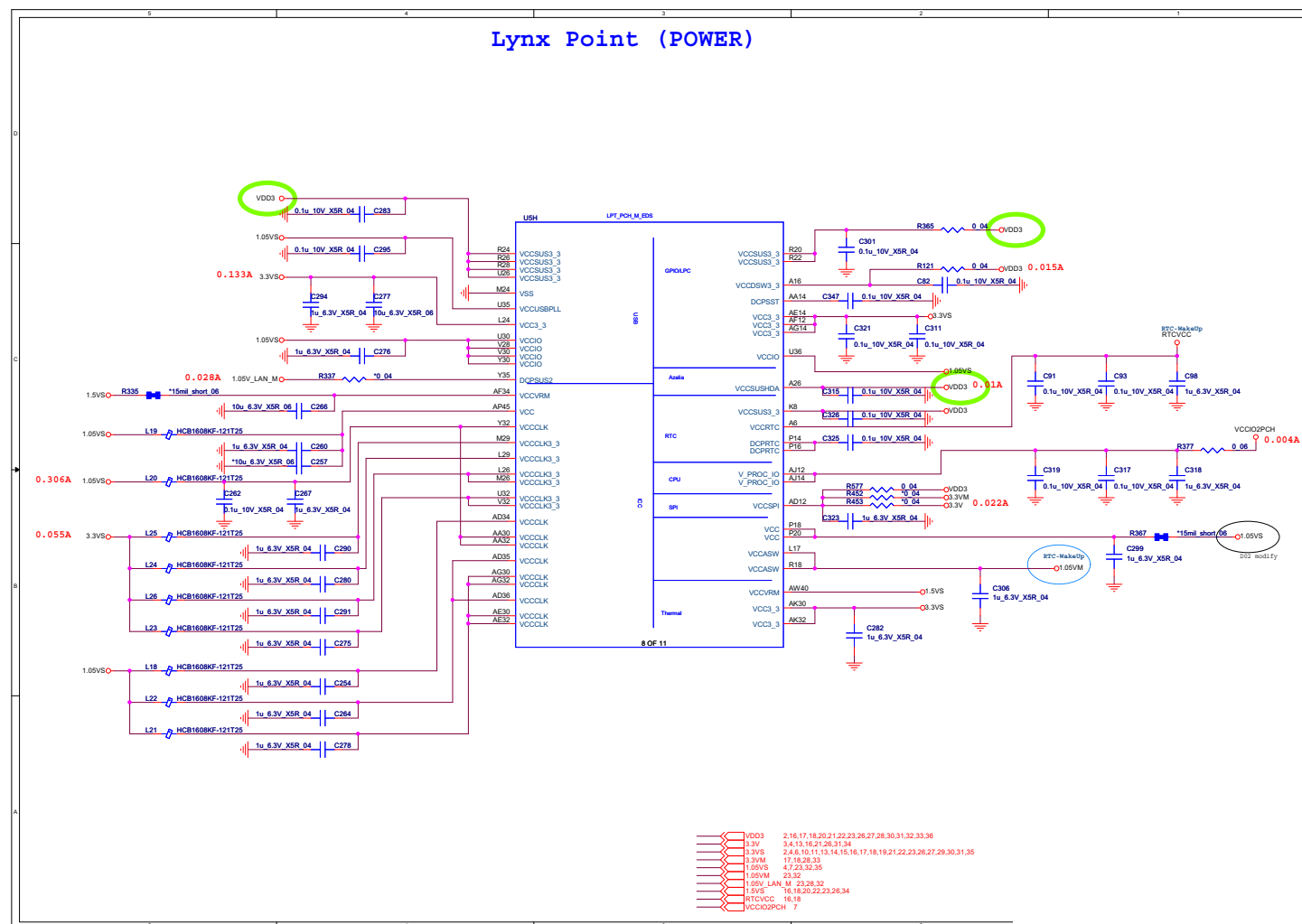
Sheet 21 of 42
PCH 7/10 - CLK



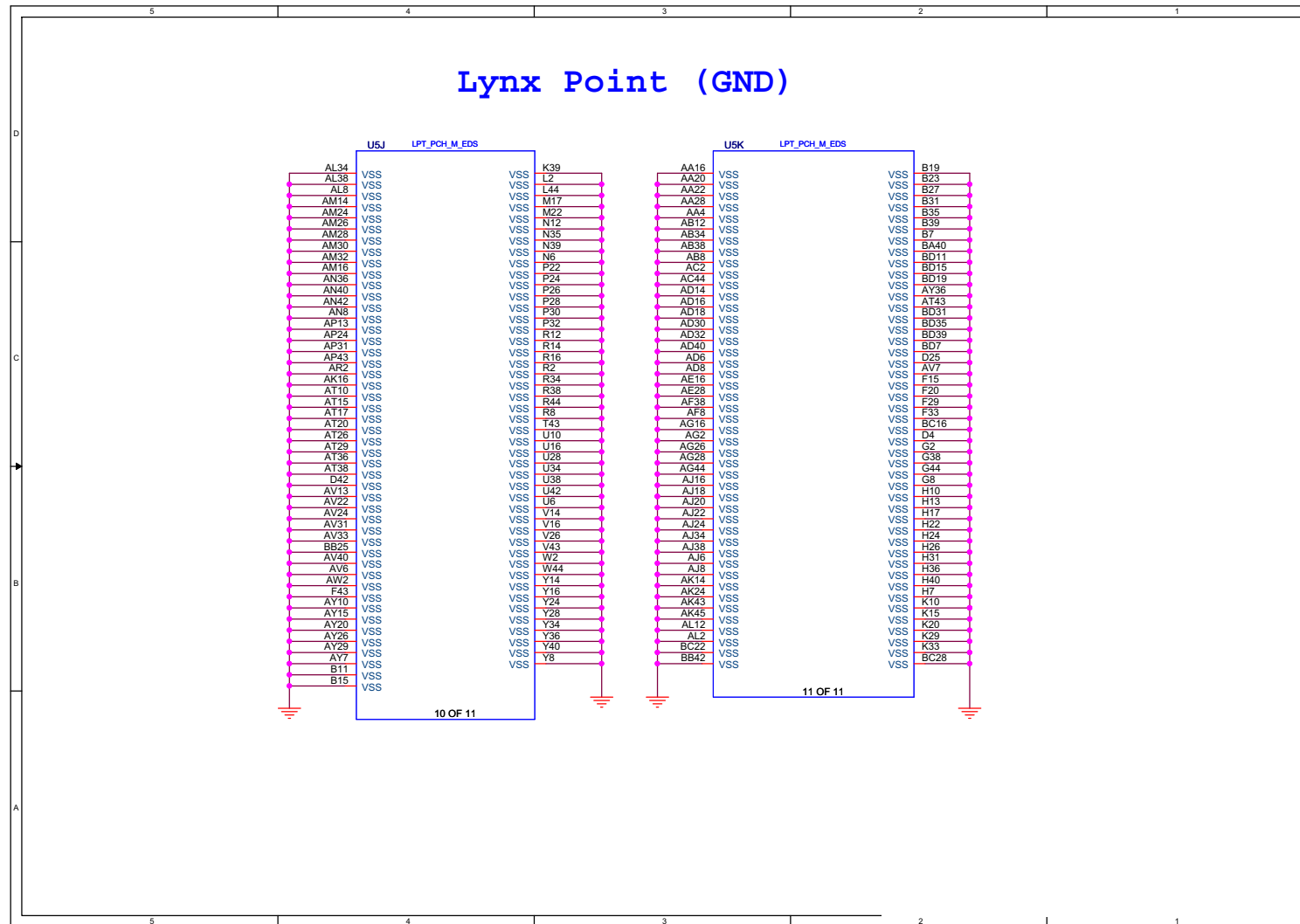
Sheet 22 of 42
PCH 8/10 - POWER

PCH 9/10 - Power

Sheet 23 of 42
PCH 9/10 - Power



PCH 10/10 - GND

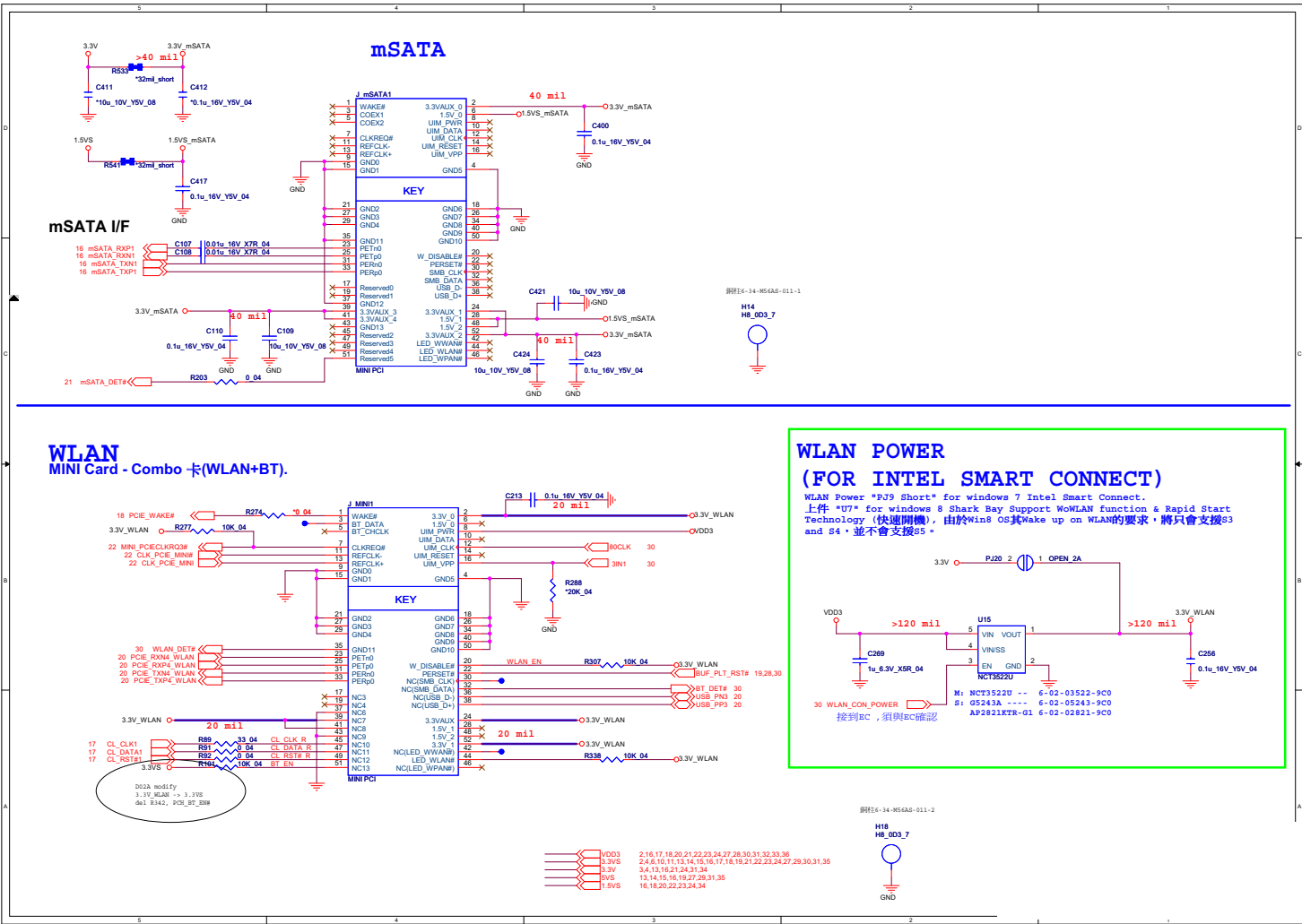


Sheet 24 of 42
PCH 10/10 - GND

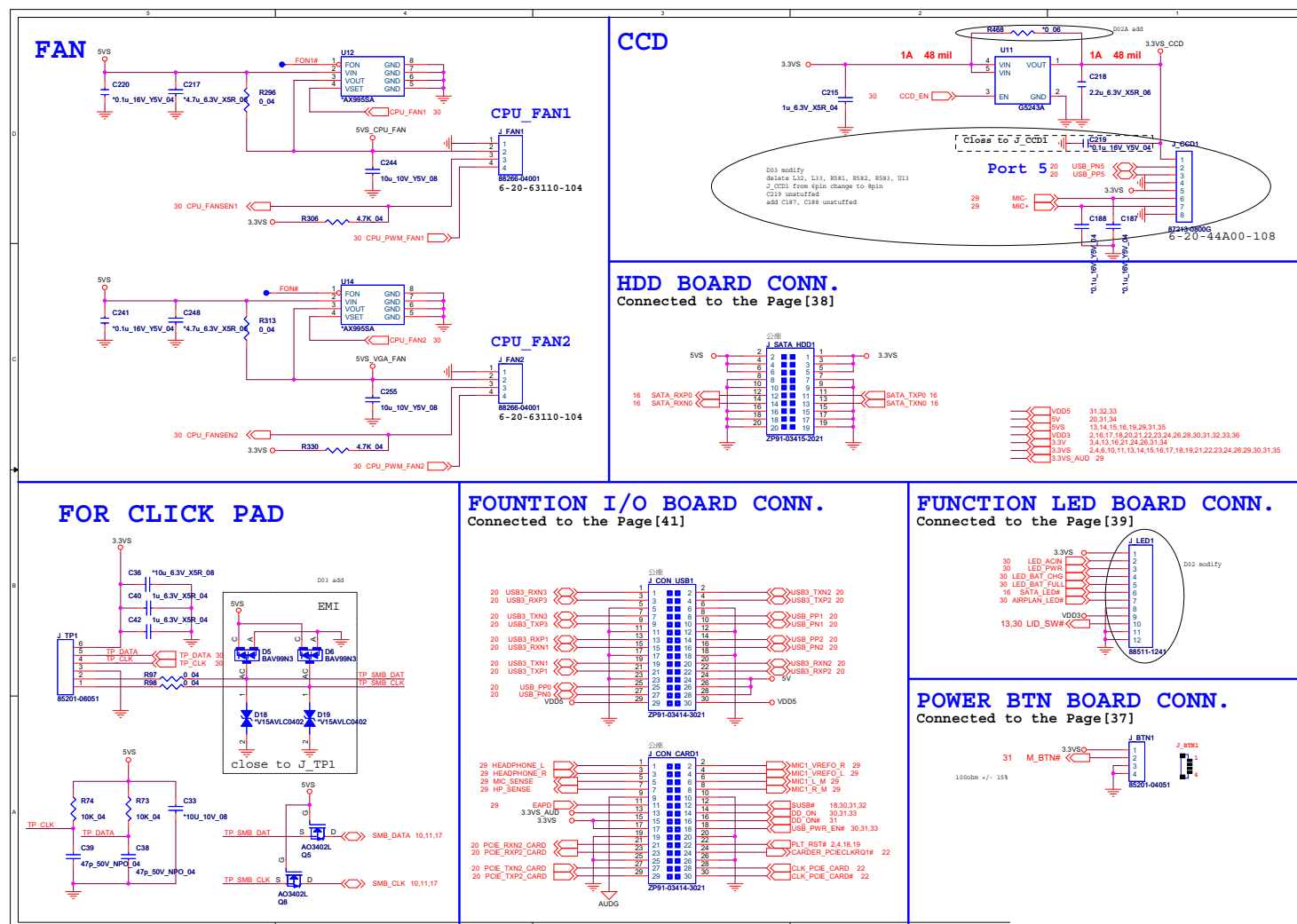
Schematic Diagrams

WLAN, mSATA

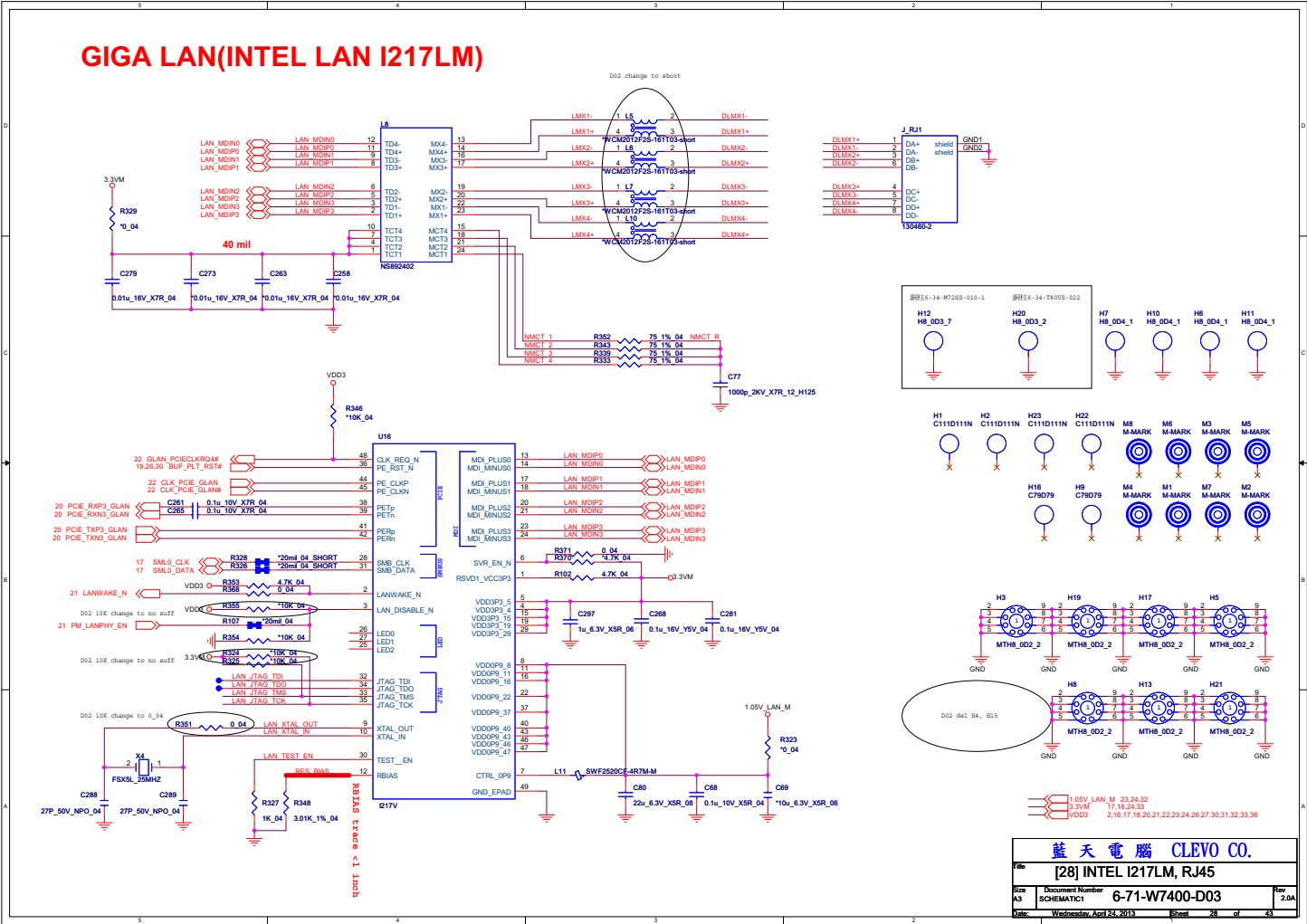
Sheet 25 of 42
WLAN, mSATA



CCD, FAN, CLICK B - 27



LAN, RJ-45



Sheet 27 of 42
LAN, RJ-45

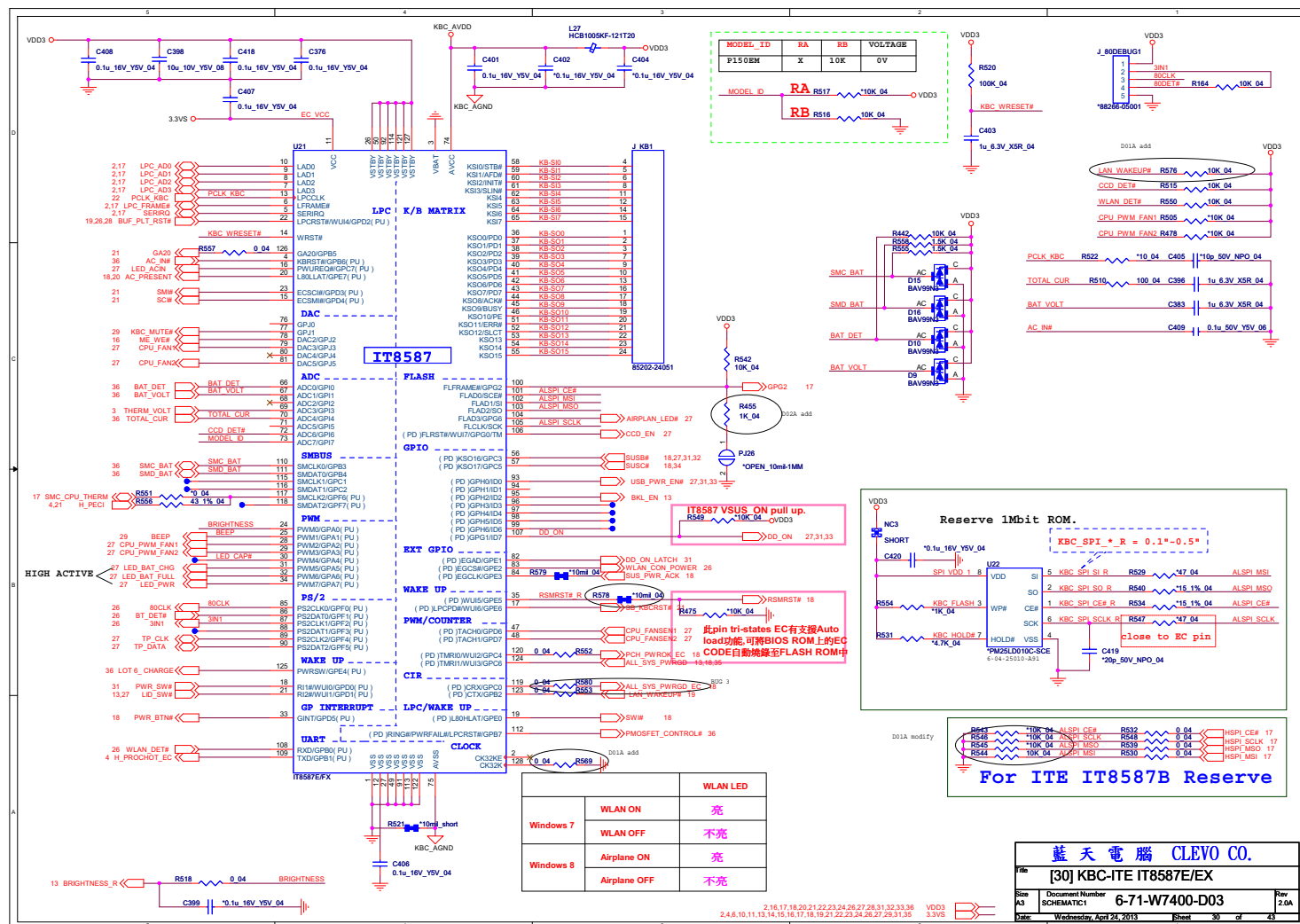
B.Schematic Diagrams

Sheet 28 of 42
VT1802S

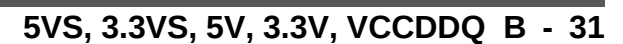


B.Schematic Diagrams

Sheet 29 of 42
KBC-ITE IT8587E

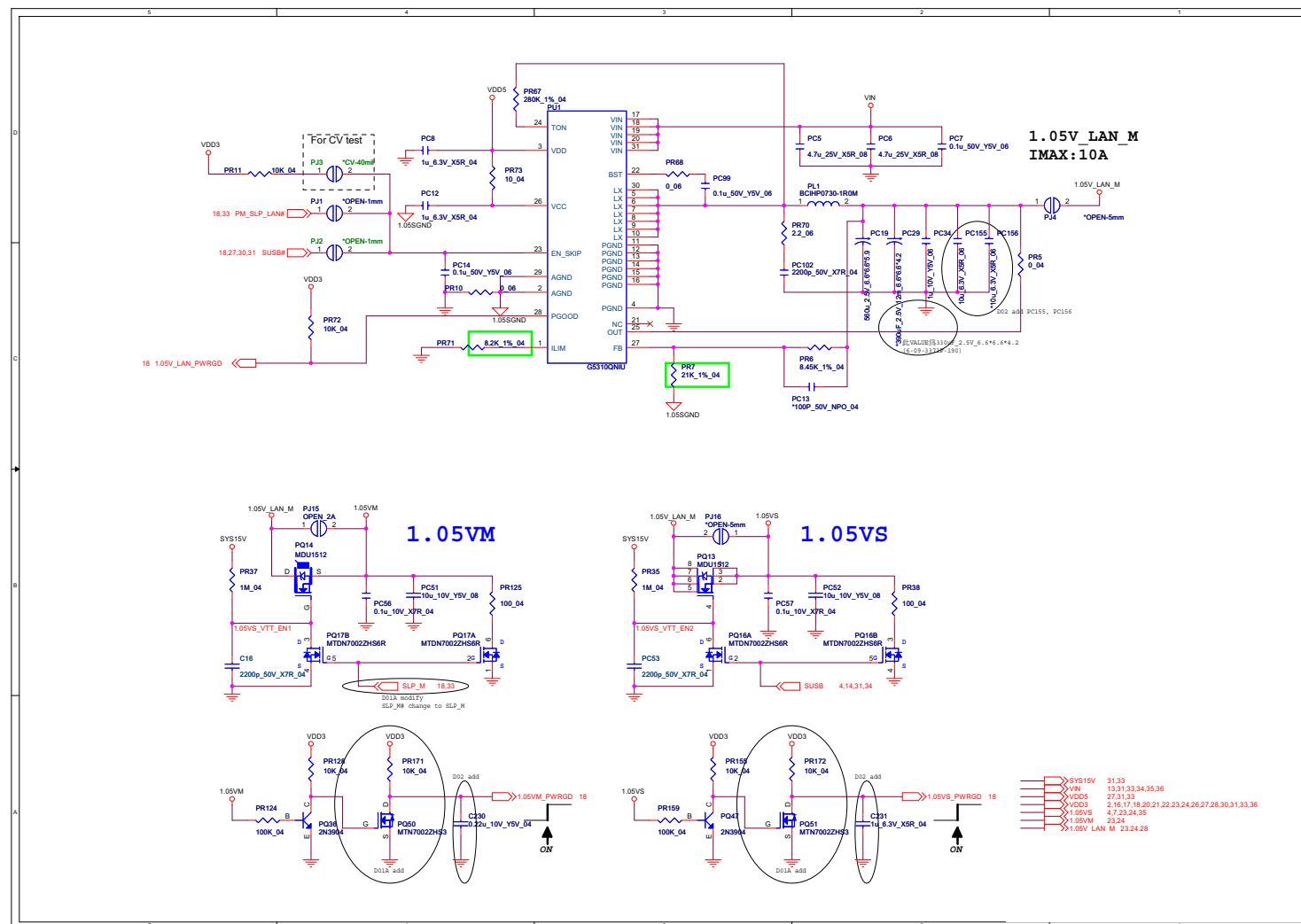


Sheet 30 of 42
5VS, 3.3VS, 5V,
3.3V, VCCDDQ

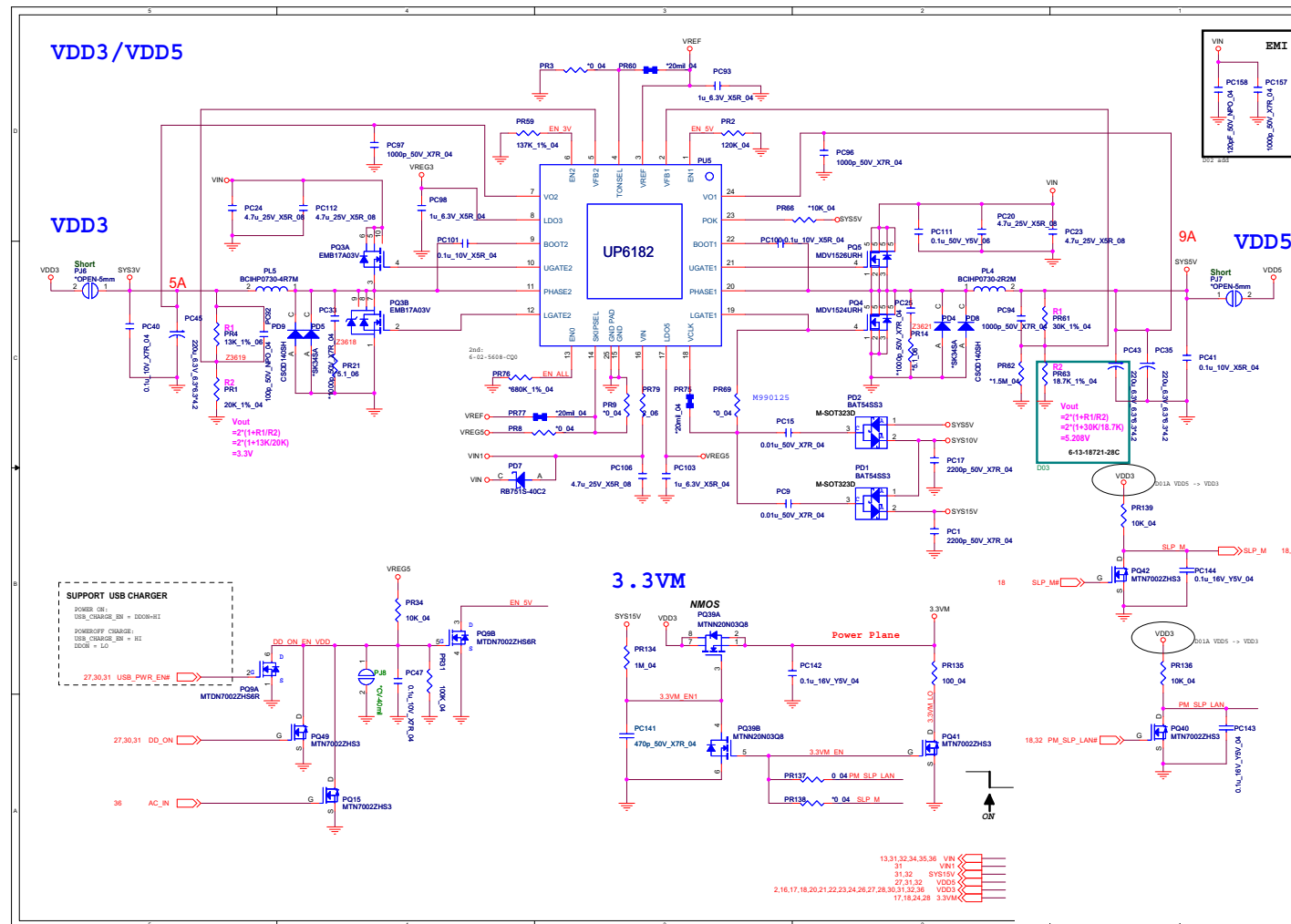


1.05V

Sheet 31 of 42
1.05V

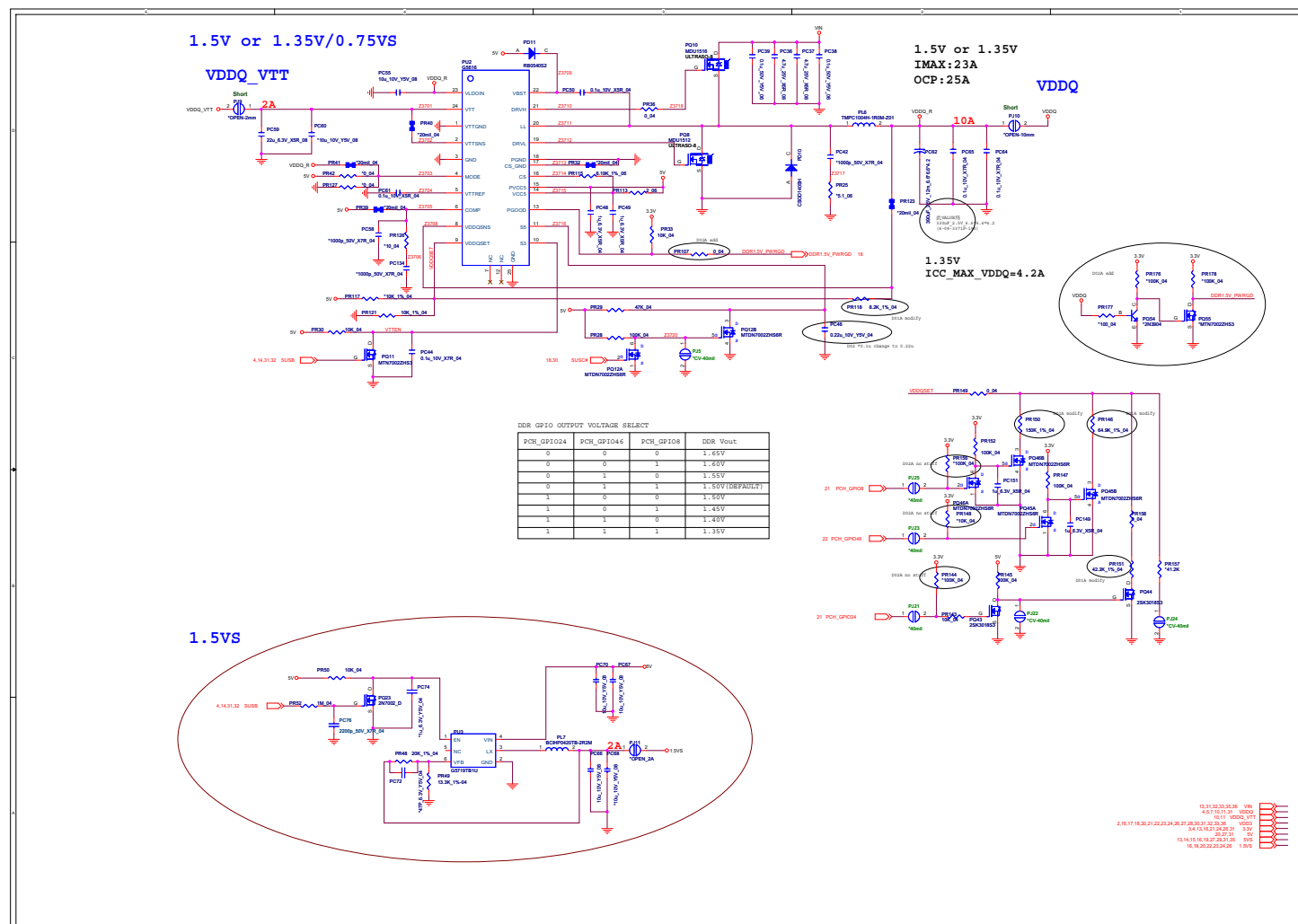


Sheet 32 of 42
VDD3, VDD5, 3.3VM

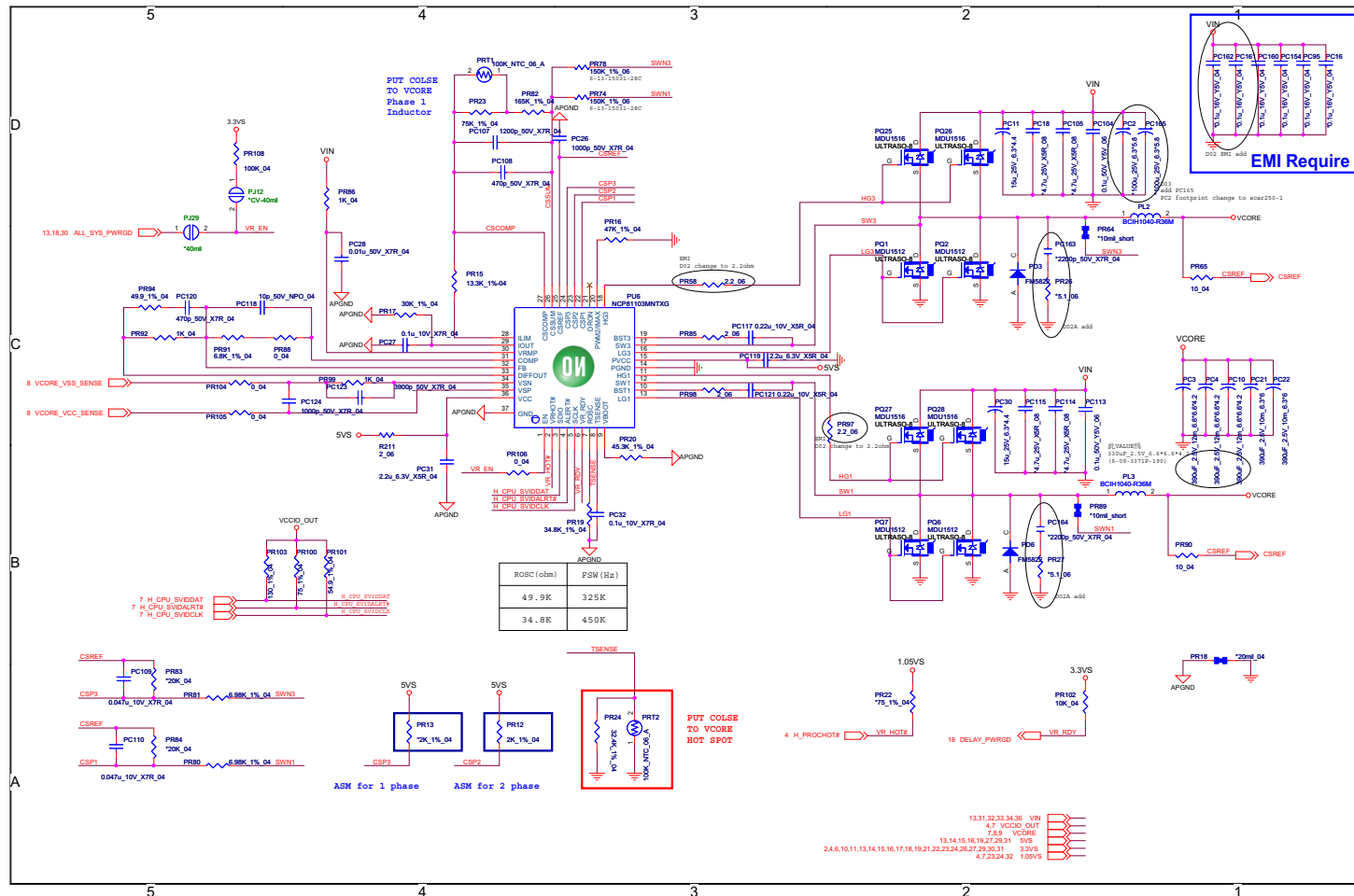


VDDQ, VDDQ_VTT, 1.5VS

Sheet 33 of 42
VDDQ, VDDQ_VTT,
1.5VS

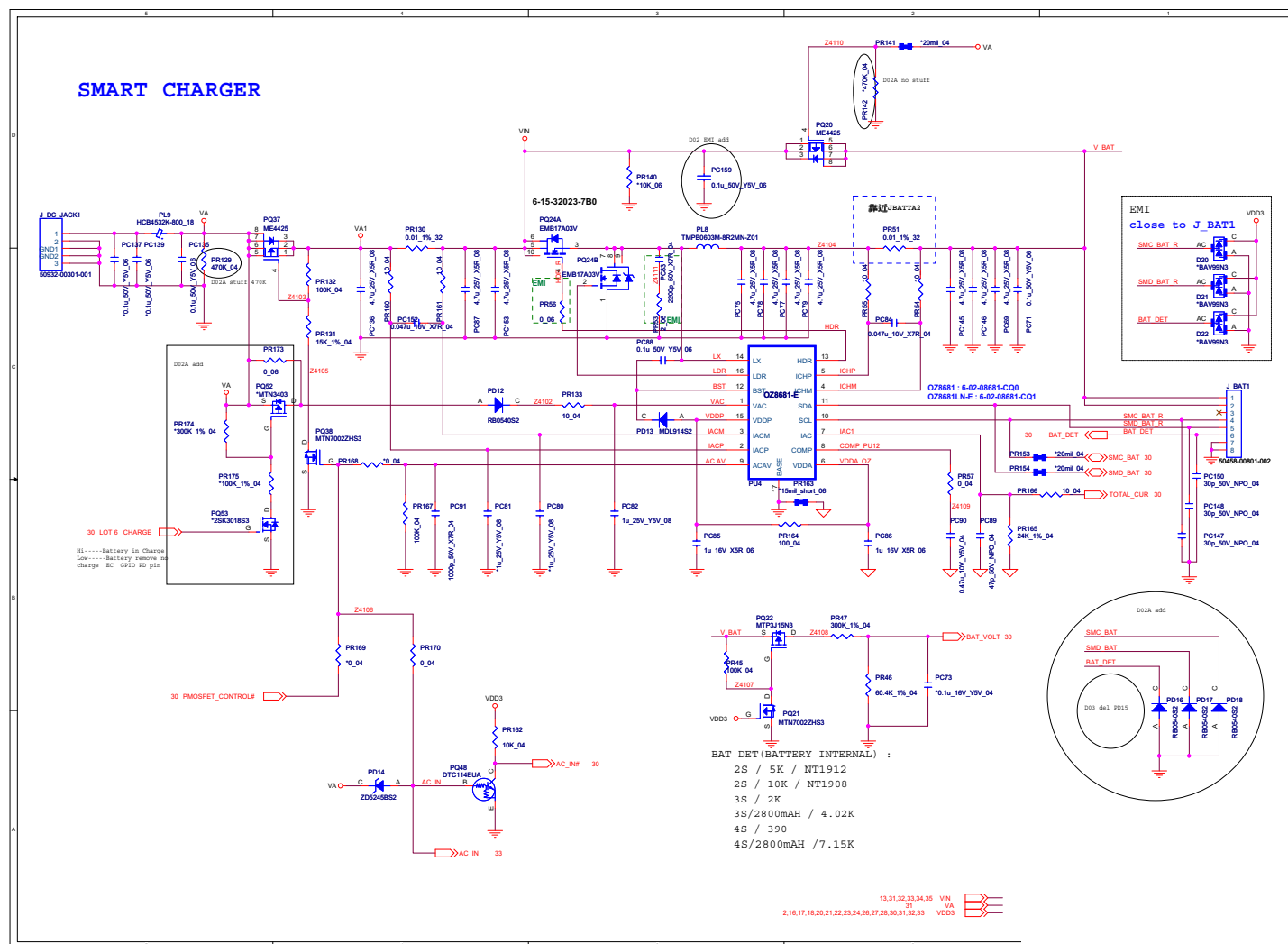


VCORE

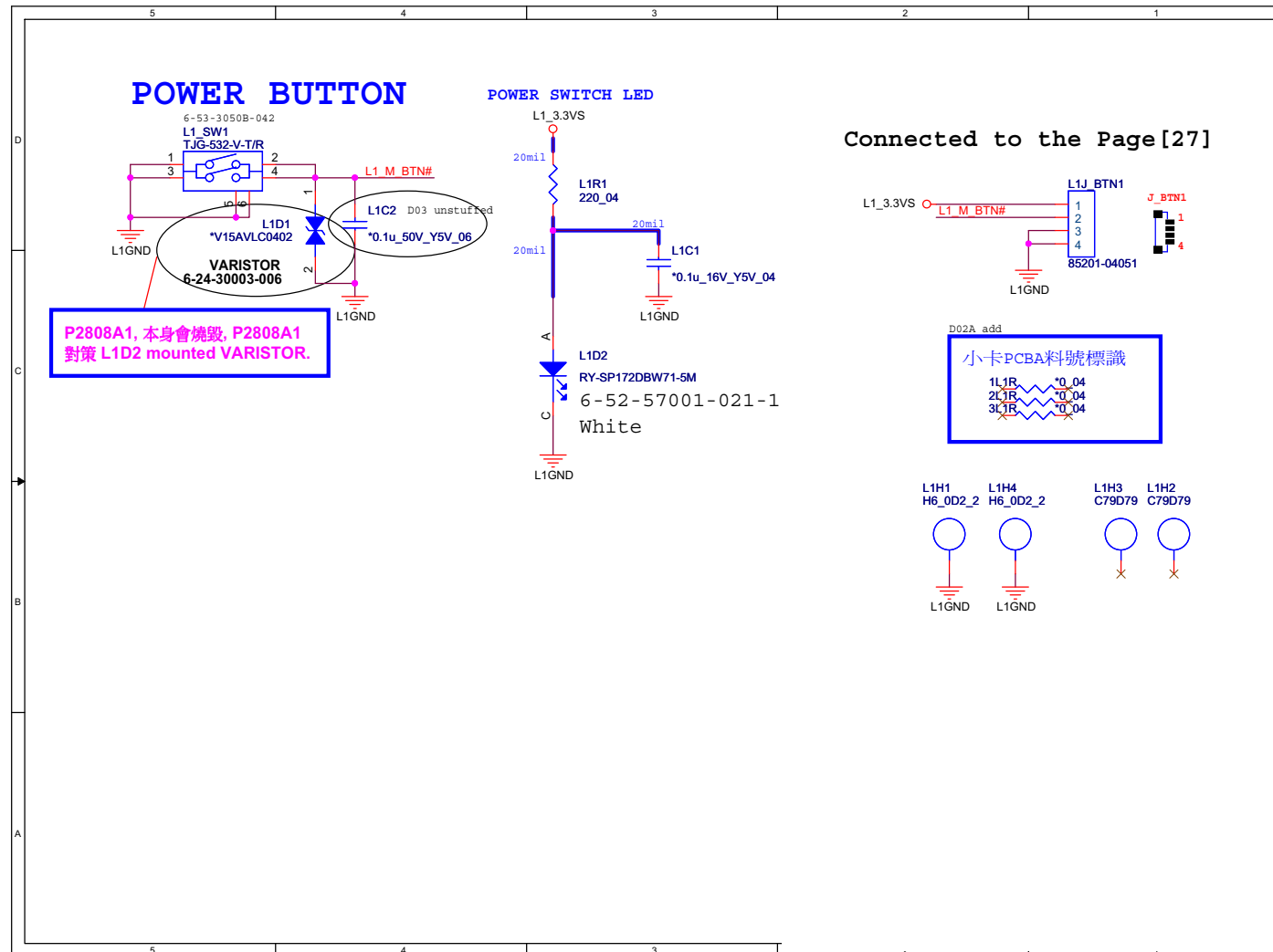
Sheet 34 of 42
VCORE

AC-IN, Charger

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AC-IN, Charger



POWER SWITCH BOARD

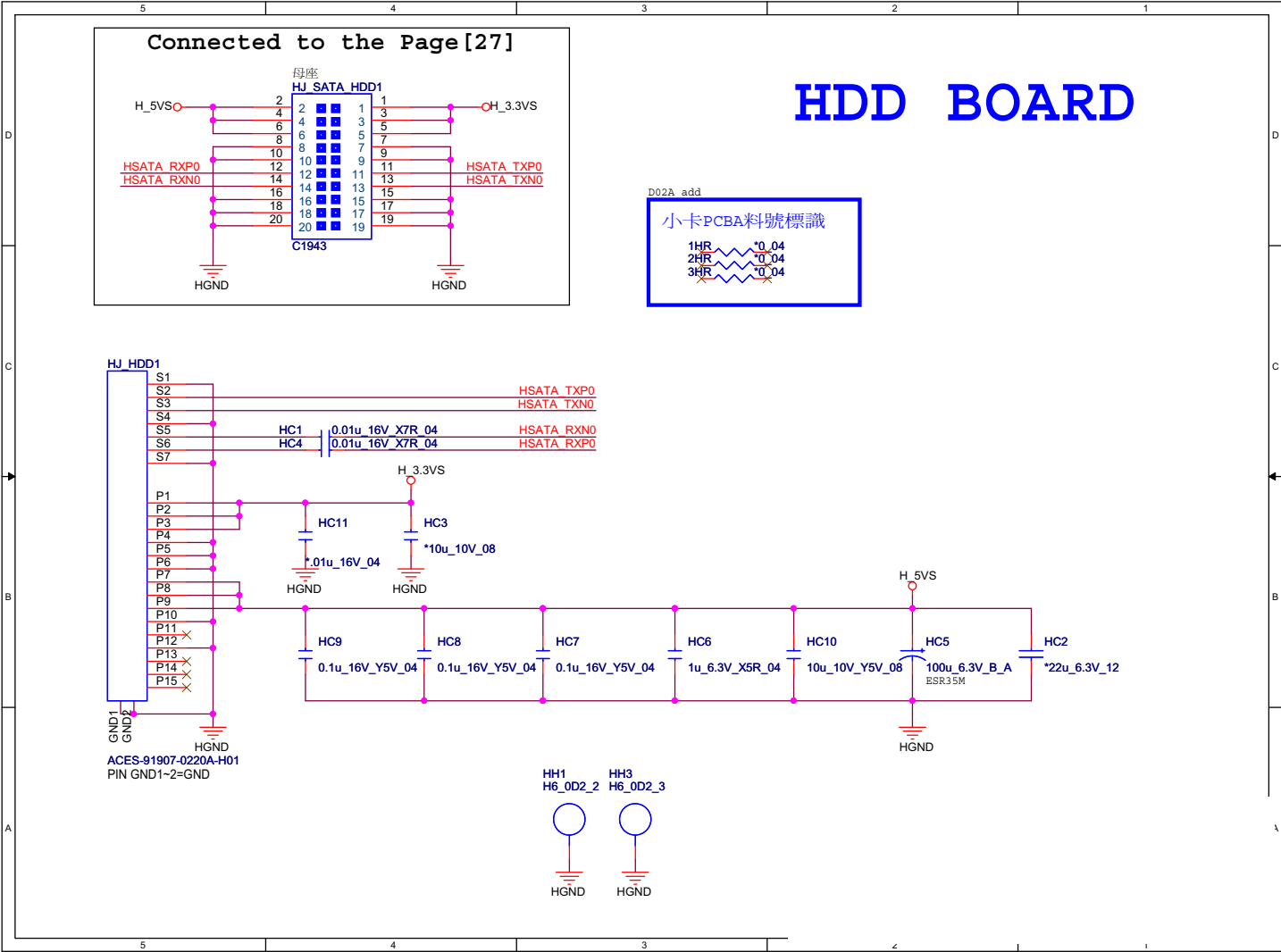


Sheet 36 of 42
POWER SWITCH
BOARD

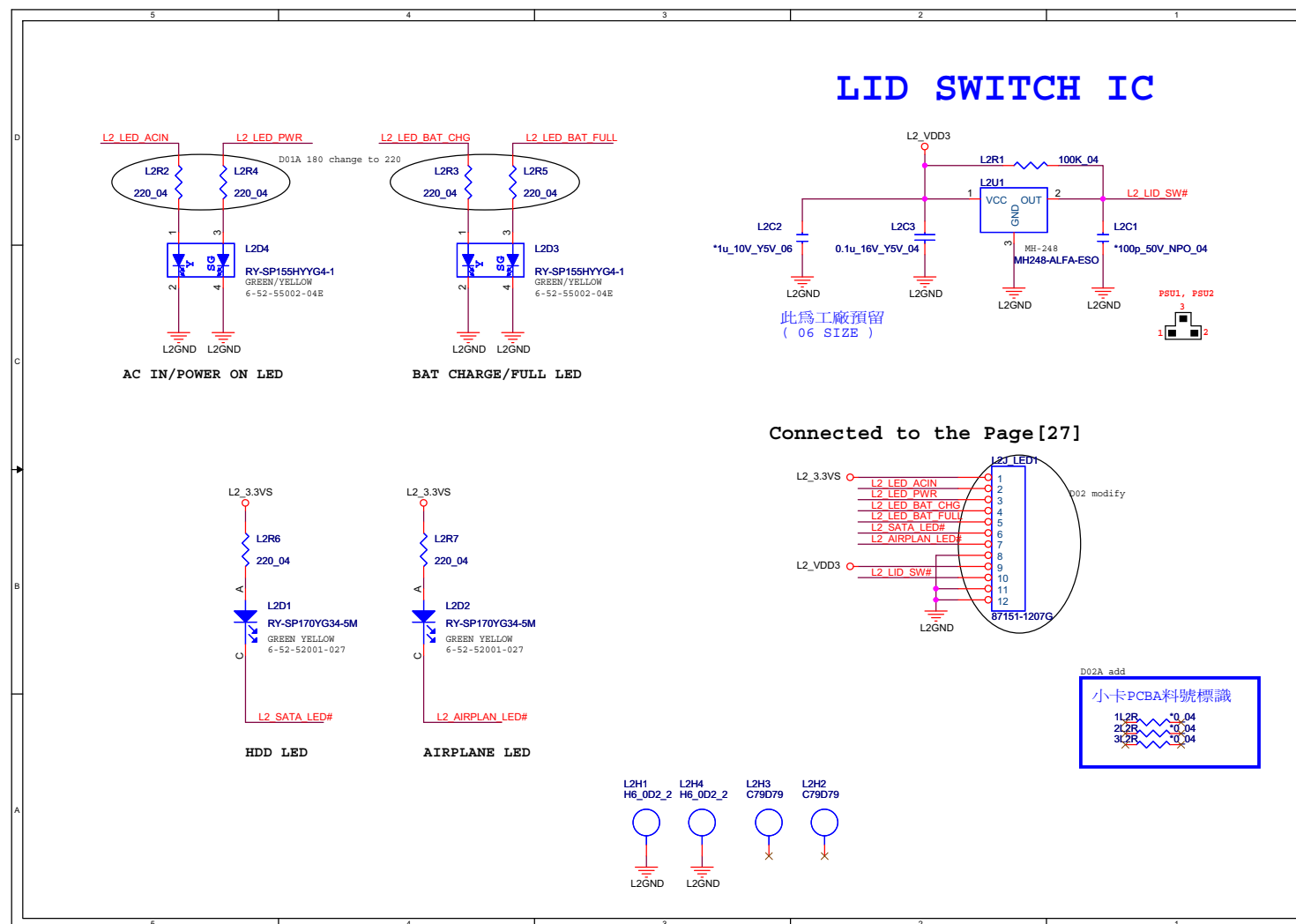
Schematic Diagrams

HDD Board

Sheet 37 of 42
HDD Board



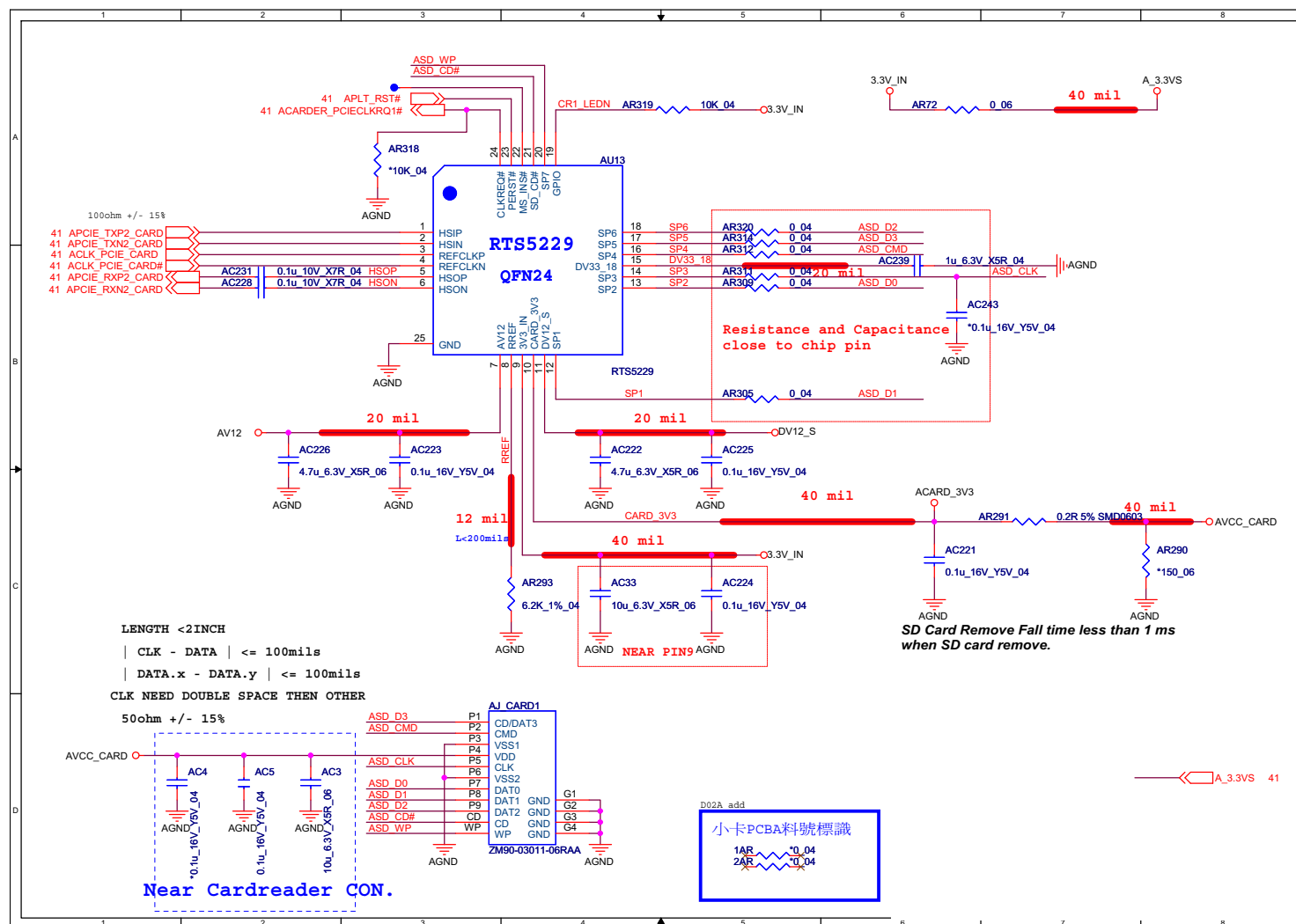
LED Board

Sheet 38 of 42
LED Board

Card Reader

B. Schematic Diagrams

Sheet 39 of 42
Card Reader

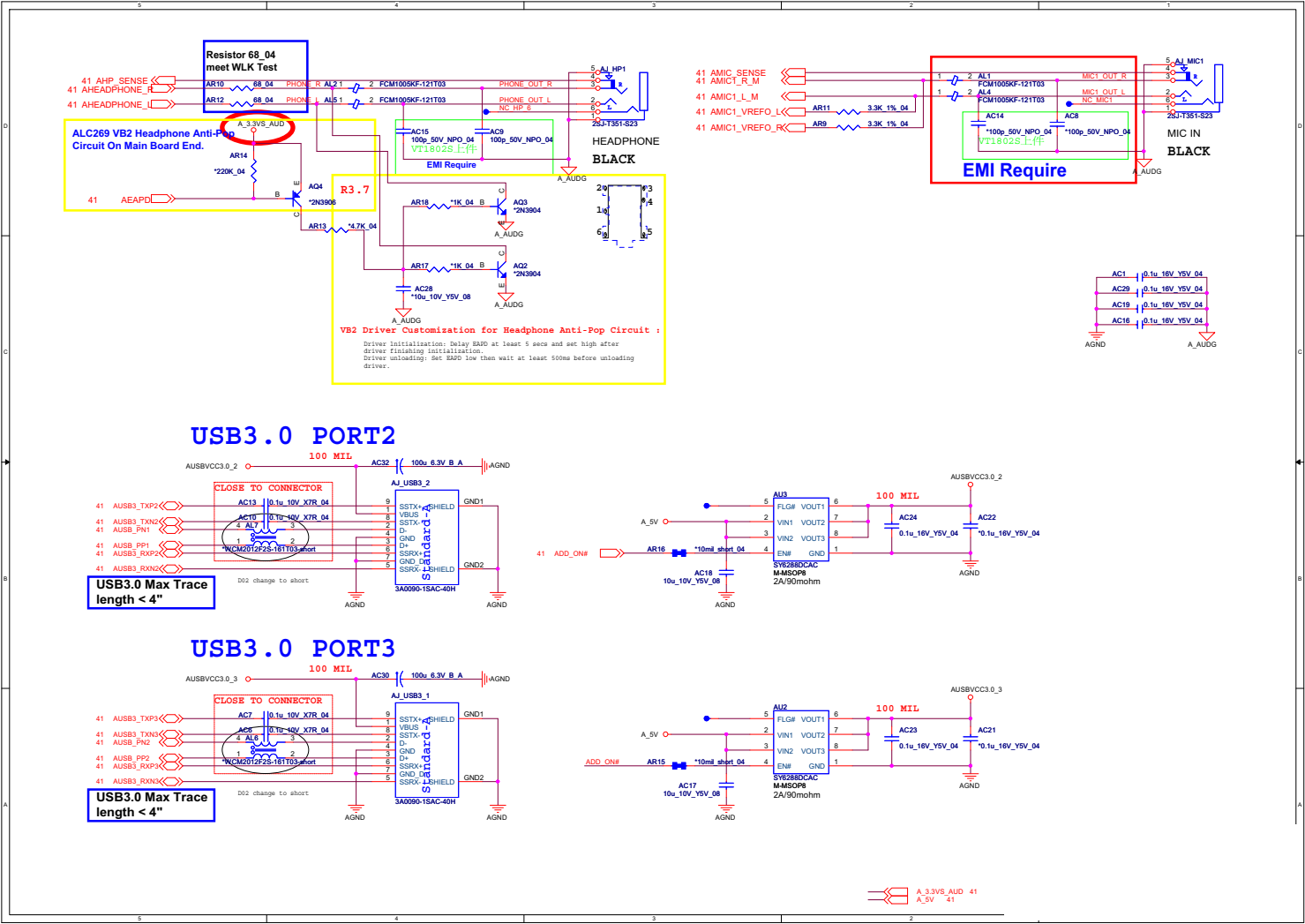


B.Schematic Diagrams

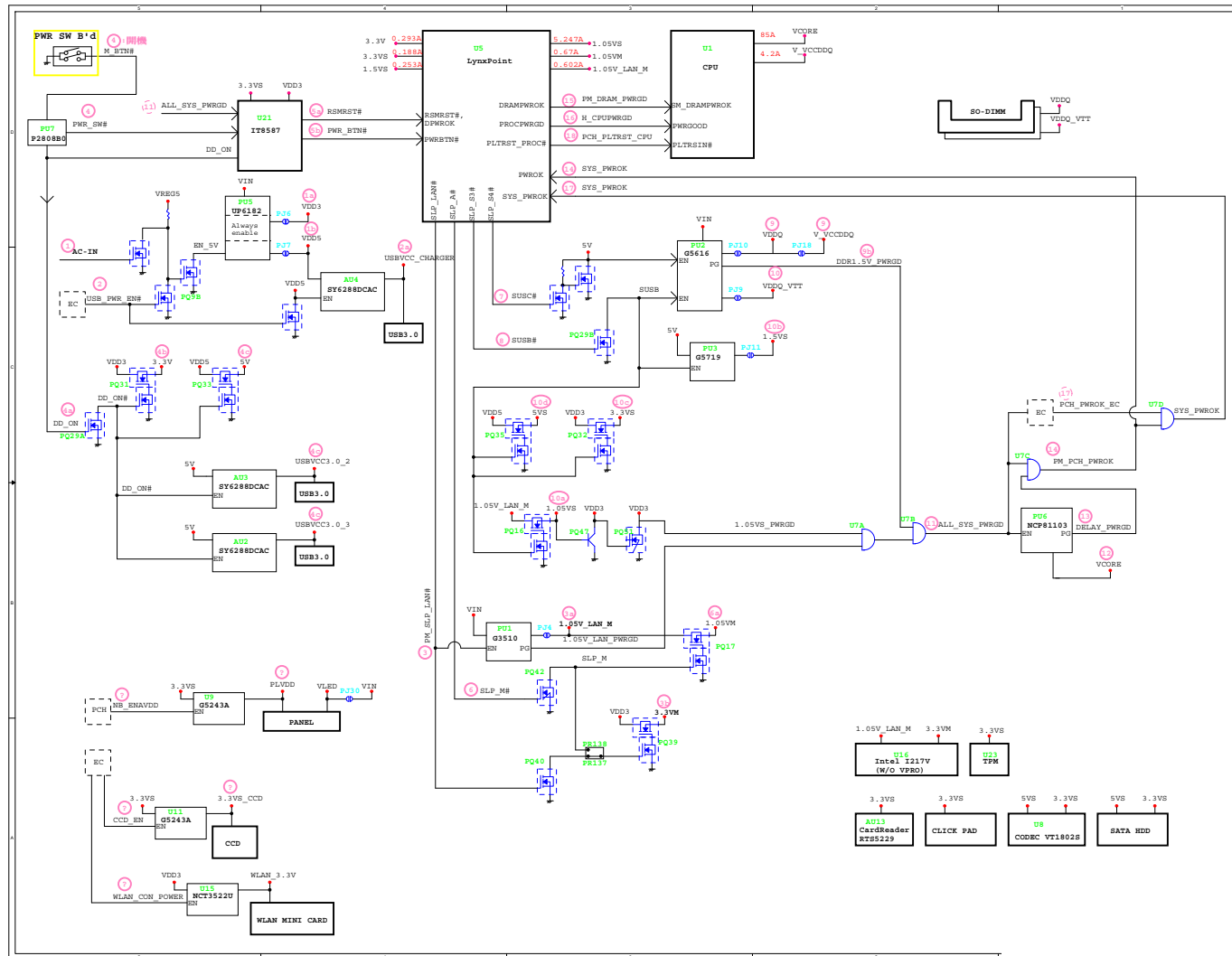
Schematic Diagrams

USB, Audio Board

Sheet 41 of 42
USB, Audio Board



Power Diagram



Sheet 42 of 42
Power Diagram

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 **V1.01.XX or higher** as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore **you may not downgrade your BIOS to an older version** after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

BIOS Update

Use the flash tools to update the BIOS

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

C:\> Flash.bat

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

Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **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.