

SERVICE MANUAL

W310CZ

notebook



Notebook Computer

W310CZ

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 **W310CZ** series notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.
Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Updating the FLASH ROM BIOS

IMPORTANT SAFETY INSTRUCTIONS

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

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

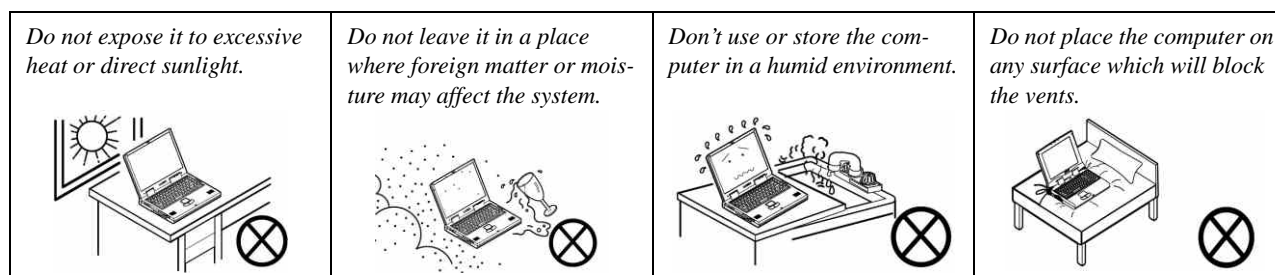
Instructions for Care and Operation

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

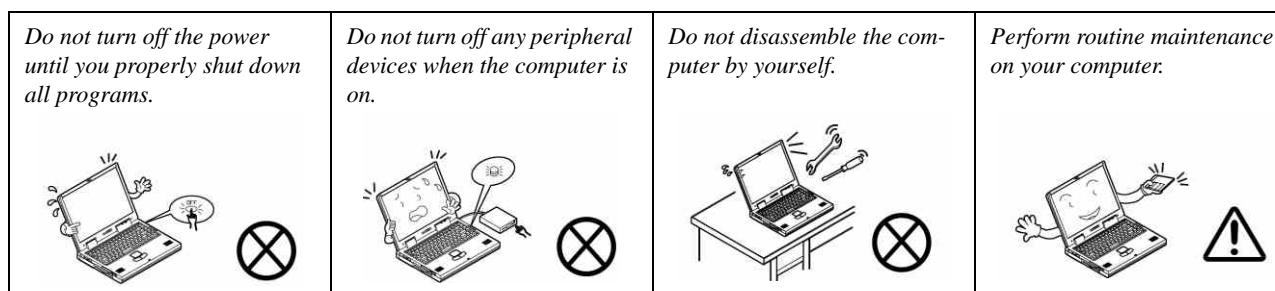
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



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.

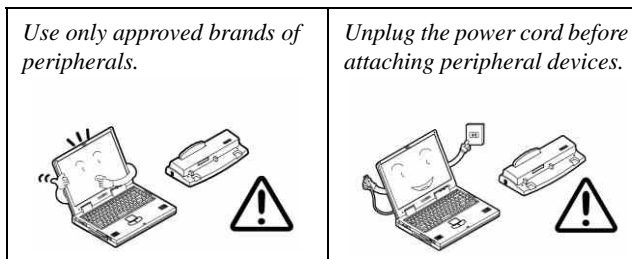


3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



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 Warning

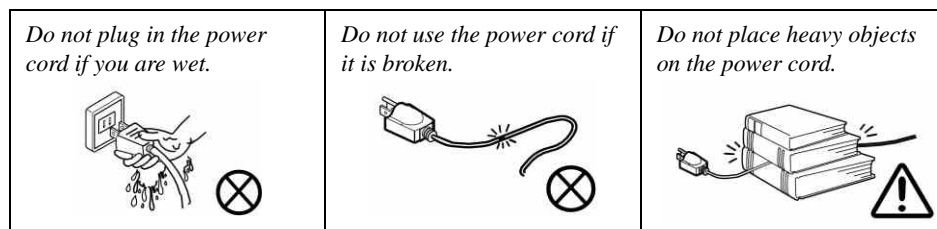
Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines and power cord).

You must also remove your battery in order to prevent accidentally turning the machine on. **Before removing the battery disconnect the AC/DC adapter from the computer.**

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.



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 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.

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.

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. 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.
5. 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).
6. Press the power button to turn the computer “on”.

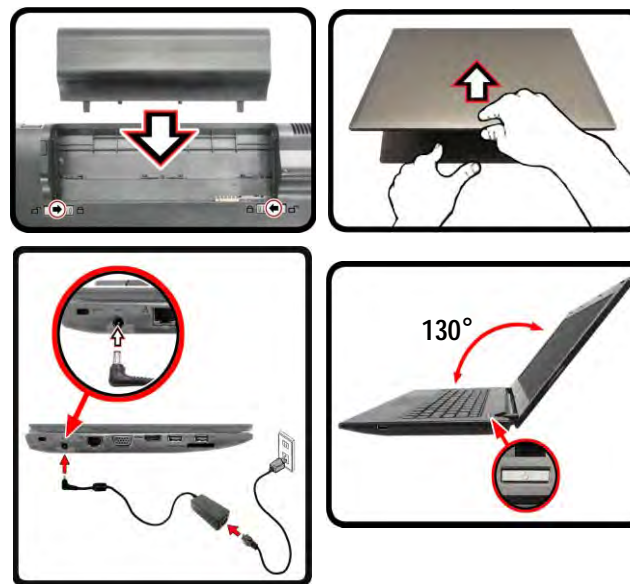


Figure 1
Opening the Lid/LCD/Computer with
AC/DC Adapter Plugged-In



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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the **W310CZ** 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.) has its 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 **W310CZ** 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® Celeron™ Processor

847 (1.10GHz)

2MB L3 Cache, **32nm**, DDR3-1333MHz, TDP 17W

1007U (1.50GHz), 1017U (1.60GHz), 1037U (1.80GHz)

2MB L3 Cache, **22nm**, DDR3-1600MHz, TDP 17W

Core Logic

Intel® NM70 Chipset

BIOS

48Mb SPI Flash ROM

AMI BIOS

Memory

One 204 Pin SO-DIMM Socket Supporting **DDR3 1333/**

1600MHz Memory

Memory Expandable up to 8GB

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

LCD

11.6" (19.46cm) HD LCD

Storage

One Changeable 2.5" 9.5mm (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 2.0 Ports

One HDMI-Out Port

One External Monitor Port

One Headphone-Out Jack

One Microphone-In Jack

One RJ-45 LAN Jack

One DC-in Jack

Mini Card Slot

One Slot for **WLAN** Module or **WLAN and Bluetooth** Combo Module

(**Factory Option**) Slot 2 for **3G** Module

Video Adapter

Intel HD Graphics

(*GPU is Dependent on Processor*)

Intel HD Graphics (847 Processor)

Dynamic Frequency (Intel Dynamic Video Memory Technology for up to **1.7GB**)

Microsoft DirectX® 10.1 Compatible

Intel HD Graphics (1007U/1017U/1037U Processor)

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

MS (Memory Stick) / MS Pro / MS Duo

Communication

Built-In 10/100Mb Ethernet LAN

(Factory Option) 1M HD PC Camera Module/300K Pixels
PC Camera Module

(Factory Option) 3G Mini-Card Module

WLAN/ Bluetooth Half Mini-Card Modules:

(Factory Option) Intel® Centrino® Wireless-N 105 Wire-
less LAN (802.11b/g/n)

(Factory Option) Intel® Centrino® Wireless-N 135 Wire-
less LAN (802.11b/g/n) + Bluetooth 4.0

(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, 2.1A (40W)

(Factory Option) 4 Cell Smart Lithium-Ion Battery Pack,
32.56WH

(Factory Option) 4 Cell Smart Lithium-Ion Battery Pack,
41.44WH

Dimensions & Weight

287mm (w) * 207mm (d) * 13.9 - 25.9mm (h)

(Height Excluding Battery Area)

1.6kg (with Battery)

Introduction

Figure 1
Top View

External Locator - Top View with LCD Panel Open

1. PC Camera
(Optional)
2. Built-In Microphone
3. *PC Camera LED
(**1M HD Camera Only**)
**When the PC camera is in use, the LED will be illuminated in red*
4. LCD
5. Power Button
6. Keyboard
7. Touchpad & Buttons



External Locator - Front & Right Side Views

FRONT VIEW



RIGHT SIDE VIEW

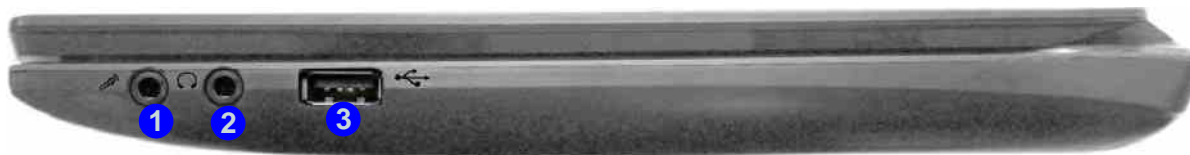


Figure 2
Front View

1. LED Indicators

Figure 3
Right Side View

1. Microphone-In Jack
2. Headphone-Out Jack
3. USB 2.0 Port

Introduction

External Locator - Left Side & Rear View

Figure 4
Left Side View

1. Security Lock Slot
2. DC-In Jack
3. RJ-45 LAN Jack
4. External Monitor Port
5. HDMI-Out Port
6. USB Ports
7. Multi-in-1 Card Reader

LEFT SIDE VIEW



Figure 5
Rear View

1. Battery
2. Vent/Fan Intake

REAR VIEW



External Locator - Bottom View

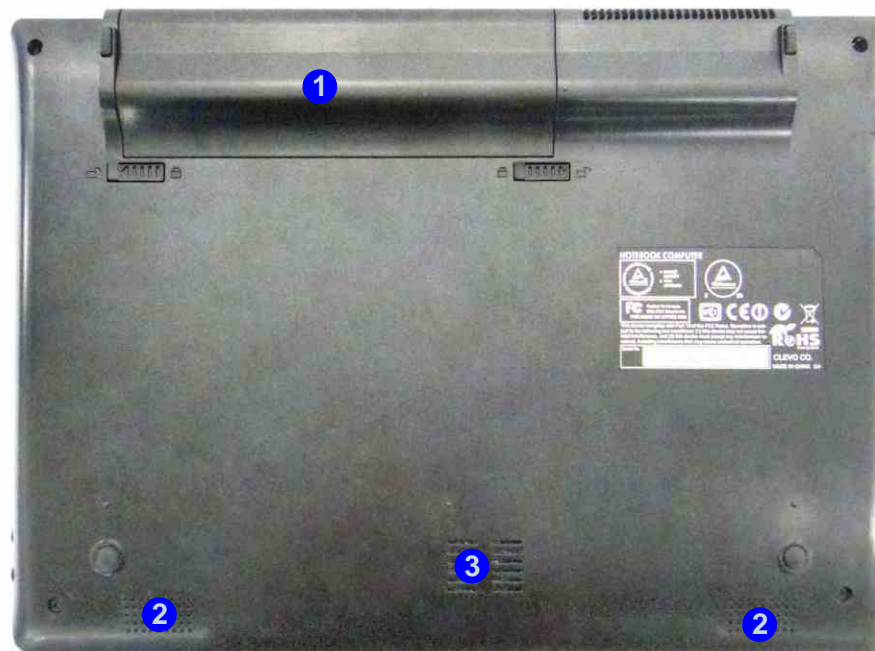


Figure 6
Bottom View

1. Battery
2. Speakers
3. Fan Intake/Vent



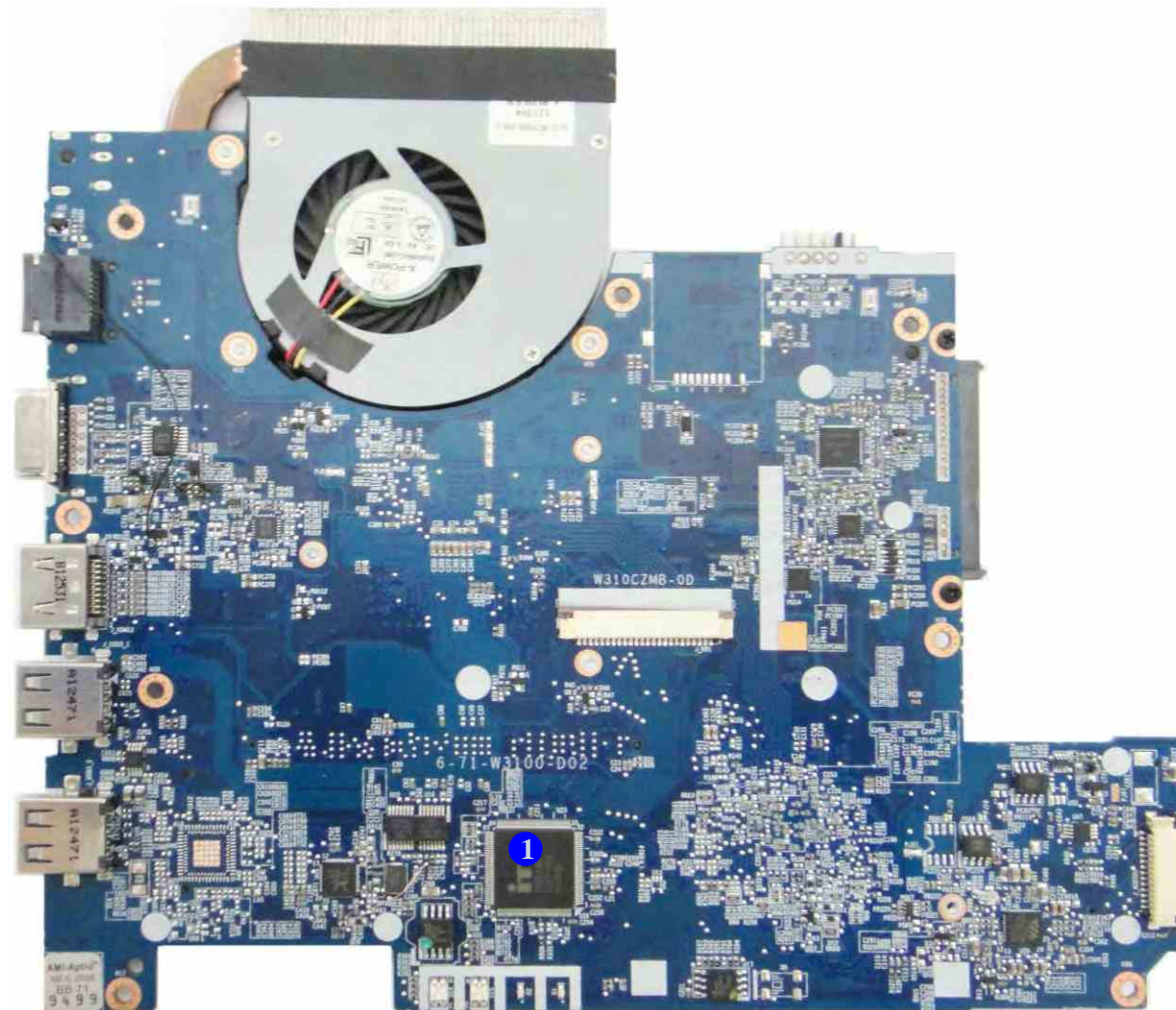
Overheating

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

Figure 7
Mainboard Top
Key Parts

1. KBC ITE IT8518

Mainboard Overview - Top (Key Parts)



Mainboard Overview - Bottom (Key Parts)



Figure 8
**Mainboard Bottom
Key Parts**

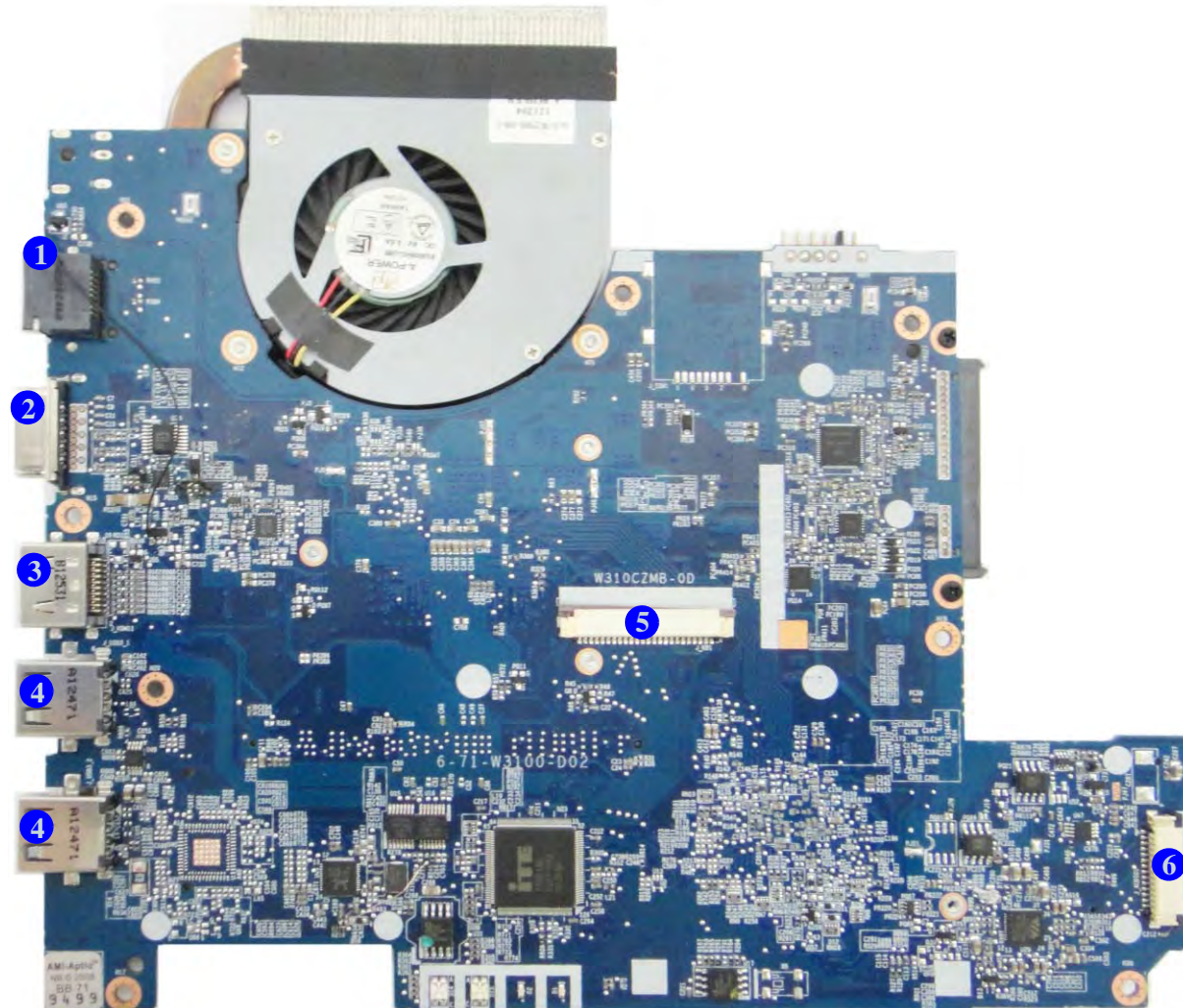
1. HDD Connector
2. Mini-Card Connector (3G/ mSATA module)
3. Mini-Card Connector (WLAN Module)
4. Intel PCH
5. CPU
6. Memory Slot DDR3 SO-DIMM
7. Card Reader Socket

Introduction

Figure 9
**Mainboard Top
Connectors**

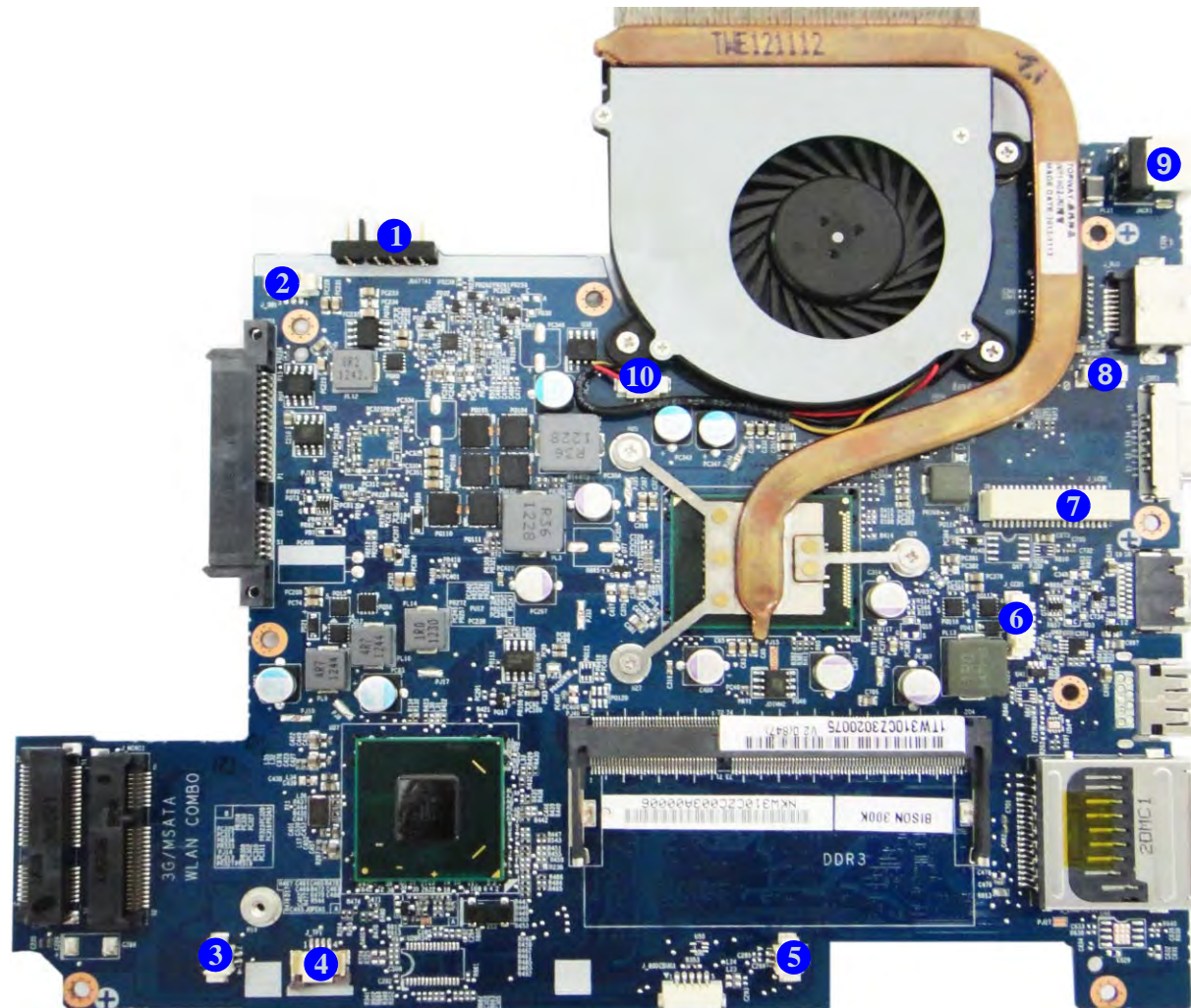
1. RJ-45 Lan Port
2. External Monitor Port
3. HDMI-Out Port
4. USB Port
5. Keyboard Cable Connector
6. Audio Cable Connector

Mainboard Overview - Top (Connectors)



Mainboard Overview - Bottom (Connectors)

Figure 10
**Mainboard Bottom
Connectors**



1. Battery Connector
2. Power Switch Connector
3. RTC Battery Connector
4. Touchpad Connector
5. Speaker Cable Connector
6. CCD Cable Connector
7. LVDS Cable Connector
8. Int. Microphone Connector
9. DC-In Jack
10. Fan Cable Connector


Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the **W310CZ** 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). 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 Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 6*

To remove the HDD:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 6*
3. Remove the HDD *page 2 - 7*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 6*
3. Remove the system memory *page 2 - 10*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 6*
3. Remove the wireless LAN *page 2 - 12*

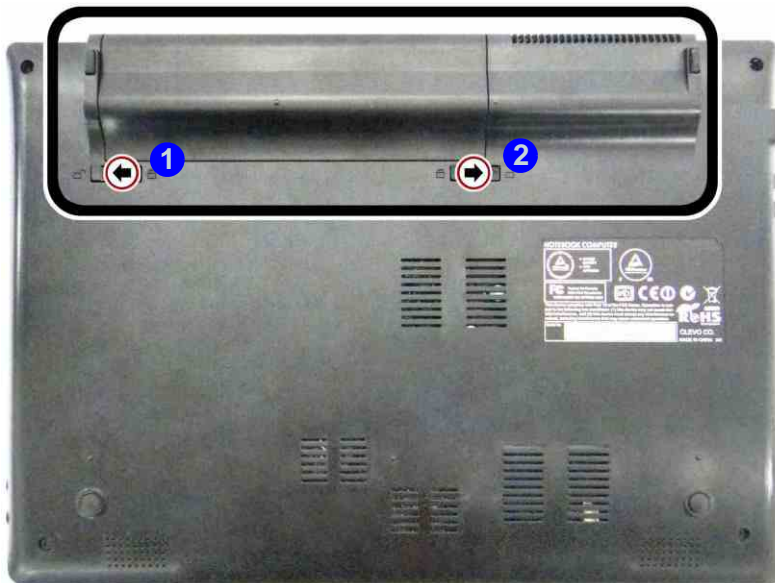
To remove the CCD:

1. Remove the battery *page 2 - 5*
2. Remove the CCD *page 2 - 13*

Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Slide the latch **1** in the direction of the arrow (*Figure 1a*).
3. Slide the latch **2** in the direction of the arrow, and hold it in place (*Figure 1a*).
4. Slide the battery **3** in the direction of the arrow **4** (*Figure 1b*).

a.



b.

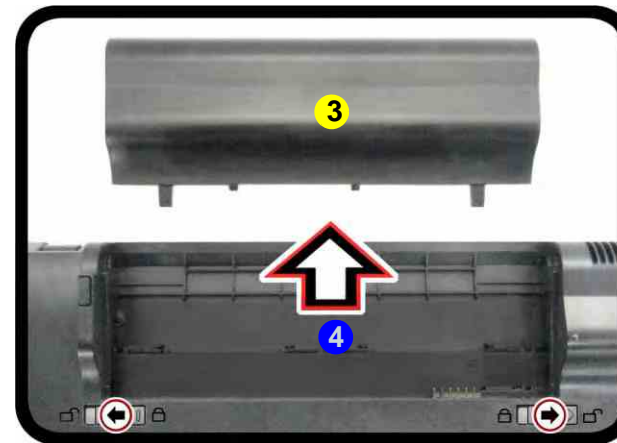
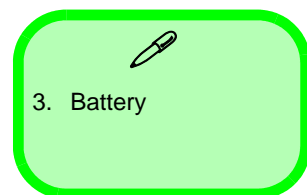


Figure 1
Battery Removal

- a. Slide the latch and hold in place.
- b. Slide the battery in the direction of the arrow.



Disassembly

Figure 2
Keyboard Removal

- Press the four latches to release the keyboard.
- Lift the keyboard up and disconnect the cable from the locking collar.
- Remove the keyboard.
- Remove screws to release bottom case.



Re-Inserting the Keyboard

When re-inserting the keyboard, align first the **three** keyboard tabs (Figure 2e) that are located at the bottom, to the slots in the case.

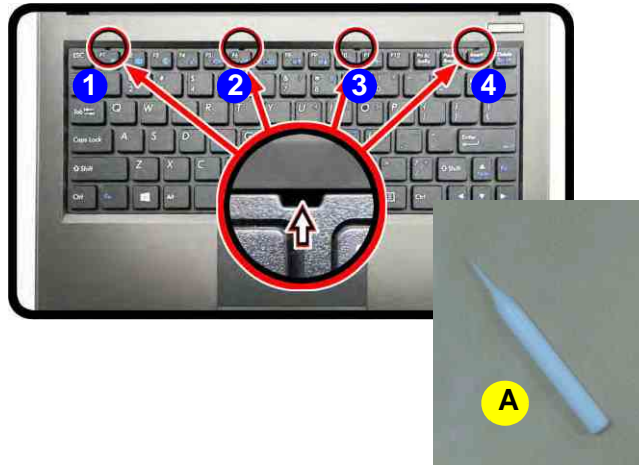


5. Keyboard

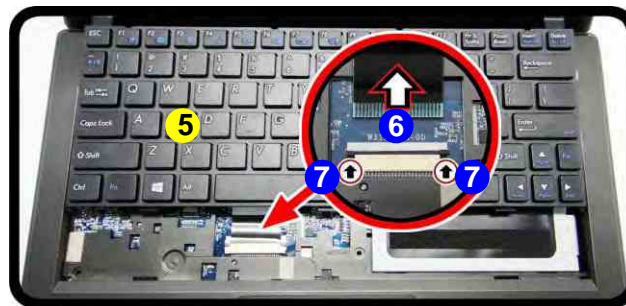
Removing the Keyboard

- Turn **off** the computer and remove the battery (page 2 - 5).
- Use **only** the small tool **A** provided (see picture below) to carefully press the **four** keyboard latches **1** - **4** at the top of the keyboard to elevate the keyboard from its normal position (Figure 2a).
- Carefully lift the keyboard **5** up, being careful not to bend the keyboard ribbon cable **6** (Figure 2b).
- Disconnect the keyboard ribbon cable **6** from the locking collar socket **7** (Figure 2b).
- Carefully lift up the keyboard **5** (Figure 2c) off the computer.
- Remove screws **8** - **11** to release the bottom case (Figure 2d).

a.



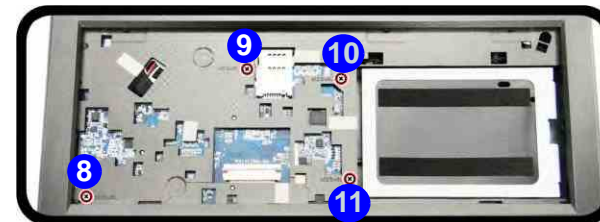
b.



c.



d.



e.



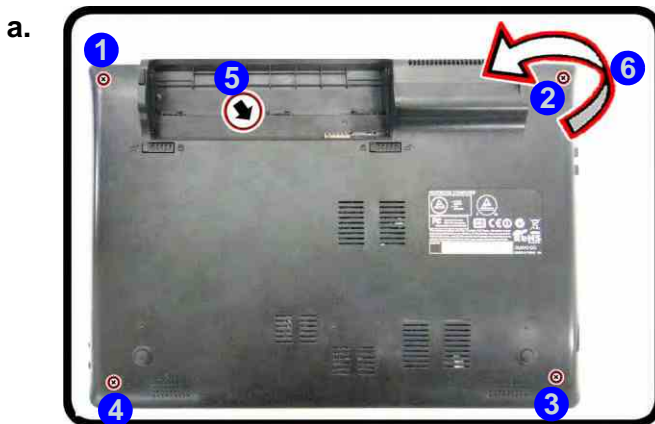
Removing the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h) and a speed of **5400 RPM** or lower. 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, remove the battery ([page 2 - 5](#)) and keyboard ([page 2 - 6](#)).
2. Remove screws ① - ④. Press point ⑤ before prying the bottom case in the direction of the arrow ⑥.
3. Carefully lift the bottom case ⑧ up in the direction of the arrow ⑦ and remove it ([Figure 3b](#)).
4. The hard disk will be visible at point ⑨ on the computer. ([Figure 3b](#))

- a. Remove the screws.
b. Remove the bottom case and locate the hard disk.



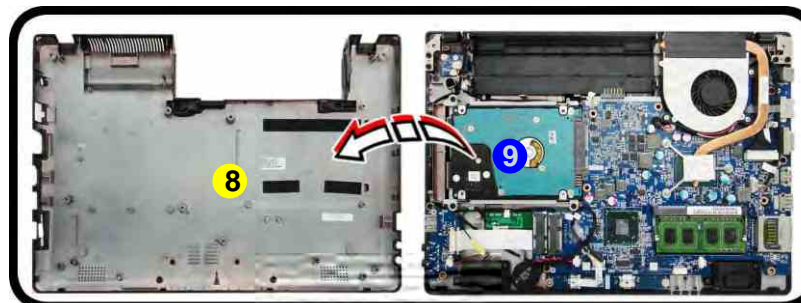
HDD System Warning

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.



8. Bottom case

- 4 Screws

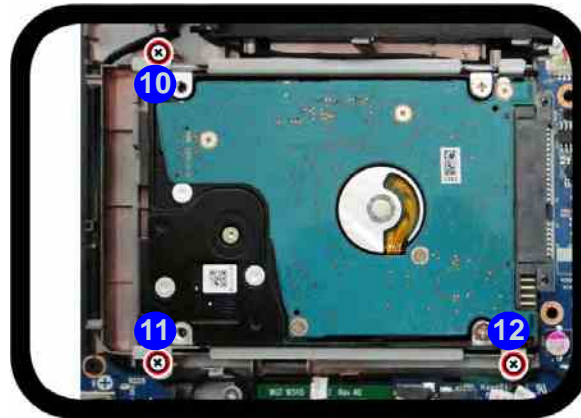
Disassembly

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

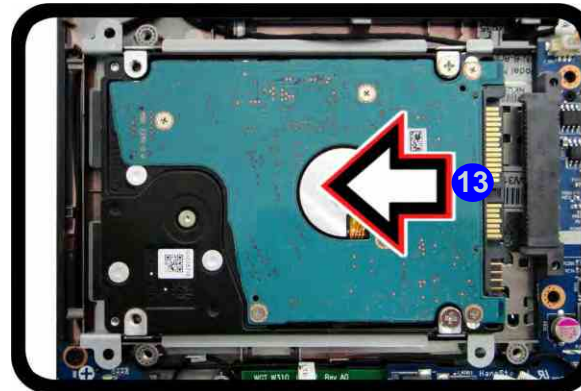
- c. Remove the screws.
- d. Slide the HDD in the direction of the arrow.
- d. Lift the HDD assembly out of the bay.
- e. Remove the screws and bracket case from the HDD.

- 5. Remove the screws 10 - 12 (Figure 4c).
- 6. Slide the hard disk in the direction of arrow 13 (Figure 4d).
- 7. Lift the hard disk assembly 14 out of the bay 15 (Figure 4e).
- 8. Remove the screws 16 - 19, and bracket case 20 from the hard disk 21 (Figure 4f).
- 9. Reverse the process to install a new hard disk (do not forget to replace all the screws and cover).

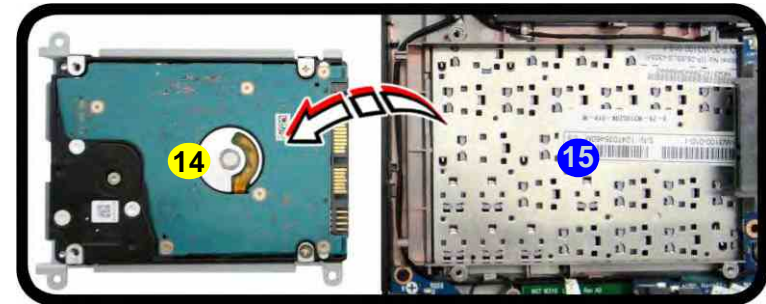
c.



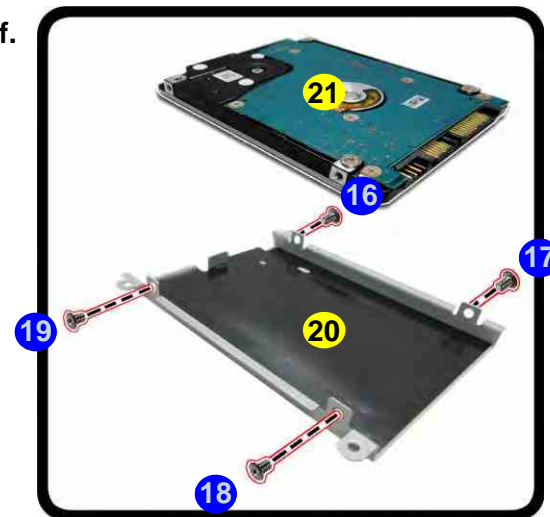
d.



e.



f.



14. HDD assembly
20. HDD Bracket Case
21. HDD

- 7 Screws

Hard Disk Size Note (Foam Rubber Insert)

Note that the hard disks pictured on the following pages are all 9.5mm(H) hard disk drives. In some cases 7mm(H) hard disk drives will be installed. For more information contact your distributor/supplier, and bear in mind your warranty terms.

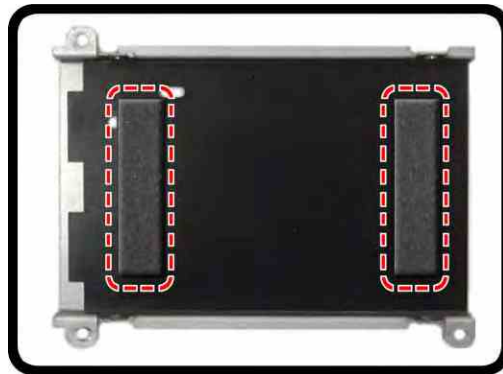


Figure 5
**Foam Rubber
Insert for 7mm(H)
HDDs**

- If you are replacing a 9.5mm(H) HDD with a 7mm(H) HDD then insert the foam rubber insert (as shown above).
- If you are replacing a 7mm(H) HDD with a 9.5mm(H) HDD then remove the foam rubber insert.

Disassembly

Figure 6
RAM Module Removal

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



Contact Warning

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



4. RAM Module

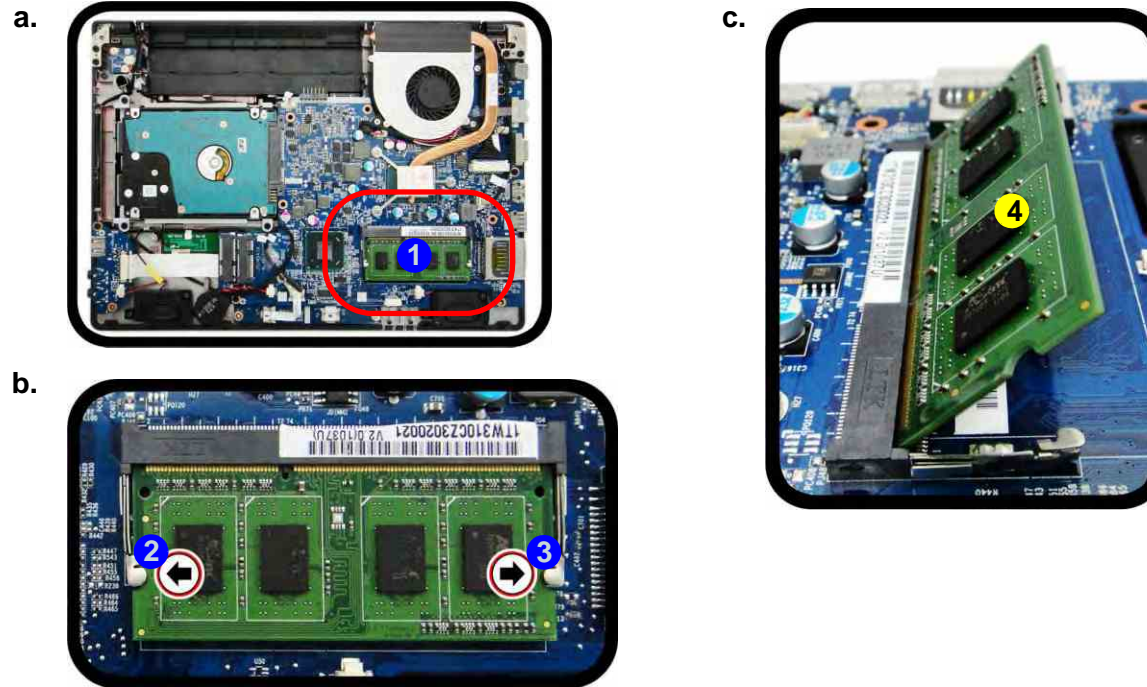
- 2 Screws

Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRIII (DDR3) Up to 1333/1600MHz. 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

- Turn **off** the computer, remove the battery ([page 2 - 5](#)), keyboard ([page 2 - 6](#)), and bottom case ([page 2 - 7](#)).
- The RAM modules will be visible at point ① on the mainboard ([Figure 6a](#)).
- 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 ([Figure 6c](#)), and you can then remove it.



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 bottom case and tighten the screws (**Figure 7d**).
9. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.
10. Pull the latches to release the second module if necessary.

Figure 7
**RAM Module
Removal (cont'd)**

- d. Replace the bottom case and tighten the screws.



Disassembly

Figure 8
**Wireless LAN
Module Removal**

- a. Locate the wireless LAN module.
- b. Disconnect the cables and remove the screw.
- c. The WLAN module will pop up.
- d. Lift the WLAN module out.

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

5. WLAN Module.

- 1 Screw

Removing the Wireless LAN Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)), keyboard ([page 2 - 6](#)), and bottom case ([page 2 - 7](#)).
2. The Wireless LAN module will be visible at point **1** (*Figure 8a*) on the mainboard.
3. Carefully disconnect cables **2** & **3**, then remove screw **4** from the module socket (*Figure 8b*).
4. The Wireless LAN module **5** (*Figure 8c*) will pop-up.
5. Lift the Wireless LAN module **5** (*Figure 8d*) up and off the computer.

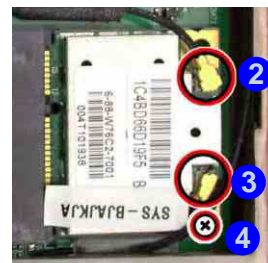
a.



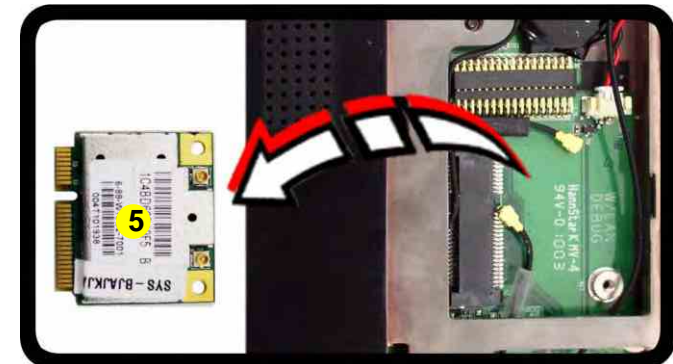
c.



b.



d.



Removing the CCD Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)).
2. Turn the computer over, run your fingers around the inner frame of the LCD panel at the points indicated by the arrows **1** - **3** ([Figure 9a](#)).
3. Carefully Remove the LCD panel **4** off ([Figure 9b](#)).
4. Disconnect the cable **5** ([Figure 9c](#)).
5. Remove the CCD module **6** off ([Figure 9d](#)).

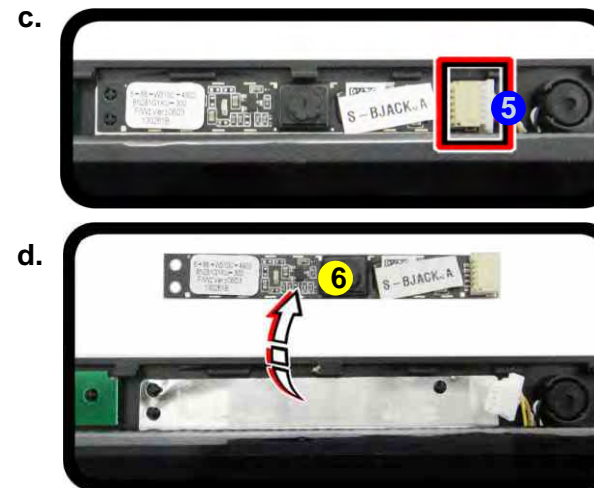
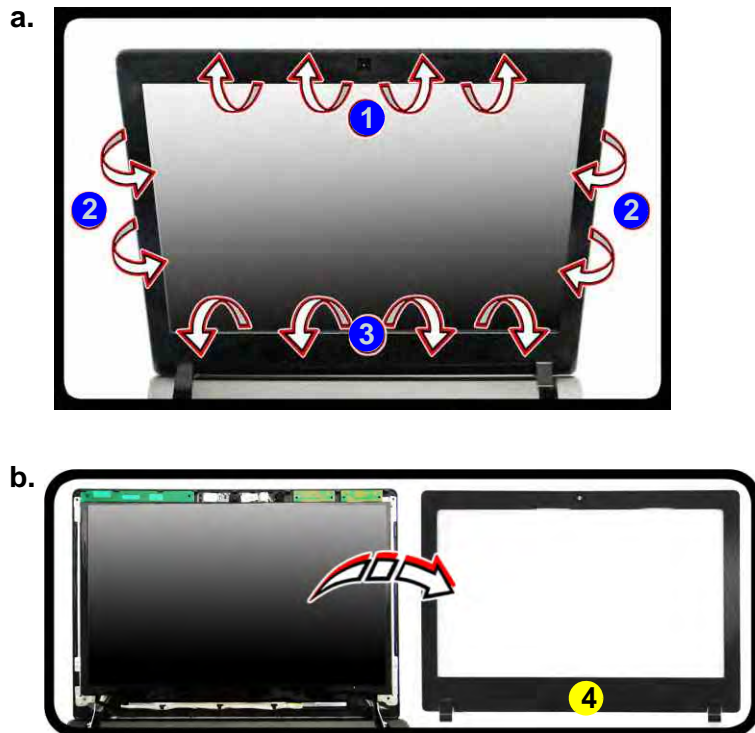


Figure 9
CCD Module Removal

- a. Run your fingers around the inner frame of the LCD panel at the points indicated by the arrow.
- b. Remove the LCD panel.
- c. Disconnect the cable.
- d. Remove the CCD module.



4. LCD Front Panel
6. CCD Module

Appendix A:Part Lists

This appendix breaks down the **W310CZ** 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 Lists

Parts List Illustration Location

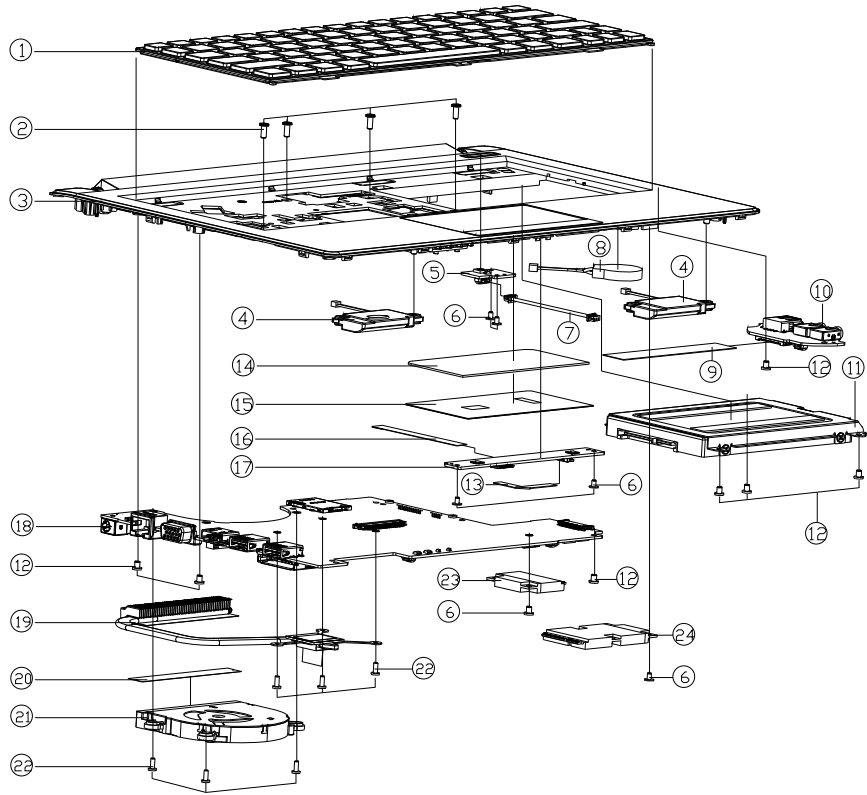
The following table indicates where to find the appropriate parts list illustration.

Table A - 1

**Parts List Illustration
Location**

Parts	
Top	<i>page A - 3</i>
Bottom	<i>page A - 4</i>
LCD	<i>page A - 5</i>
HDD	<i>page A - 6</i>

Top



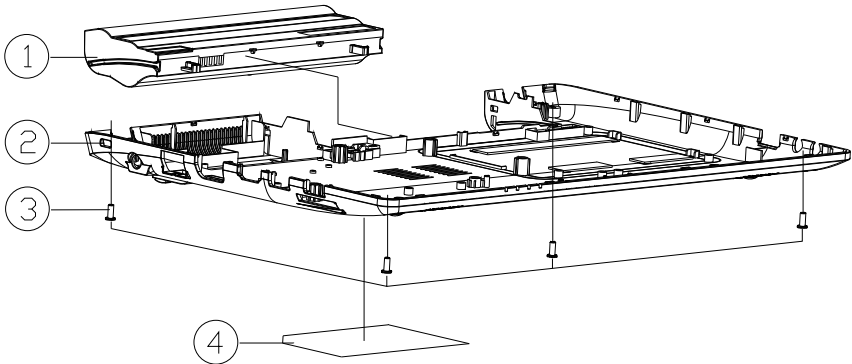
ITEM	PART NAME	PART NO	REMARK
1	VINO K8 USA BLACK FRAME 100 MODULE W310CZ	6-79-W310CZ00-010-W	
2	SCREW M2.5*6L K BZ ICT NY	6-35-B2125-6RA	
3	TOP CASE MODULE W310CZ	6-39-W3102-011	
4	TOP CASE MODULE W310CZ-C	6-39-W3102-011-C	
5	SHOCK PAD 2MM DIA 4 2MM DIA 4 2MM DIA 4 2MM DIA 4	6-23-W310-050	
6	POWER SWITCH BOARD V2.0 W310CZ	6-77-W310S-002	
7	SCREW M2.5*3L K1 NI ICT NY 030#45.01#041	6-35-B1120-3RE	
8	WIRE CABLE FOR M8 TO POWER BOARD 3P 44J V310CZ	6-43-W3100-030	
9	BAL. CABLE 24 22AWG V-CABLE 3MM 1000000000000000	6-23-22015-TC0	
10	FFC CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
11	AUDIO BOARD V2.0 W310CZ	6-77-W3108-002	
12	W/D HDD ASS'Y W310CZ	6-79-W310CZ0-J-010	
13	W/HDD ASS'Y W310CZ	6-79-W310CZ0-J-020	
14	SCREW M2.5*3L K1 BZ ICT NY	6-35-B6125-3R0	
15	FFC CABLE FOR CLOCK BOARD TO MP 4P 40US V310CZ	6-43-W3100-010	
16	TOUCH PAD SENTELIC ME1700000000000000	6-49-W3103-010	
17	WIRE FOR TOUCHPAD (MAGNETIC) W310CZ	6-40-W3402-020	
18	FFC CABLE FOR TOUCH PAD 6PIN (HENGSHANG)	6-43-C4502-010-2	
19	CLICK BOARD V2.0 W310CZ	6-77-W3102-002	
20	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-1	
21	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-2	
22	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-3	
23	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-4	
24	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-5	
25	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-6	
26	MAIN BOARD V2.0 QV36W/D TPA0 V310CZ (CLIP)	6-77-W310CZ00-002-7	
27	CPU HEATSINK MODULE W310CZ	6-31-W310N-101	
28	AIRDUCT MYLAR DFR117 W240HU	6-40-W24HB-011	
29	FAN MODULE W251HUQ	6-31-W25HS-100	
30	SCREW M2*5L K1 NI ICT NY	6-35-B1120-5R0	
31	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
32	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
33	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
34	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
35	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
36	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
37	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
38	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
39	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
40	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
41	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
42	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
43	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
44	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
45	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
46	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
47	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
48	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
49	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
50	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
51	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
52	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
53	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
54	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
55	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
56	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
57	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
58	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
59	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
60	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
61	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
62	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
63	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
64	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
65	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
66	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
67	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
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70	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
71	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
72	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
73	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
74	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
75	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
76	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
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81	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
82	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
83	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
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86	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
87	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
88	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
89	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
90	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
91	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
92	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
93	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
94	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
95	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
96	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
97	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
98	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
99	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	
100	WIRE CABLE FOR AUDIO BOARD TO MP 4P 40US V310CZ	6-43-W3100-021	

Figure A - 1
Top

A.Part Lists

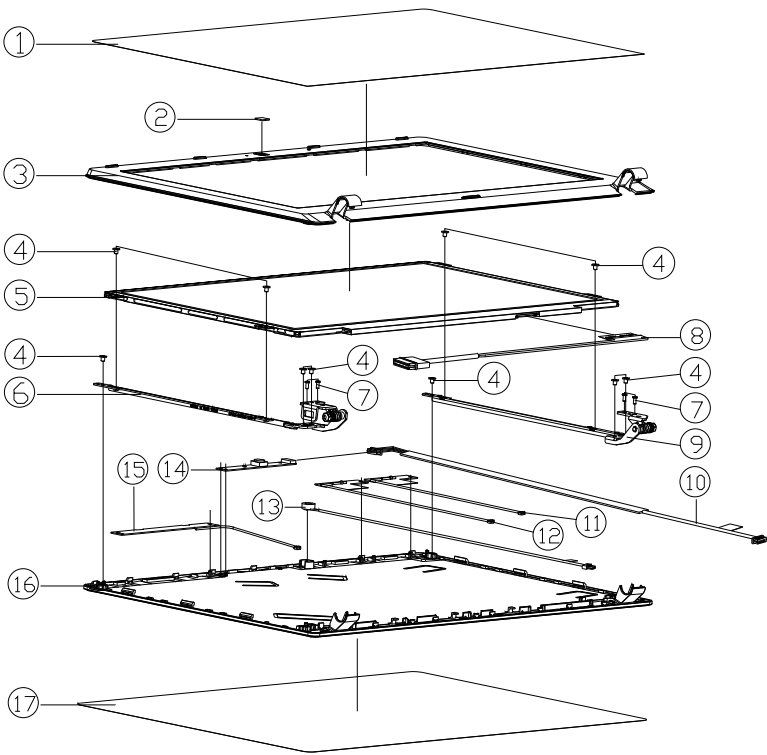
Bottom

Figure A - 1
Bottom



ITEM	PART NAME	PART NO	REMARK
1	TOP COVER WITH HINGE FOR W310CZ	6-87-W310S-4291	
1	TOP COVER WITH HINGE FOR W310CZ	6-87-W310S-42F1	
2	TOP COVER WITH HINGE FOR W310CZ	6-87-W310S-4UF1	
3	BOTTOM CASE MODULE W310CZ	6-39-W3103-011	
3	BOTTOM CASE MODULE W310CZ-C	6-39-W3103-011-C	
3	SCREW M2.5*6L K BZ ICT NY	6-35-82125-6RA	
4	PRODUCT LABEL FOR W310CZ	6-45-W310CZ03-010	

LCD

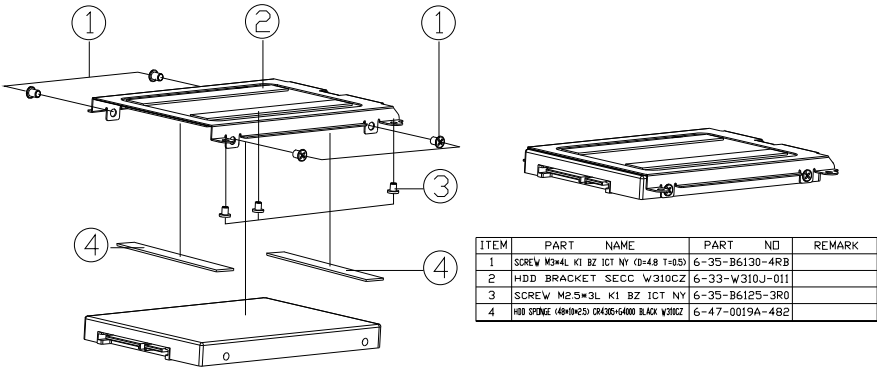


ITEM	PART	NAME	PART	NO	REMARK
1	CCD PANEL PROTECT	MYLAR PET W303CZ	6-40-W3101-010		
2	CCD LENS PMMA	W310CZ	6-42-W3101-020		W/ CCD
3	W/D COVER	PMMA W270HW	6-40-W27H-070		W/D CCD
4	LCD FRONT COVER MODULE	W303CZ	6-39-W3101-011		
4	SCREW NYLON KJ NI TCT	1/2" (NO-445181-04)	6-35-B1120-3RE		
5	LCD TRG' HO NO BUSHING YI GLASS TYPE CHAMF LDED		6-50-BB136-G03		
5	LCD TRG' HO IVO HINGE/RI TYPE CHAMF LDED		6-50-BB137-B00		
5	LCD TRG' HO NO BUSHING YI GLASS TYPE CHAMF LDED		6-50-BB136-G02		
5	LCD TRG' HO NO BUSHING YI GLASS TYPE CHAMF LDED		6-50-BB136-G00		
6	HINGE L EDP	SC50C-SKT3 SN310CZ	6-33-W3101-1L1-1		
7	SCREW M2.5X6	K BZ TCT NY3	6-35-82125-6RA		
8	WIRE CABLE FOR EDP NO BUSHING/COVER/SHIELD W303CZ		6-43-W3101-010-C		
9	HINGE R EDP	SC50C-SKT3 SN310CZ	6-33-W3101-1R1-1		
10	WIRE CABLE FOR CCD SP NO BUSHING/COVER/SHIELD W303CZ		6-43-W3101-011		
11	ANTENNA WIRE NO BUSHING/COVER/SHIELD W303CZ		6-23-7W310-040		
12	ANTENNA WIRE NO BUSHING/COVER/SHIELD W303CZ		6-23-7W310-030		
13	WIRE CABLE NO BUSHING/COVER/SHIELD W303CZ		6-23-E-W310-010		
14	WIRE CABLE NO BUSHING/COVER/SHIELD W303CZ		6-88-M11C-5100		
14	WIRE CABLE NO BUSHING/COVER/SHIELD W303CZ		6-88-M11SC-4902		
14	WIRE CABLE NO BUSHING/COVER/SHIELD W303CZ		6-88-M11SC-4900		
14	WIRE CABLE NO BUSHING/COVER/SHIELD W303CZ		6-88-W310C-5101		
15	ANTENNA WIRE NO BUSHING/COVER/SHIELD W303CZ		6-23-7W310-010		
16	LCD BACK COVER MODULE	W303CZ	6-39-W3101-021		
16	LCD BACK COVER MODULE	W303CZ-C	6-39-W3101-021-C		
17	LCD BACK COVER PROTECT	MYLAR PET W303CZ	6-40-W3101-020		

Figure A - 2
LCD

HDD

Figure A - 3
HDD



Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the **W310CZ** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Table B - 1
**SCHEMATIC
DIAGRAMS**

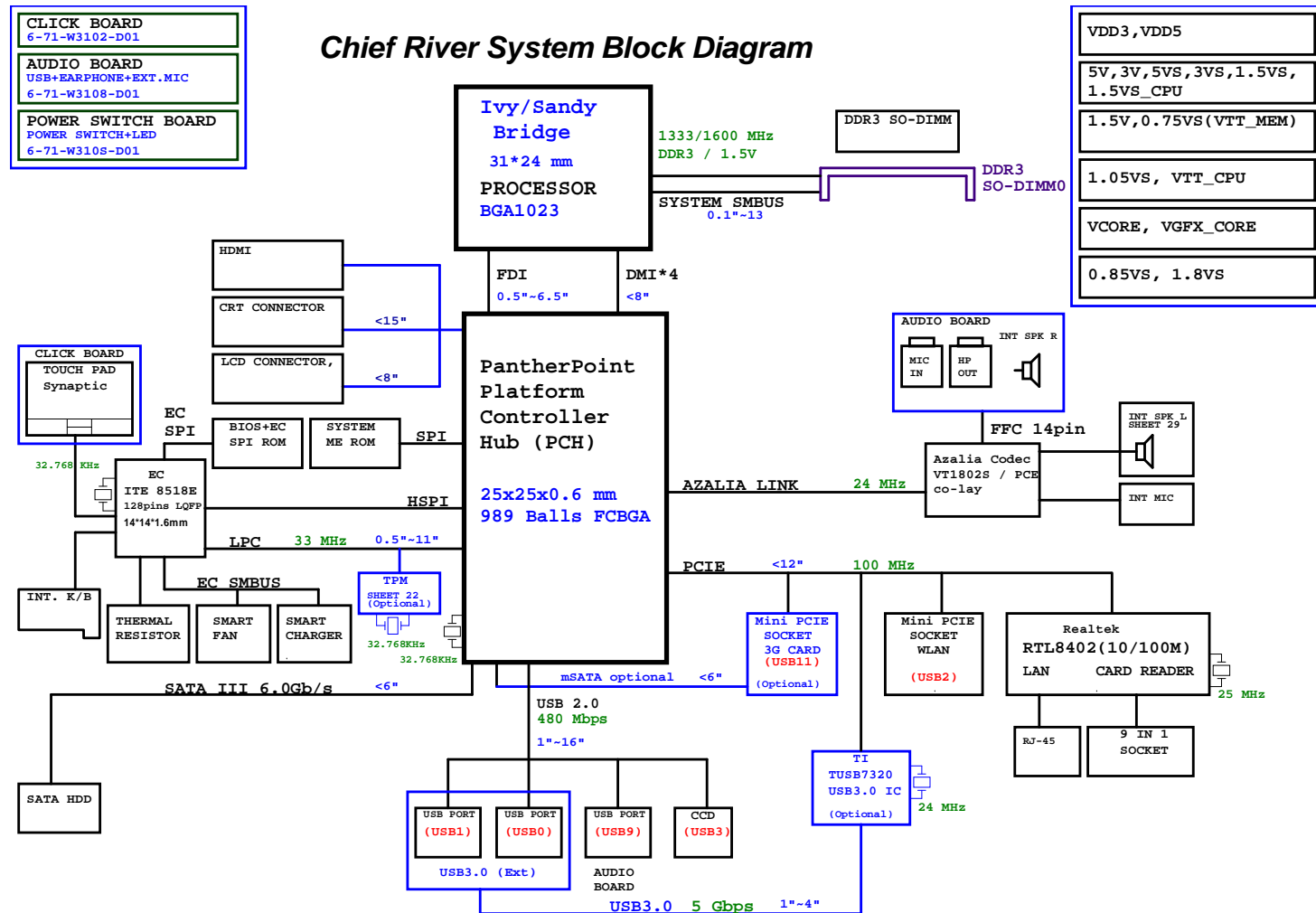
Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>PCH 5/9 - PCI, USB, NVRAM - Page B - 17</i>	<i>Power System - Page B - 32</i>
<i>Processor 1/7 - DMI, FDI, PEG - Page B - 3</i>	<i>PCH 6/9 - GPIO, VSS_NCTF, RSVD - Page B - 18</i>	<i>VDD3, VDD5 - Page B - 33</i>
<i>Processor 2/7 - CLK, MISC - Page B - 4</i>	<i>PCH 7/9 - PWR - Page B - 19</i>	<i>POWER 1.5V/0.75V - Page B - 34</i>
<i>Processor 3/7 - DDR3 - Page B - 5</i>	<i>PCH 8/9 - POWER - Page B - 20</i>	<i>POWER 1.05VS, VTT_CPU - Page B - 35</i>
<i>Processor 4/7 - Power - Page B - 6</i>	<i>PCH 9/9 - GND - Page B - 21</i>	<i>Power 0.85VS, 1.8VS - Page B - 36</i>
<i>Processor 5/7 - GFX PWR - Page B - 7</i>	<i>WLAN, CCD - Page B - 22</i>	<i>POWER VCORE1 - Page B - 37</i>
<i>Processor 6/7 - GND - Page B - 8</i>	<i>3G/mSATA, TPM - Page B - 23</i>	<i>POWER VCORE2 - Page B - 38</i>
<i>Processor 7/7 - RSVD - Page B - 9</i>	<i>LAN RTL8402, Card Reader - Page B - 24</i>	<i>Power AC In, Smart Charger - Page B - 39</i>
<i>DDR3 SO-DIMM_0 - Page B - 10</i>	<i>Transformer, SATA HDD - Page B - 25</i>	<i>Click Board - Page B - 40</i>
<i>LVDS, INVERTER - Page B - 11</i>	<i>USB 3.0 TI TUSB7320 - Page B - 26</i>	<i>Audio Board - Page B - 41</i>
<i>HDMI, CRT - Page B - 12</i>	<i>USB Port, USB Charger - Page B - 27</i>	<i>Power Switch & LED Board - Page B - 42</i>
<i>PCH 1/9 - HDA, SATA - Page B - 13</i>	<i>KBC-ITE IT8518 - Page B - 28</i>	<i>Power On SEQ - Page B - 43</i>
<i>PCH 2/9 - PCIE, SMBUS, CLK - Page B - 14</i>	<i>LED / LID Switch - Page B - 29</i>	
<i>PCH 3/9 - DMI, FDI, GPIO - Page B - 15</i>	<i>AUDIO CODEC VT1802S - Page B - 30</i>	
<i>PCH 4/9 - LVDS, DDI, CRT - Page B - 16</i>	<i>Fan, TP, Connector - Page B - 31</i>	



Version Note

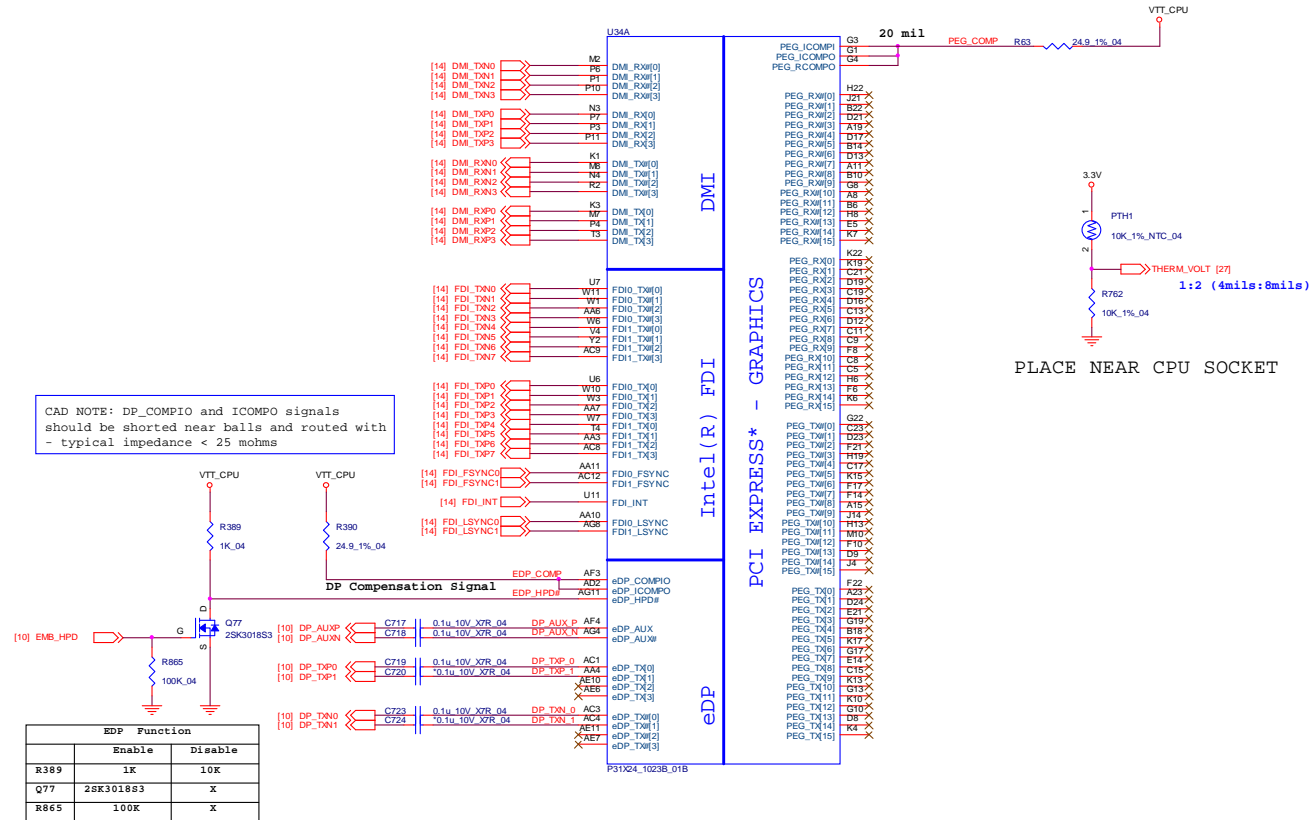
The schematic diagrams in this chapter are based upon version 6-7P-W3104-002. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram



Sheet 1 of 42
System Block
Diagram

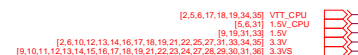
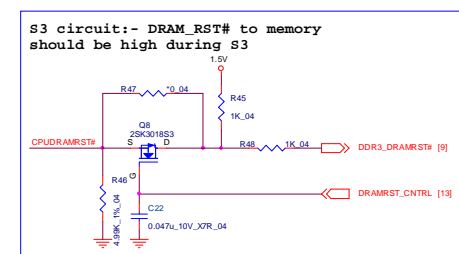
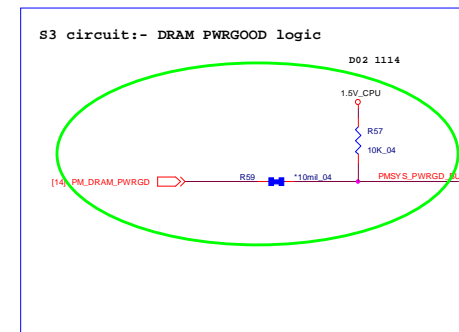
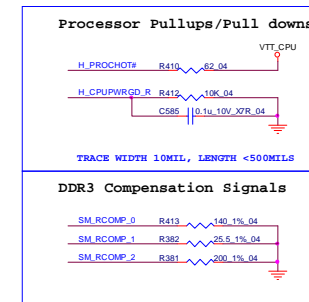
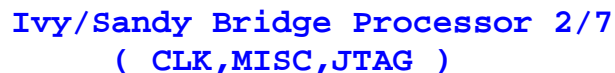
Processor 1/7 - DMI, FDI, PEG

Ivy/Sandy Bridge Processor 1/7
(DMI, PEG, FDI)

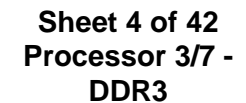
Sheet 2 of 42
Processor 1/7 -
DMI, FDI, PEG

Processor 2/7 - CLK, MISC

Sheet 3 of 42
Processor 2/7 -
CLK, MISC

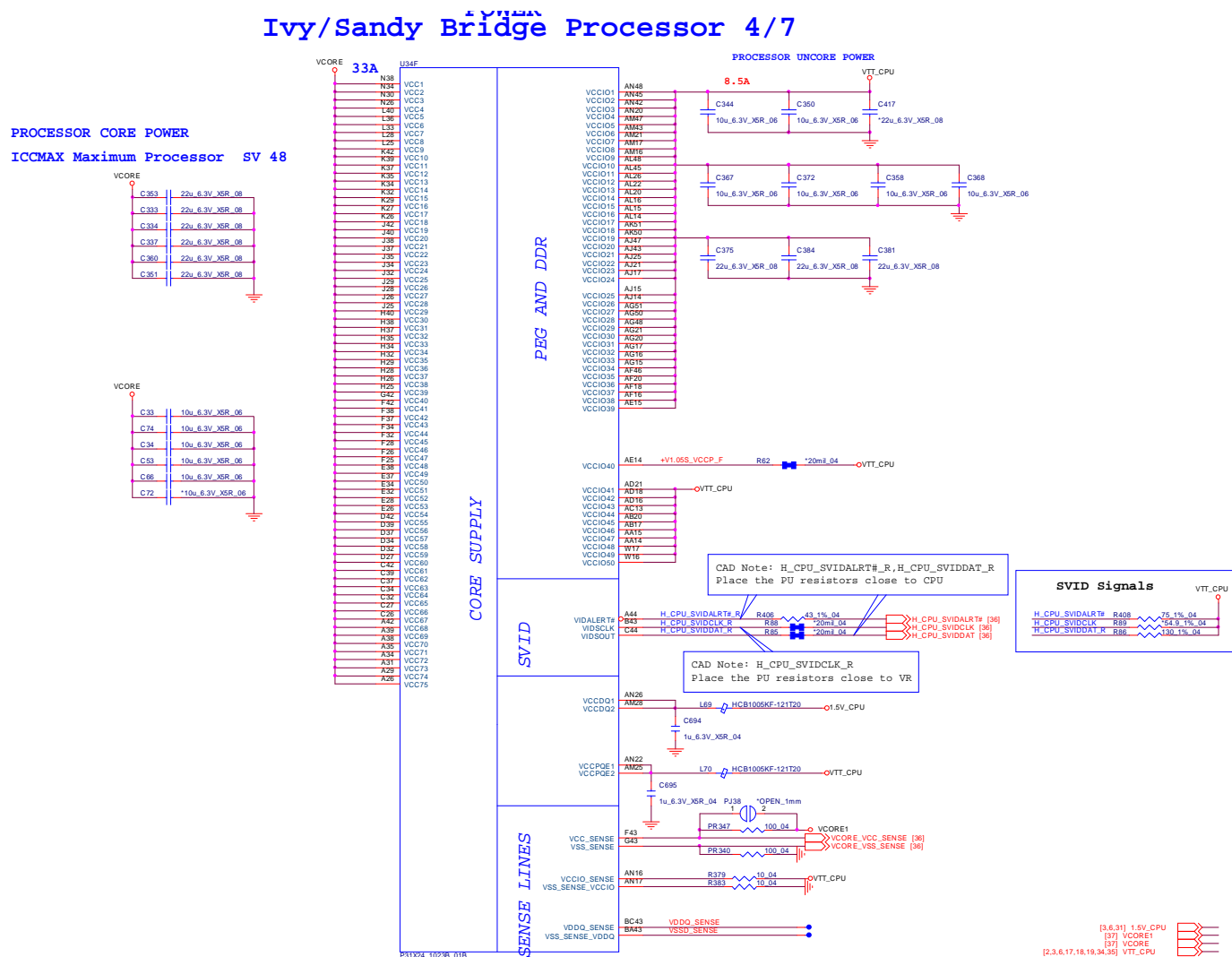


Ivy/Sandy Bridge Processor 3/7 (DDR3)

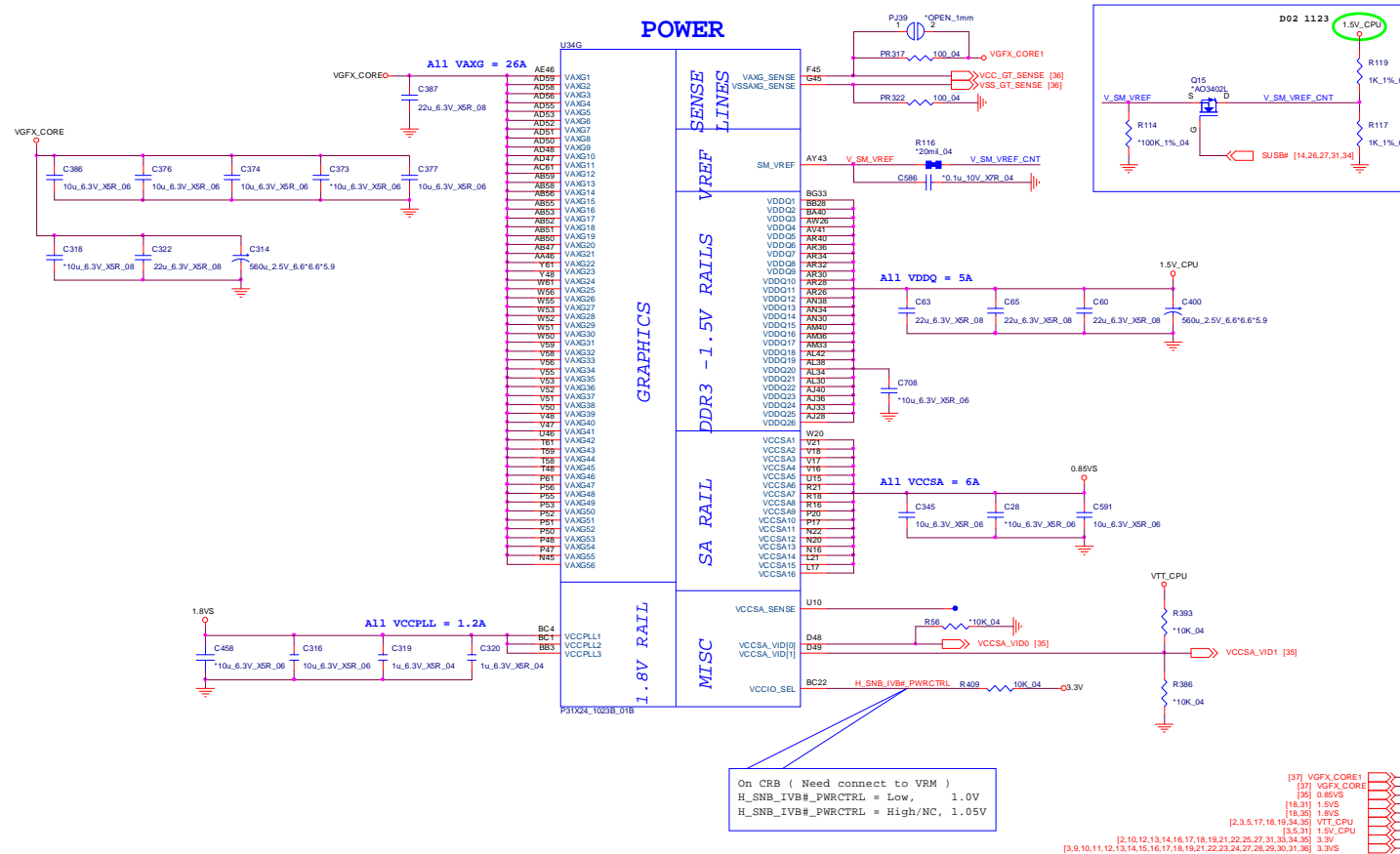


Processor 4/7 - Power

Sheet 5 of 42
Processor 4/7 -
Power



Ivy/Sandy Bridge Processor 5/7 (GRAPHICS POWER)

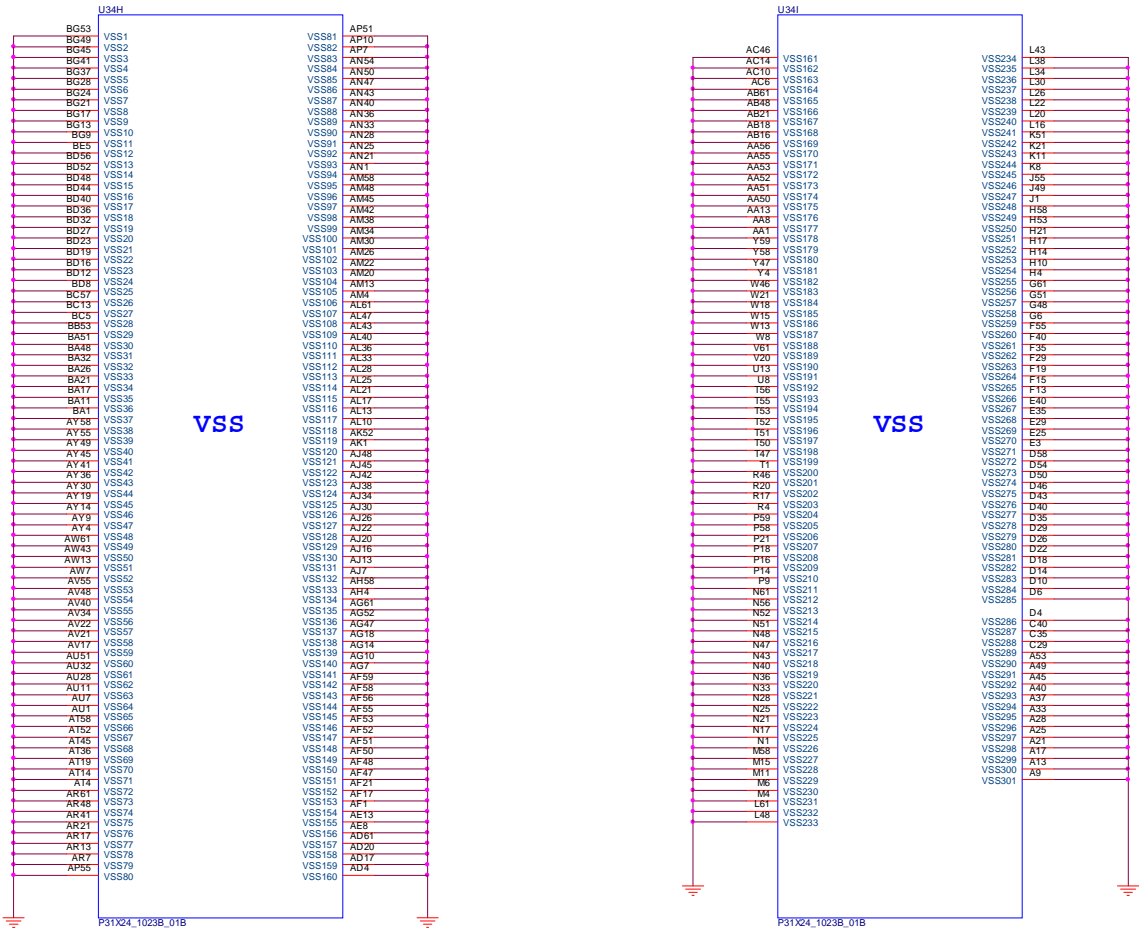


Processor 6/7 - GND

Ivy/Sandy Bridge Processor 6/7 (GND)

Sheet 7 of 42
Processor 6/7 -
GND

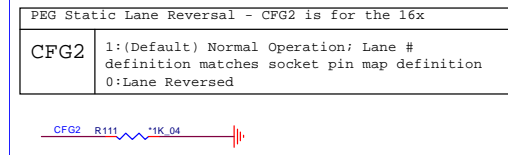
B.Schematic Diagrams



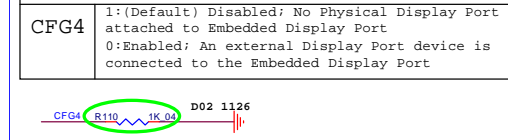
Processor 7/7 - RSVD

Ivy/Sandy Bridge Processor 7/7
(RESERVED)Sheet 8 of 42
Processor 7/7 -
RSVD

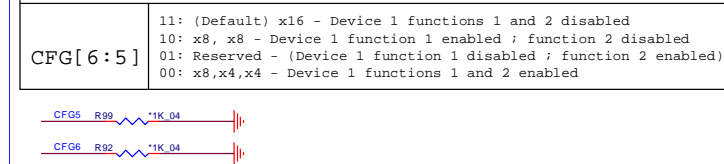
CFG Straps for Processor



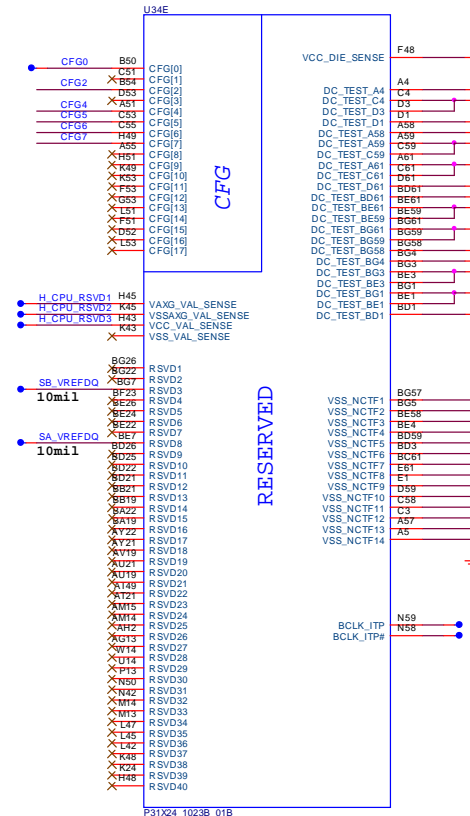
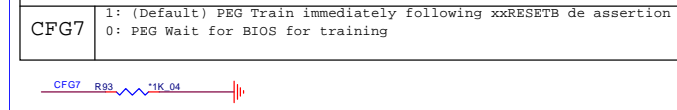
Display Port Presence Strap



PCIe Port Bifurcation Straps

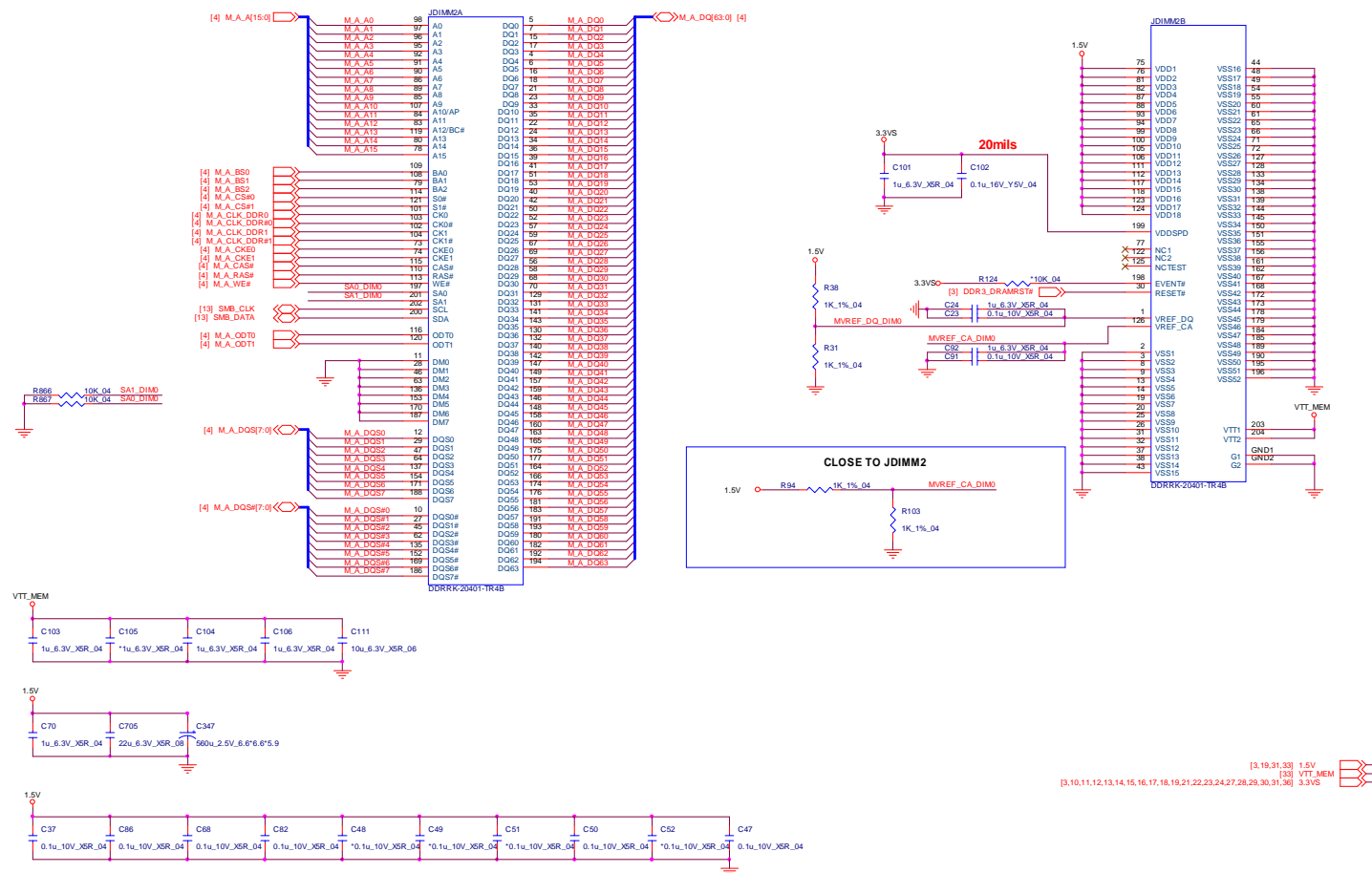


PEG DEFER TRAINING



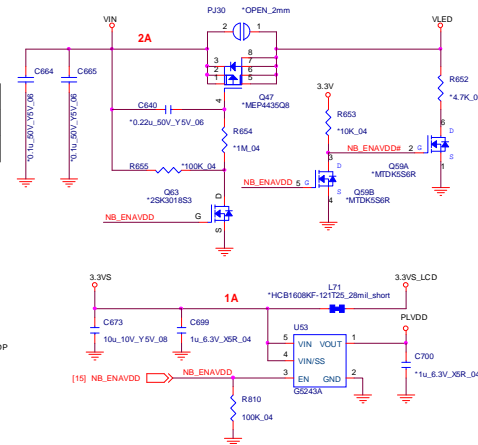
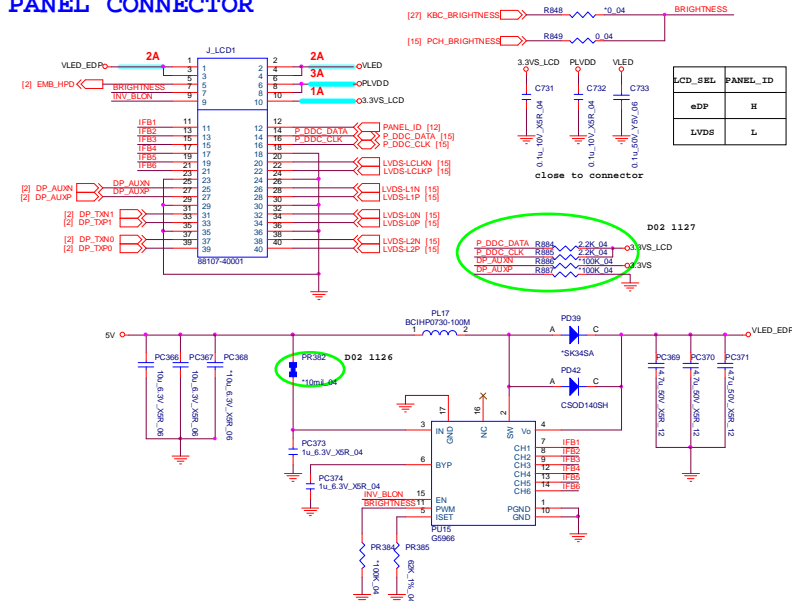
DDR3 SO-DIMM_0

SO-DIMM A CHANGE TO STANDARD



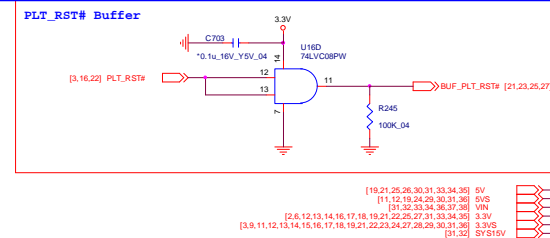
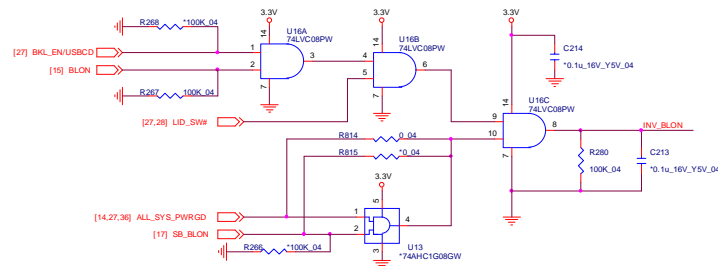
LVDS, INVERTER

PANEL CONNECTOR



Sheet 10 of 42
LVDS, INVERTER

INVERTER CONNECTOR

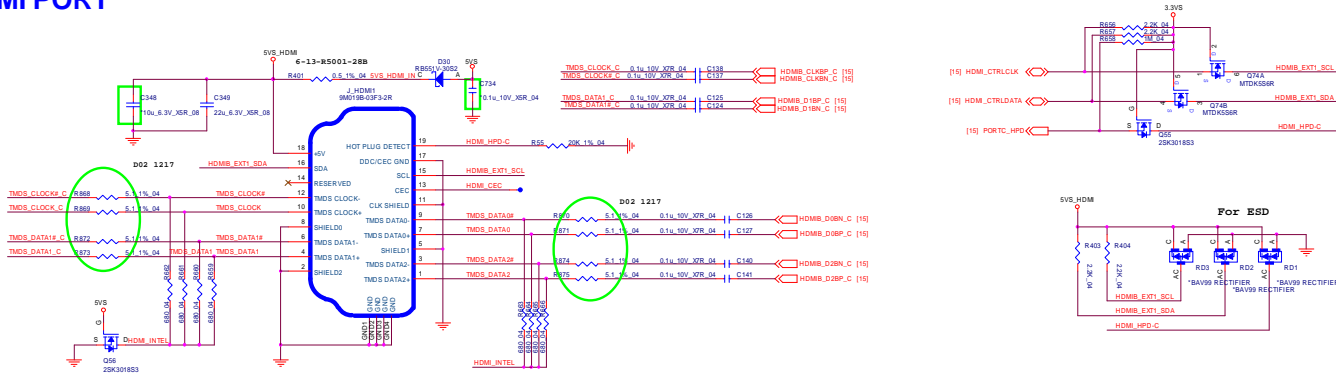


Schematic Diagrams

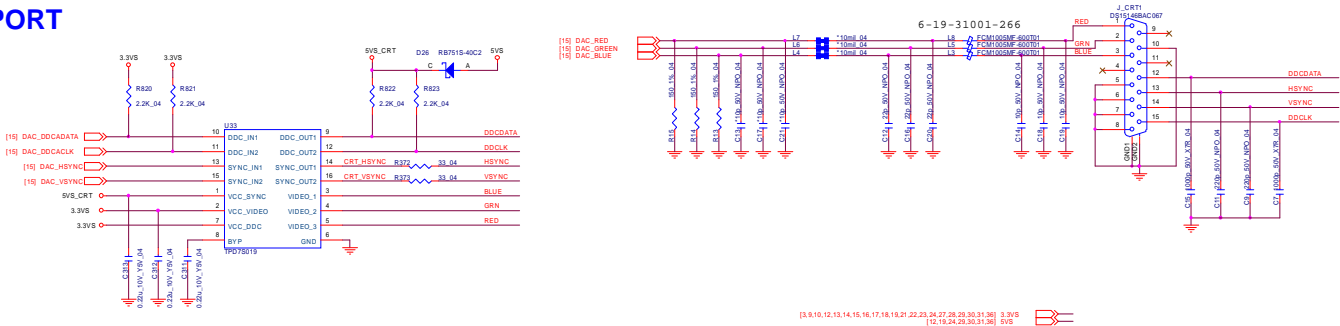
HDMI, CRT

HDMI PORT

Sheet 11 of 42
HDMI, CRT



CRT PORT



Schematic Diagrams



B. Schematic Diagrams

Sheet 13 of 42
PCH 2/9 - PCIE,
SMBUS, CLK

PCI-E x1

Lane	Usage
Lane 1	X
Lane 2	USB3.0
Lane 3	WLAN
Lane 4	GLAN / CARD READER
Lane 5	X
Lane 6	X
Lane 7	X
Lane 8	X

100MHz

- [25] CLK_PCIE_USB30#
- [25] CLK_PCIE_USB30#
- [25] CLK_PCIE_Q2#

100MHz

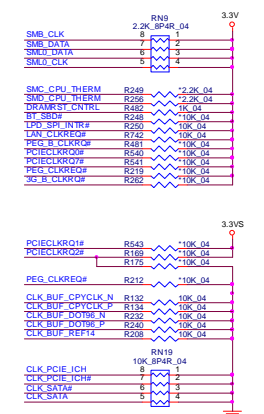
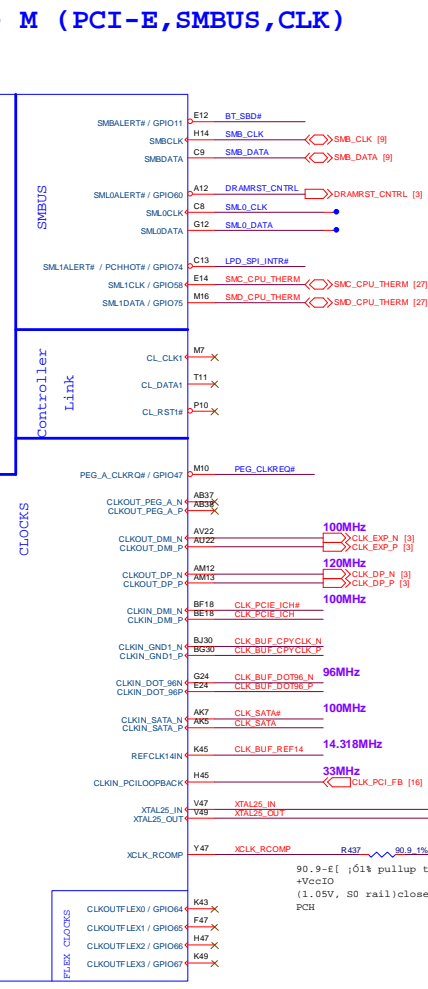
- [21] CLK_PCIE_MEN#
- [21] CLK_PCIE_MEN#
- [21] WLAN_CLKREQ#

100MHz

- [23] CLK_PCIE_GLAN#
- [23] CLK_PCIE_GLAN#
- [23] LAN_CLKREQ#

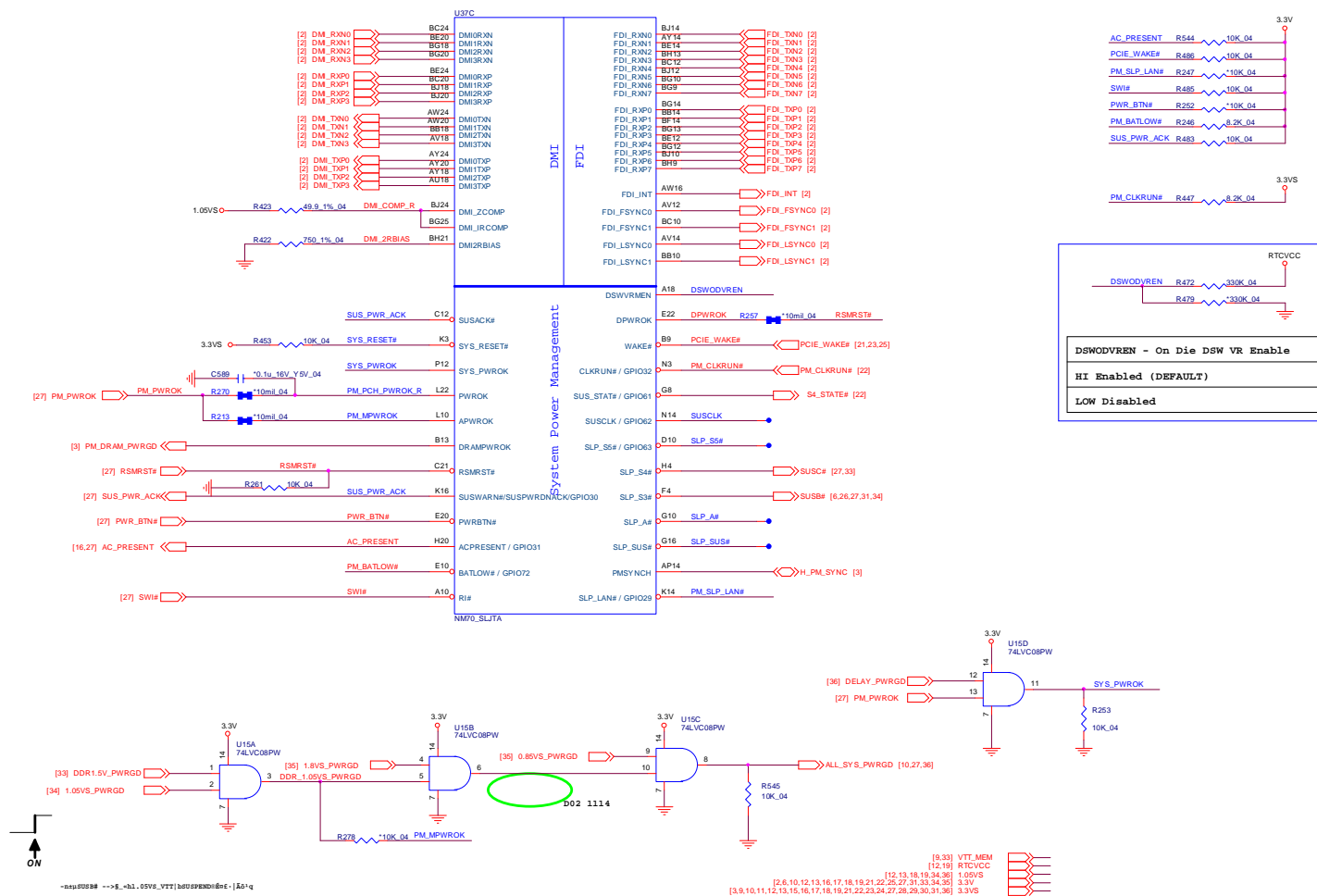
Other Peripherals:

- TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22, TP23, TP24, TP25, TP26, TP27, TP28, TP29, TP30, TP31, TP32, TP33, TP34, TP35, TP36, TP37, TP38, TP39, TP40, TP41, TP42, TP43, TP44, TP45, TP46, TP47, TP48, TP49, TP50, TP51, TP52, TP53, TP54, TP55, TP56, TP57, TP58, TP59, TP60, TP61, TP62, TP63, TP64, TP65, TP66, TP67, TP68, TP69, TP70, TP71, TP72, TP73, TP74, TP75, TP76, TP77, TP78, TP79, TP80, TP81, TP82, TP83, TP84, TP85, TP86, TP87, TP88, TP89, TP90, TP91, TP92, TP93, TP94, TP95, TP96, TP97, TP98, TP99, TP100, TP101, TP102, TP103, TP104, TP105, TP106, TP107, TP108, TP109, TP110, TP111, TP112, TP113, TP114, TP115, TP116, TP117, TP118, TP119, TP120, TP121, TP122, TP123, TP124, TP125, TP126, TP127, TP128, TP129, TP130, TP131, TP132, TP133, TP134, TP135, TP136, TP137, TP138, TP139, TP140, TP141, TP142, TP143, TP144, TP145, TP146, TP147, TP148, TP149, TP150, TP151, TP152, TP153, TP154, TP155, TP156, TP157, TP158, 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PCH 3/9 - DMI, FDI, GPIO

PantherPoint -M (DMI,FDI,GPIO)



Sheet 14 of 42
PCH 3/9 - DMI, FDI,
GPIO

B.Schematic Diagrams

B.Schematic Diagrams

PantherPoint -M
(LVDS,DDI,CRT)

[illegible]

[11, 12, 19, 24, 29, 30, 31, 36] 5VS
[3, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 27, 28, 29, 30, 31, 36] 3.3VS

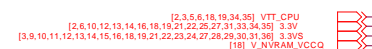
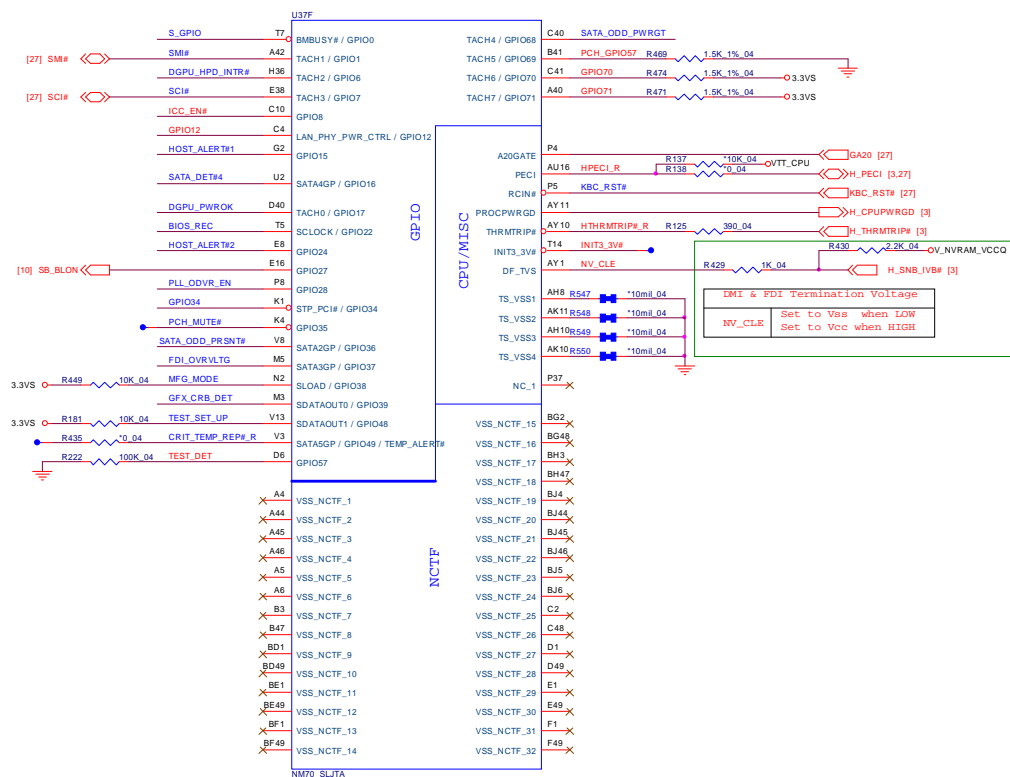
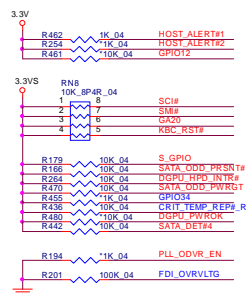
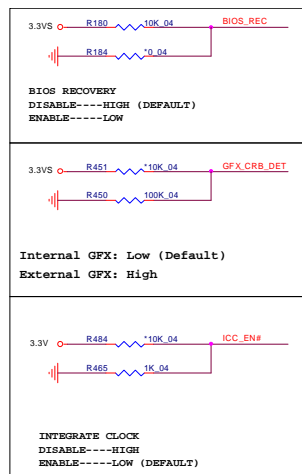
Schematic Diagrams



Schematic Diagrams

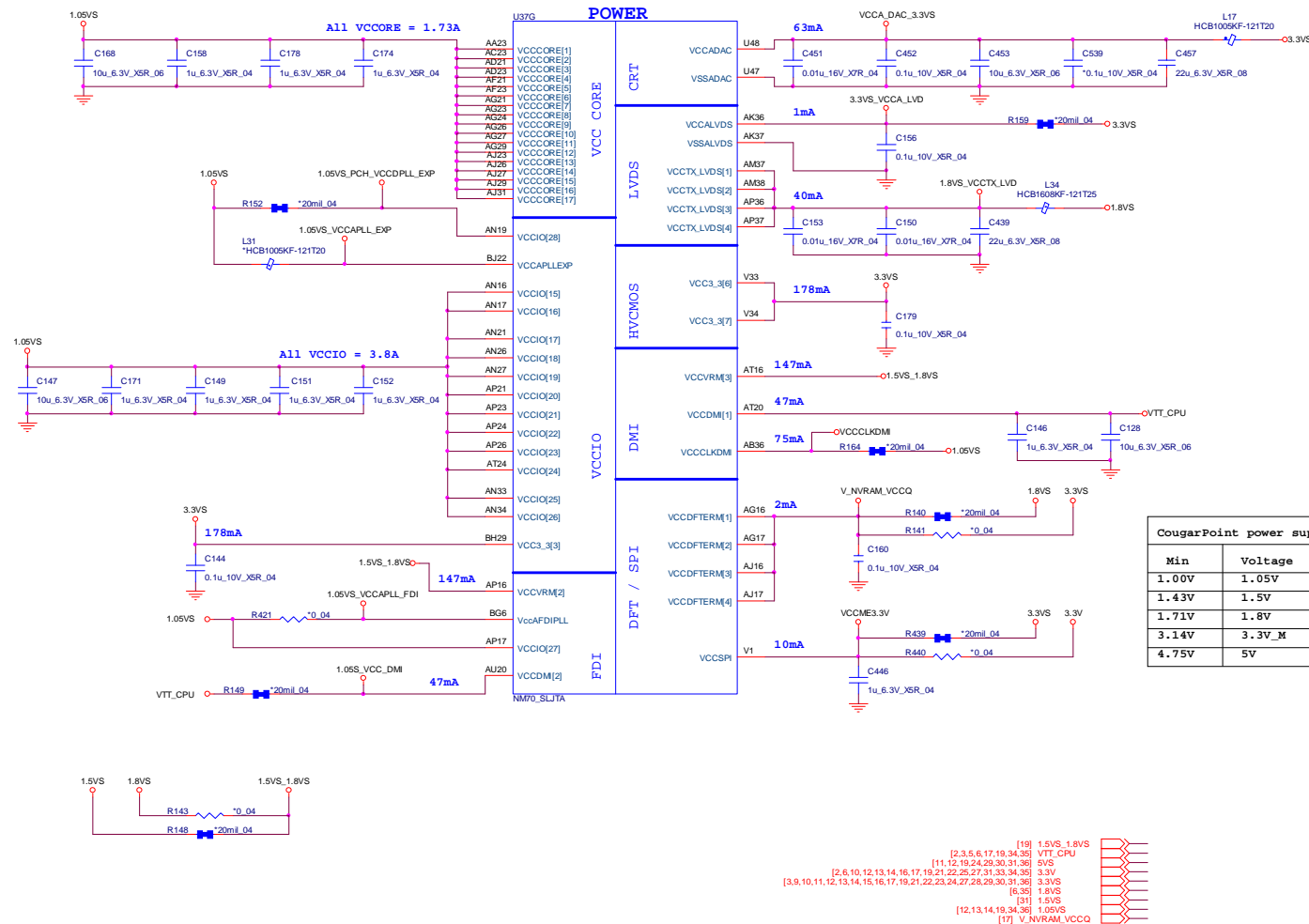
PCH 6/9 - GPIO, VSS_NCTF, RSVD

Sheet 17 of 42
PCH 6/9 - GPIO,
VSS_NCTF, RSVD



B.Schematic Diagrams

PantherPoint -M (POWER)

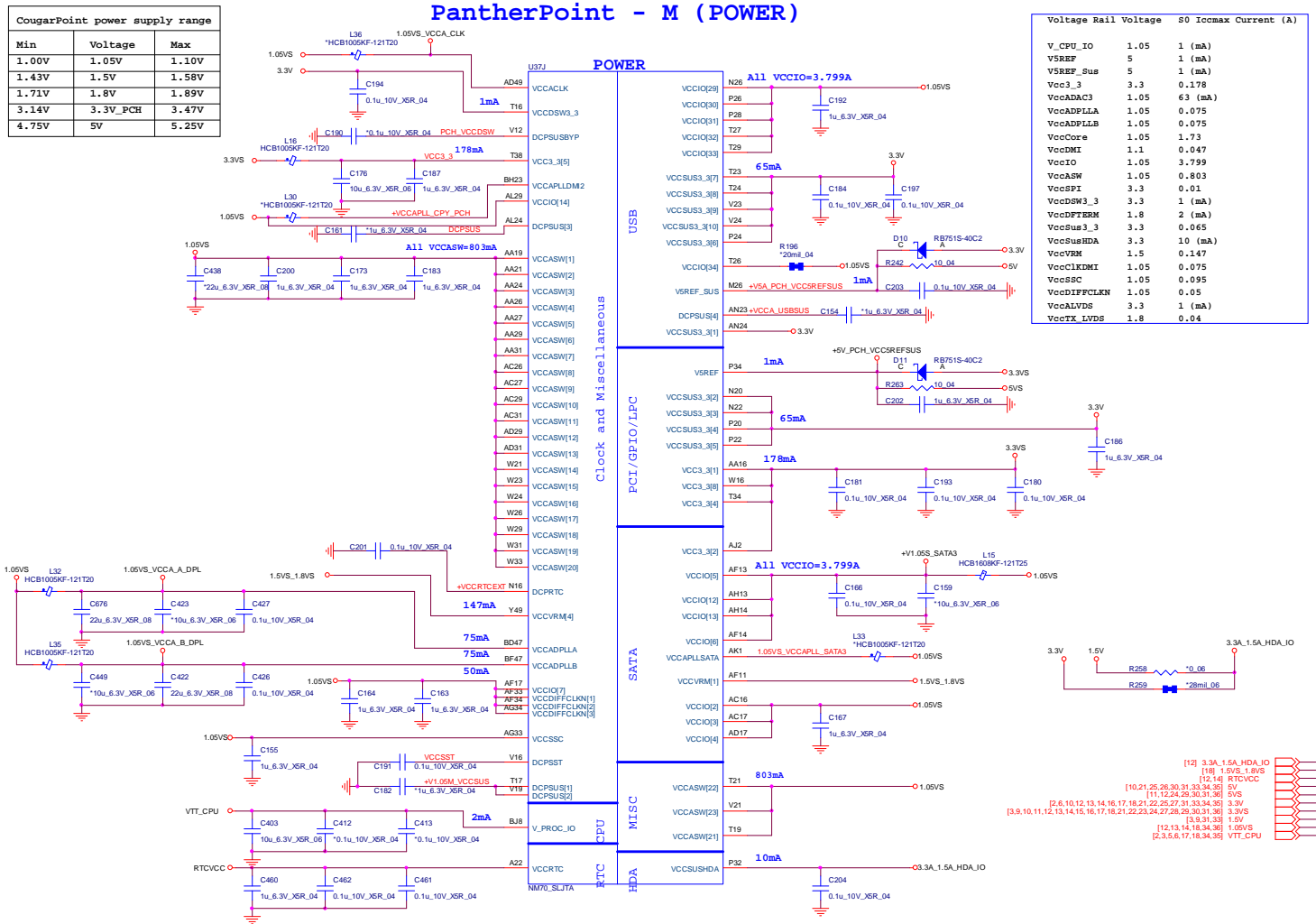


CougarPoint power supply range		
Min	Voltage	Max
1.00V	1.05V	1.10V
1.43V	1.5V	1.58V
1.71V	1.8V	1.89V
3.14V	3.3V_M	3.47V
4.75V	5V	5.25V

Schematic Diagrams

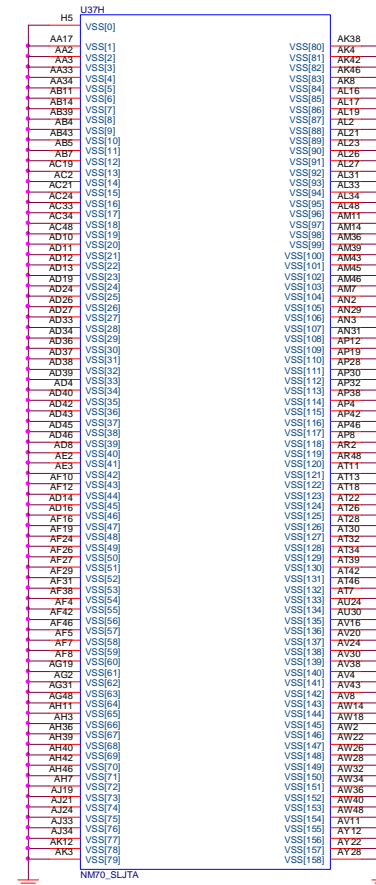
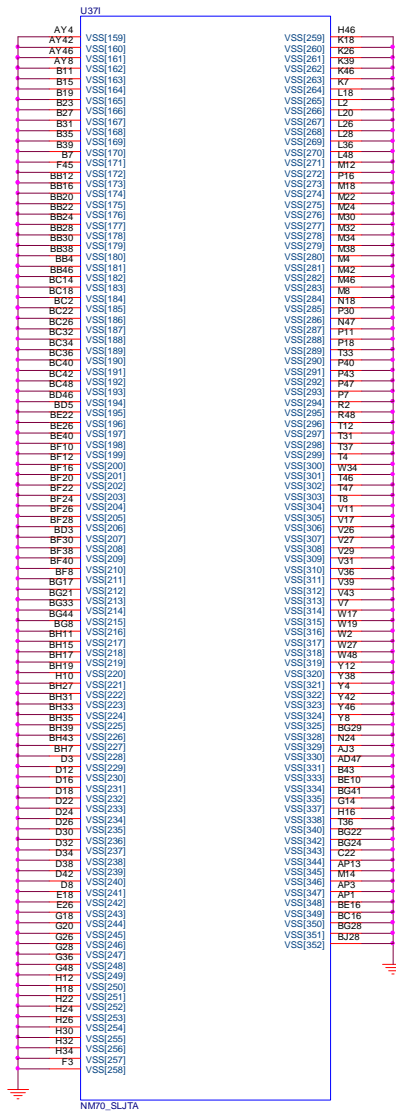
PCH 8/9 - POWER

Sheet 19 of 42
PCH 8/9 - POWER



PCH 9/9 - GND

PantherPoint -M (GND)

Sheet 20 of 42
PCH 9/9 - GND

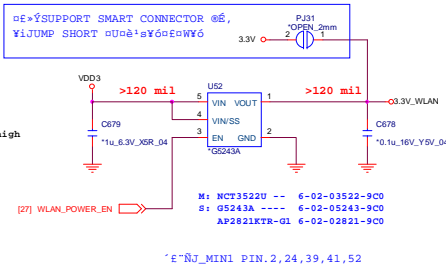
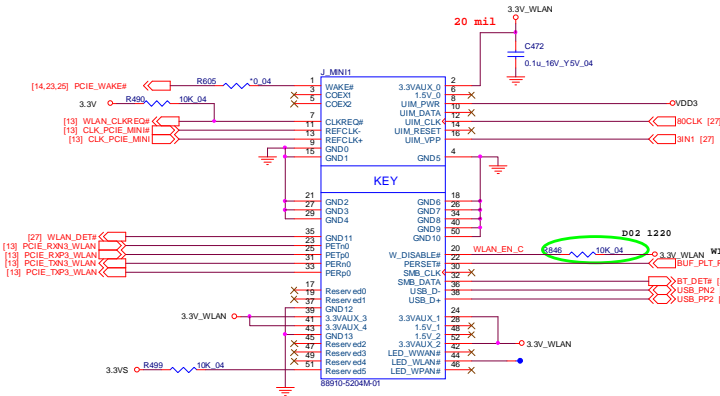
Schematic Diagrams

WLAN, CCD

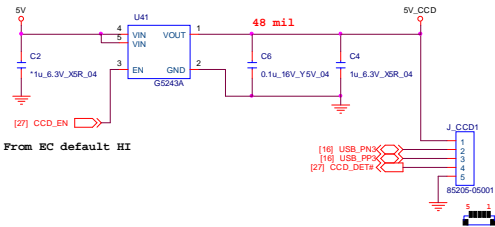
MINI CARD WLAN

WLAN POWER
(FOR INTEL SMART CONNECTOR)

Sheet 21 of 42
WLAN, CCD



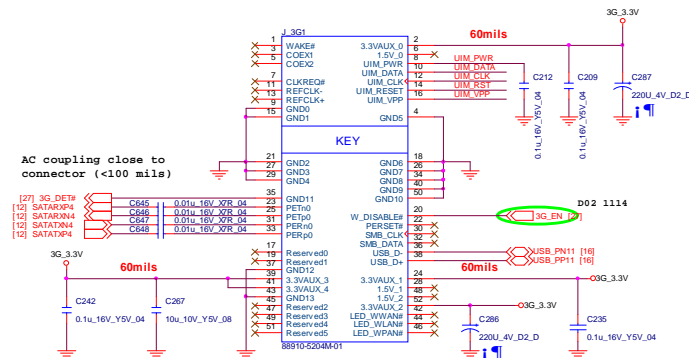
CCD



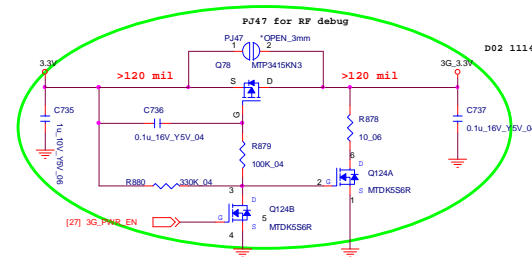
[3,9,10,11,12,13,14,15,16,17,18,19,22,23,24,27,28,29,30,31,36] 3.3VS
[2,6,10,12,13,14,16,17,18,19,22,25,27,31,33,34,35] 3.3V
[10,19,25,26,30,31,33,34,35] 5V
[12,22,23,25,27,28,31,32,38] VDD3

MINI CARD 3G/mSATA(Port 6)

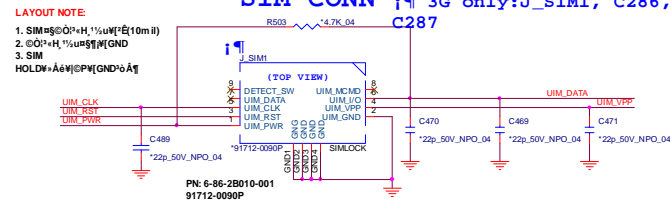
MINI CARD 3G/mSATA(Port 6)



3G POWER



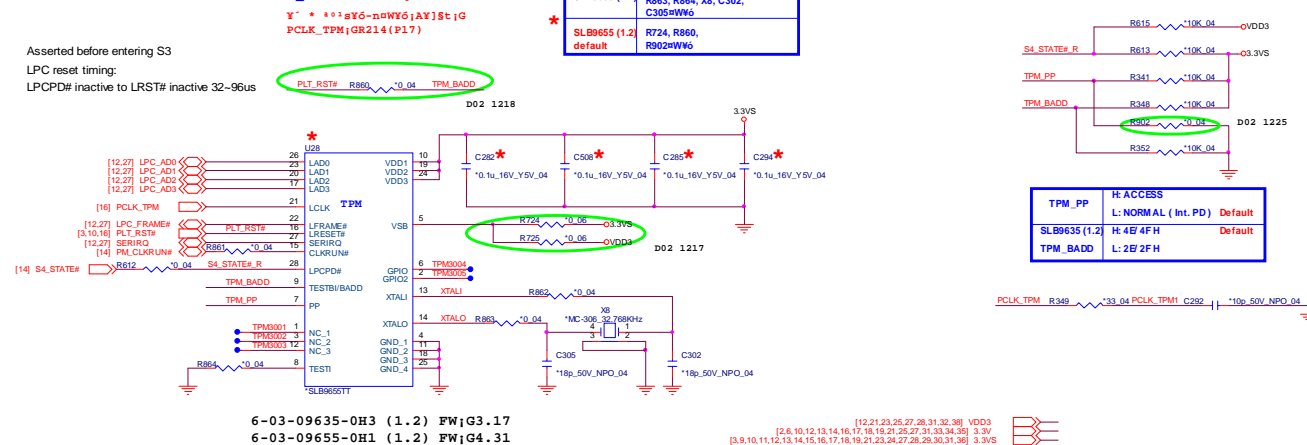
SIM_CONN ; 3G only: J_SIM1, C286,



Sheet 22 of 42
3G/mSATA, TPM

TPM 9635 & 9655 co-lay w/ TPM_iG

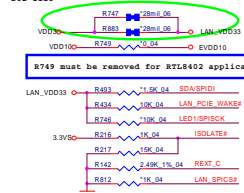
Asserted before entering S3
LPC reset timing:
LPCPD# inactive to LRST# inactive 32~96us



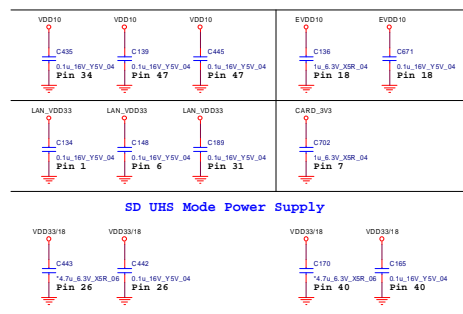
RTL8402



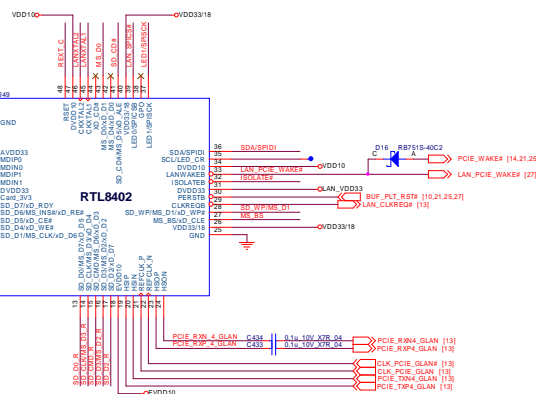
b6
b7C
b7D



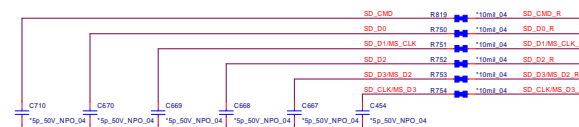
R749 must be removed for RTL8402 application.



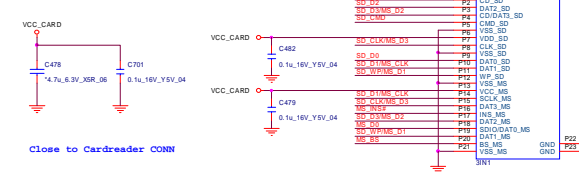
SD UHS Mode Power Supply



Close to RTL8402 for SDXC EMI



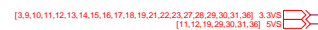
4 IN 1 SOCKET SD/MMC/MS/MS Pro



Close to Cardreader CONN

[12,21,22,25,27,28,31,32,38] VDD3 3.3VS

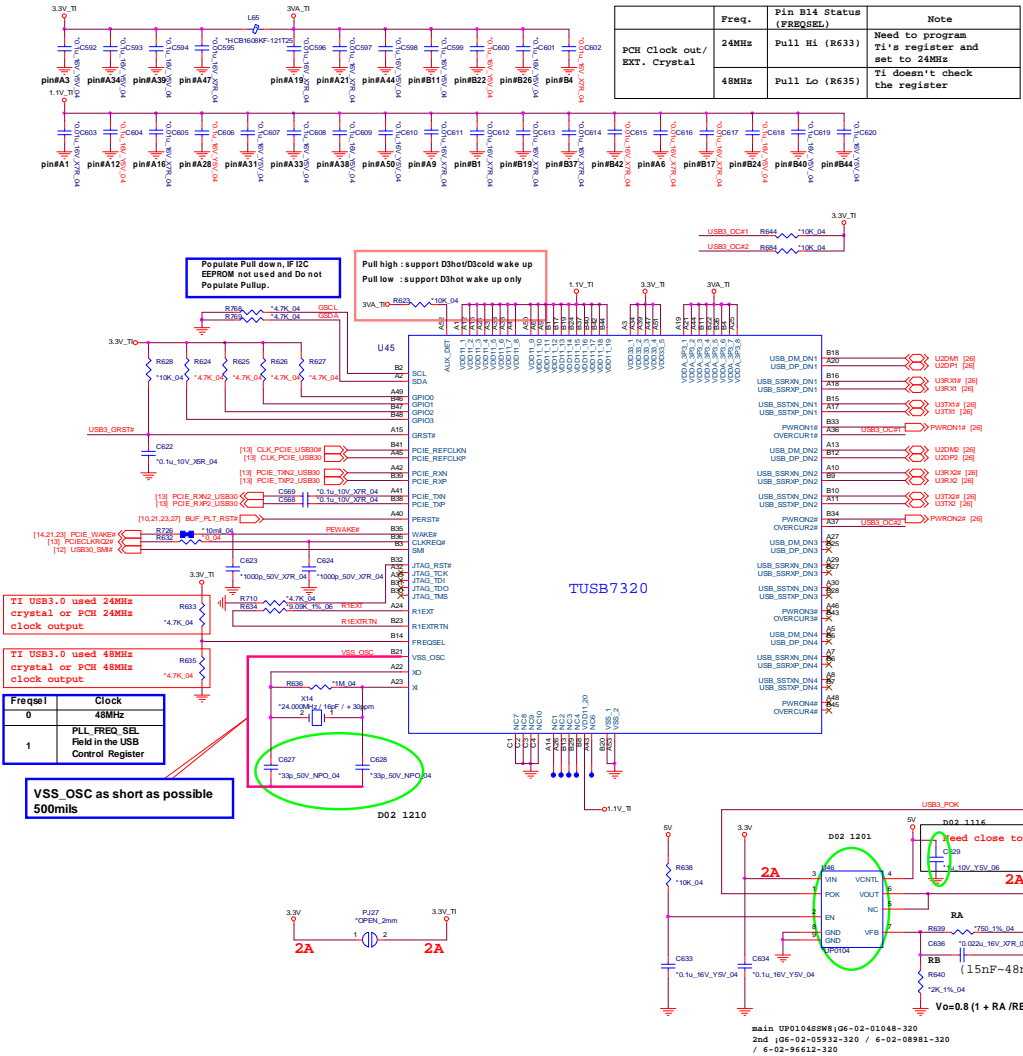
10/100 LAN Transformer

[illegible]

Schematic Diagrams

USB 3.0 TI TUSB7320

Sheet 25 of 42
USB 3.0 TI
TUSB7320



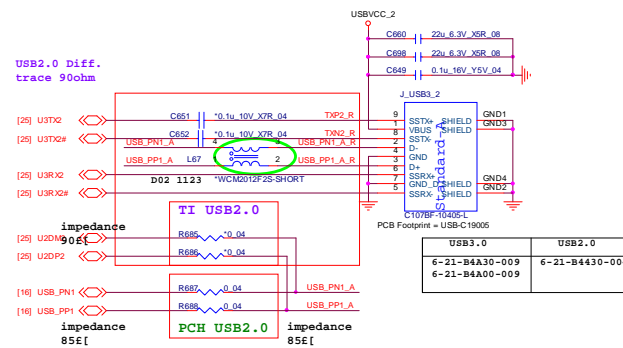
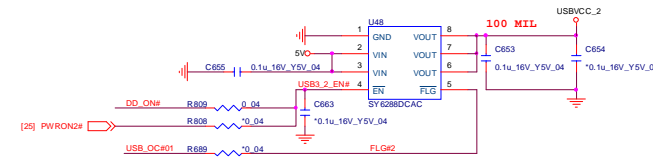
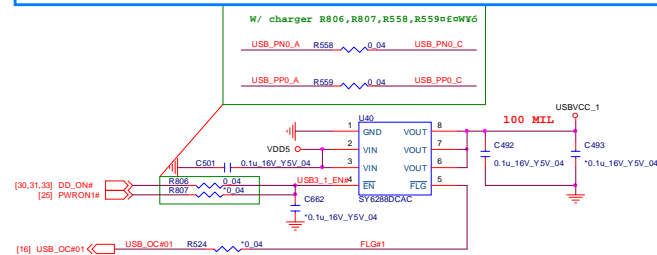
Internal Chip Trace Length Mismatch

Ball no	NetName	Bondwire Length(m)	Difference (m il)
A41	PCIE_RXN2_USB30	118	28
B38	PCIE_RXP2_USB30	89	
A42	PCIE_TXN2_USB30	112	27
B39	PCIE_TXP2_USB30	85	
B41	CLK_PCIE_USB30	87	19
A45	CLK_PCIE_USB30	106	

Internal Chip Trace Length Mismatch

Ball no	NetName	Bondwire Length(m)	Difference (m il)
B15	U3TX1#	96	20
A17	U3TX1#	116	
B16	U3RX1#	91	20
A18	U3RX1#	111	
B18	U2DM1	83	22
A20	U2DP1	105	
B10	U3TX2#	73	31
A11	U3TX2#	104	
A10	U3RX2#	94	27
B9	U3RX2#	67	
A13	U2DM2	127	34
B12	U2DP2	93	

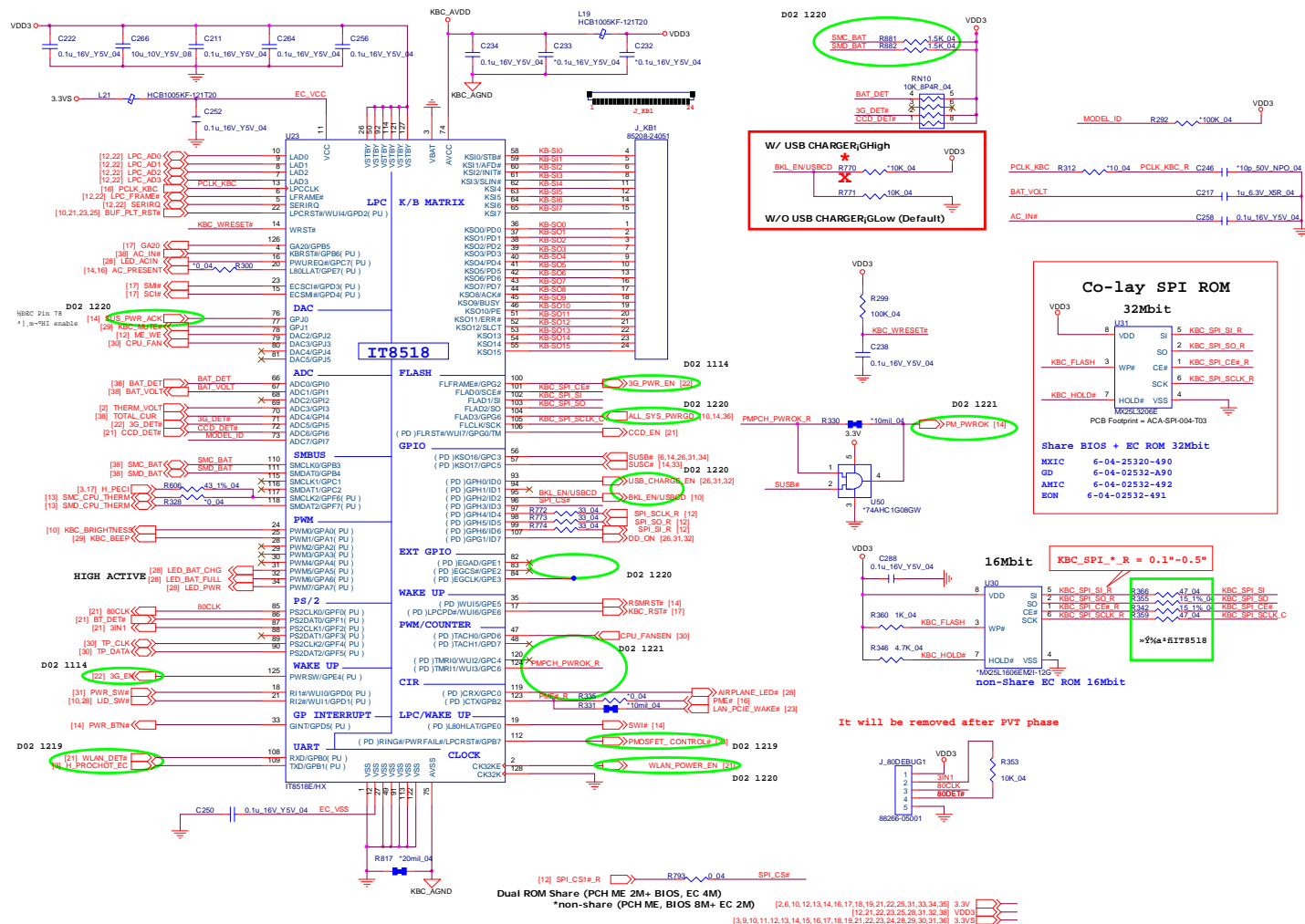
USB 3.0/USB2.0



USB3.0	USB2.0
6-21-B4A30-009	6-21-B4430-00
6-21-B4A00-009	

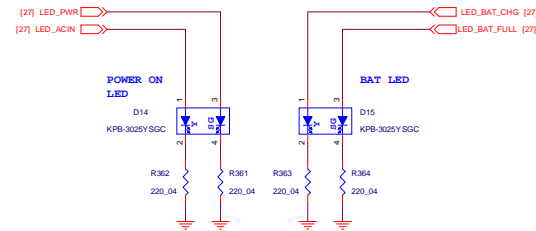
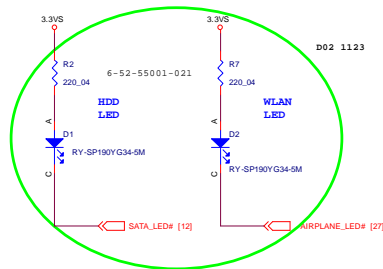
KBC-ITE IT8518

Sheet 27 of 42
KBC-ITE IT8518

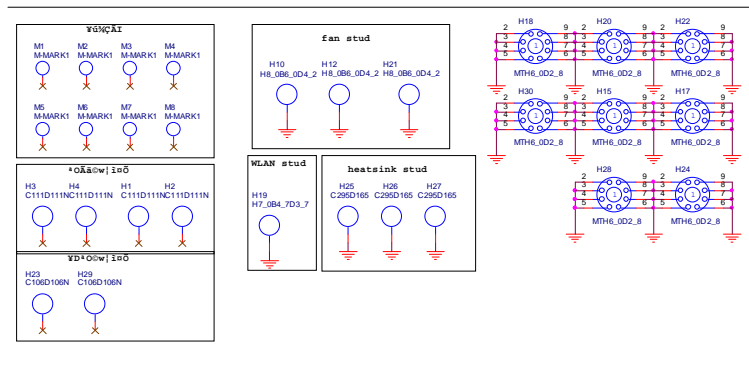
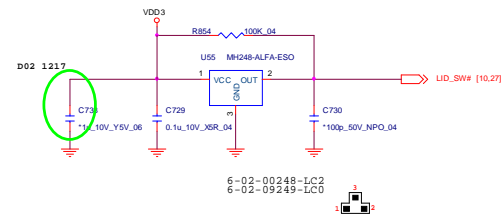


LED / LID Switch

LED



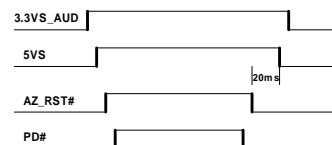
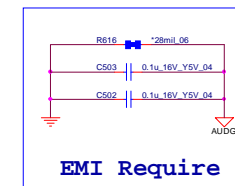
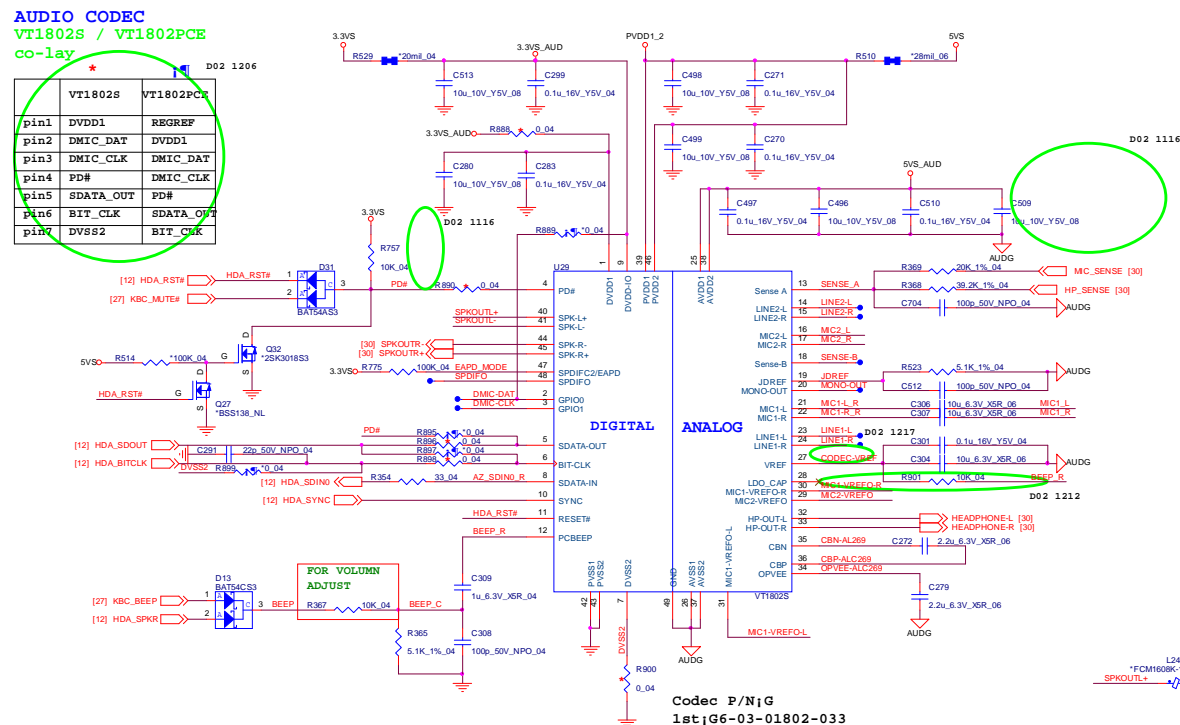
LID SWITCH IC



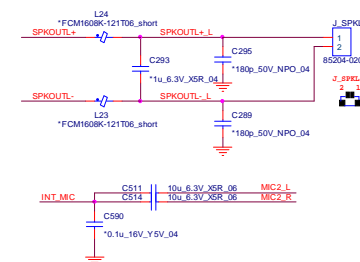
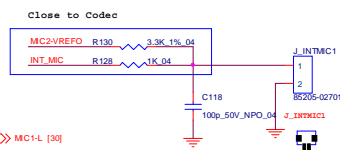
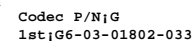
Sheet 28 of 42
LED / LID Switch

B.Schematic Diagrams

Sheet 29 of 42
AUDIO CODEC
VT1802S



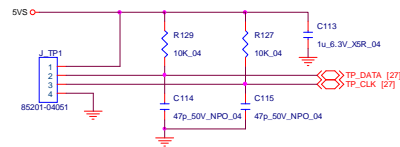
Speaker wire length less than 8000mils , It don't need LC Filter.
SPKOUTR+,R-,L+,L- Trace width
Speaker 4 ohm----> 40mils
Speaker 8 ohm----> 20mils



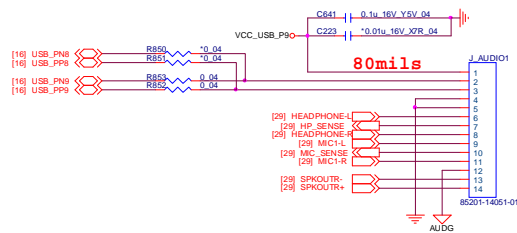
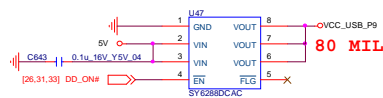
[18,31] 1.5VS
[3,9,10,11,12,13,14,15,16,17,18,19,21,22,23,24,27,28,30,31,36] 3.3VS
[11,12,19,24,30,31,36] 5VS

Fan, TP, Connector

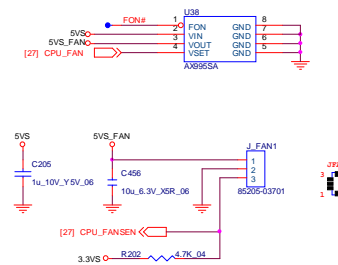
CLICK B'd CONN



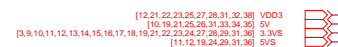
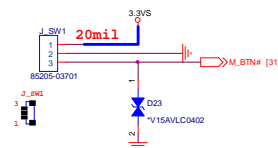
Audio B'd CONN



FAN CONTROL

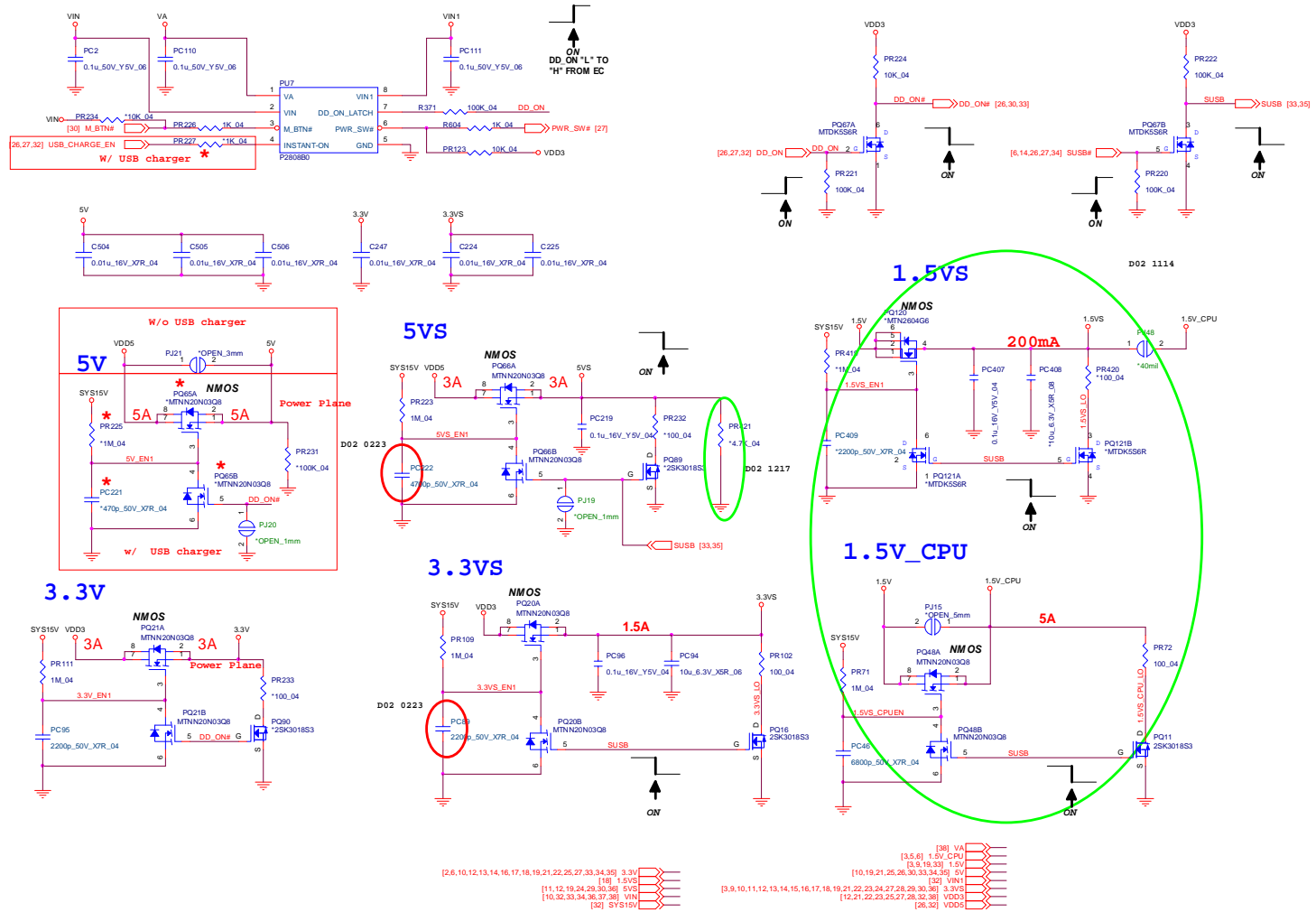


POWER SWITCH B'd CONN



Sheet 30 of 42
Fan, TP, Connector

Power System



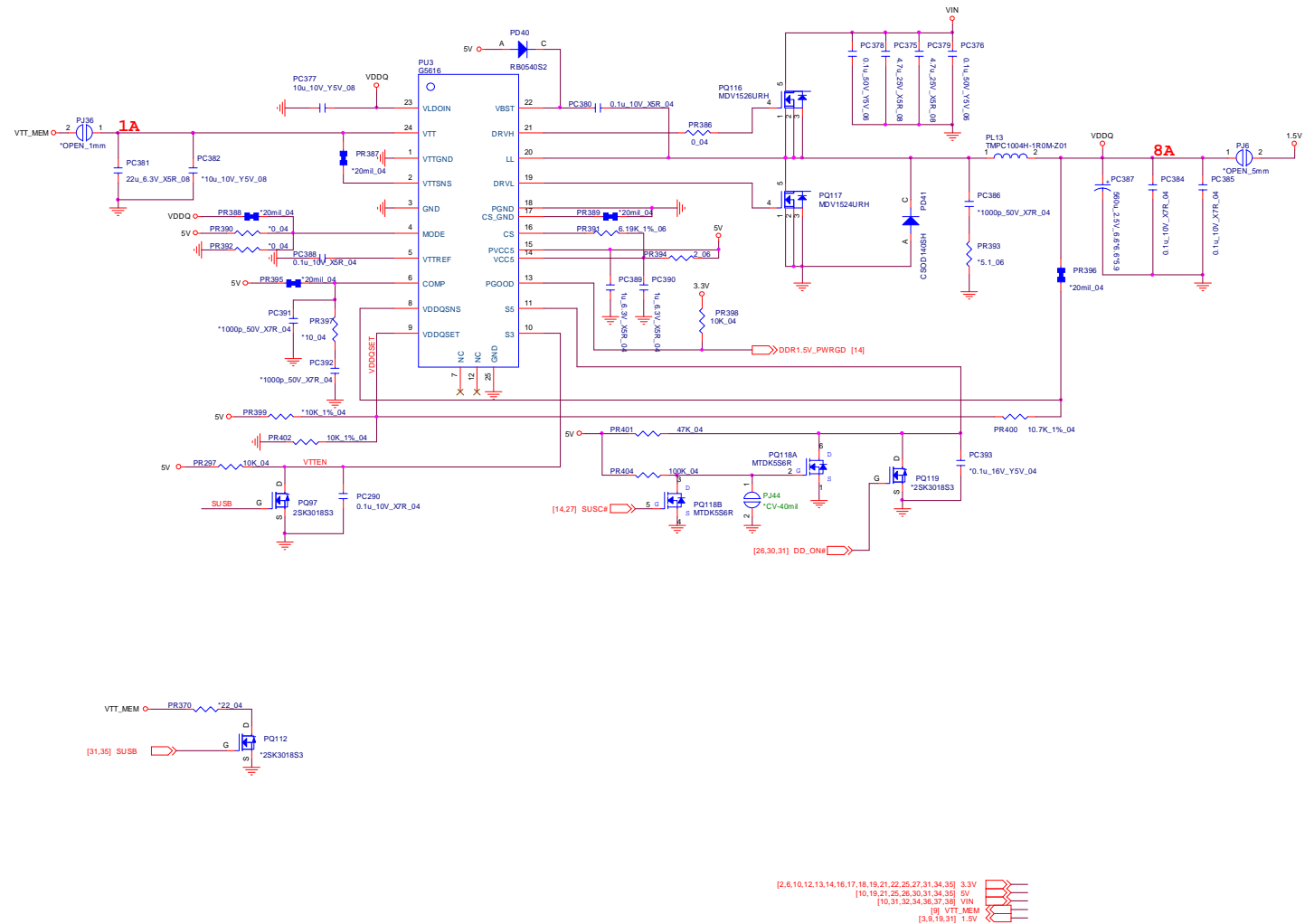
Sheet 31 of 42
Power System

VDD3/VDD5

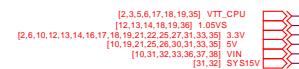
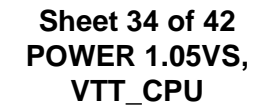


POWER 1.5V/0.75V

Sheet 33 of 42
POWER 1.5V/0.75V



1.05Vs

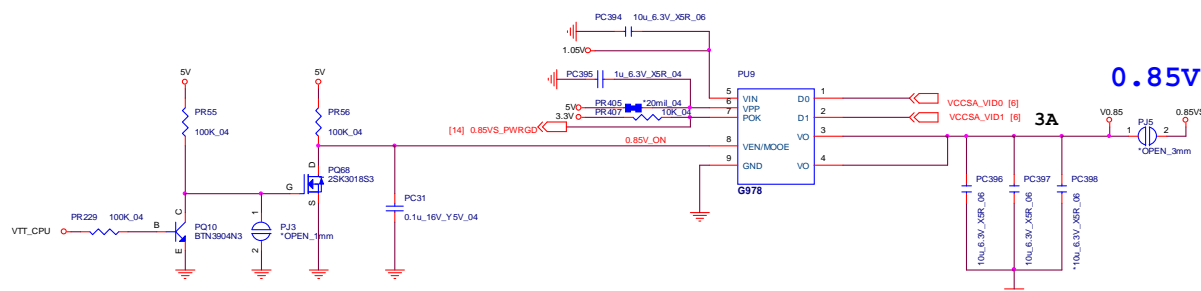


B. Schematic Diagrams

0.85Vs

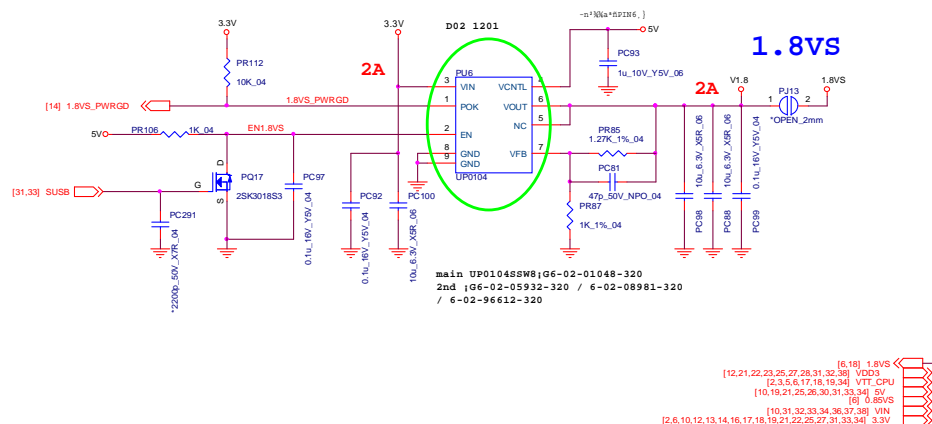
	0.9V	0.8V	0.725V	0.675V
VCCSA_VID0	0	0	1	1
VCCSA_VID1	0	1	0	1

0.85Vs



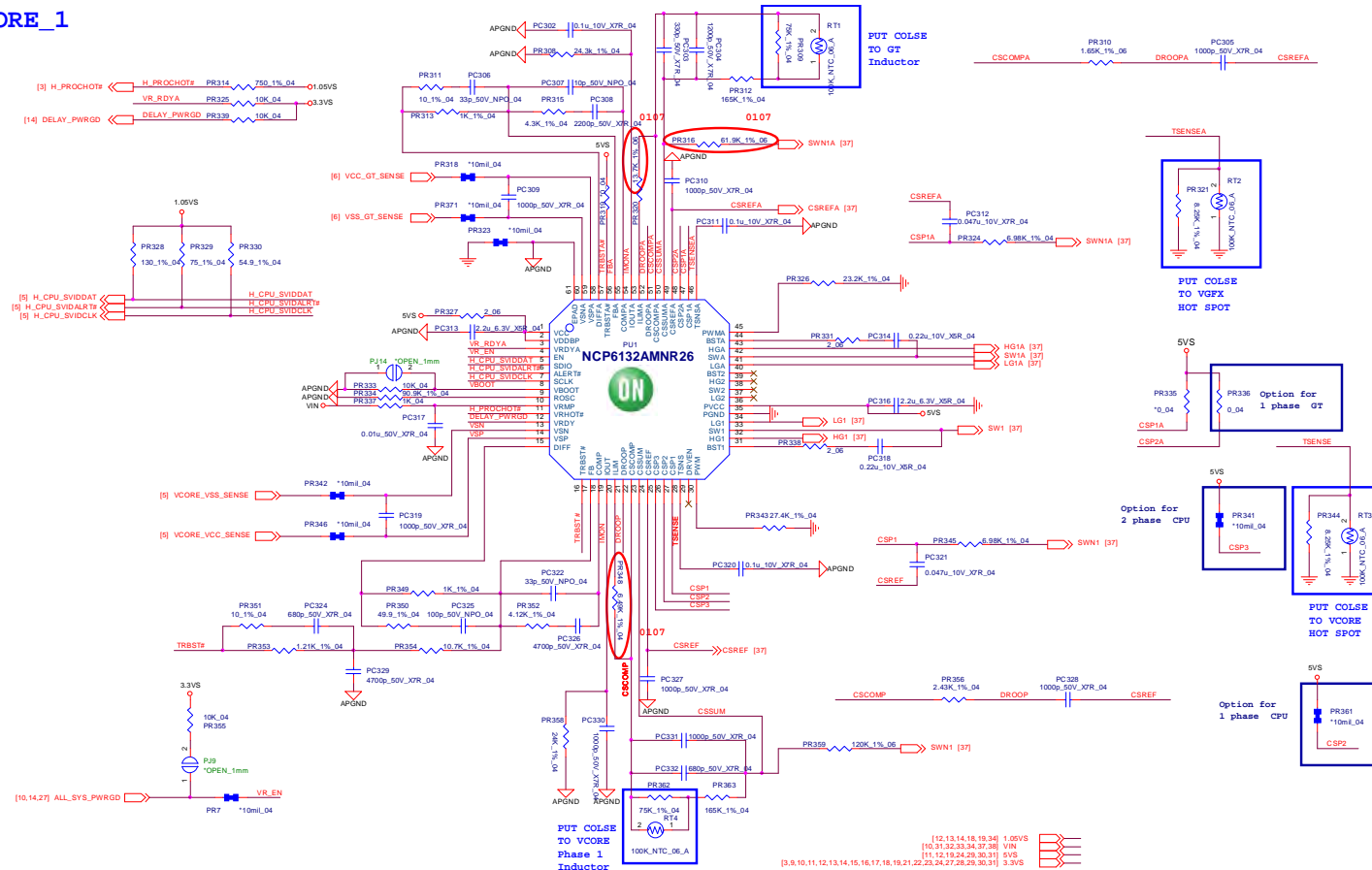
1.8Vs

1.8Vs



POWER VCORE1

VCORE_1

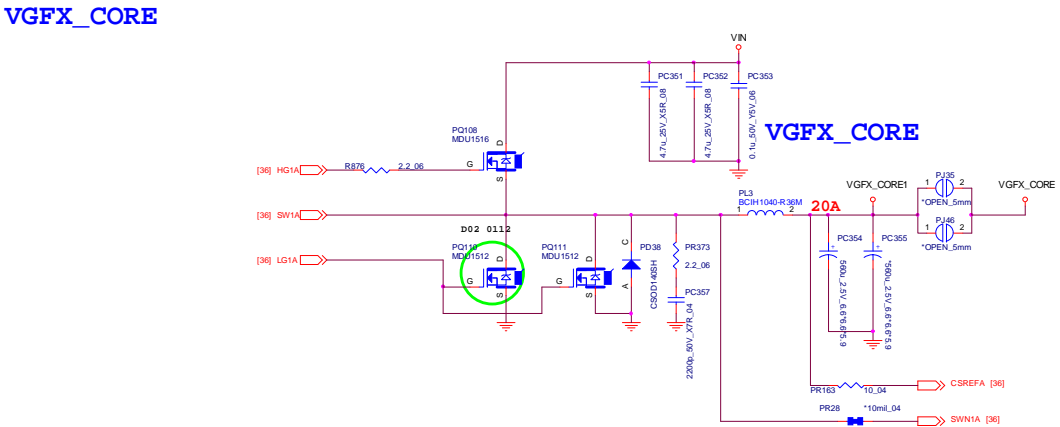
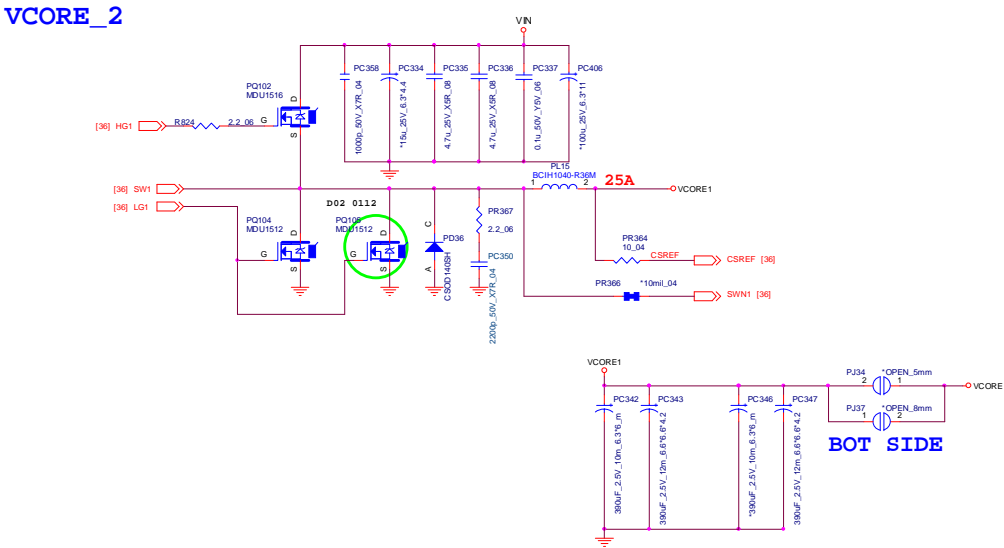


Sheet 36 of 42
POWER VCORE1

Schematic Diagrams

POWER VCORE2

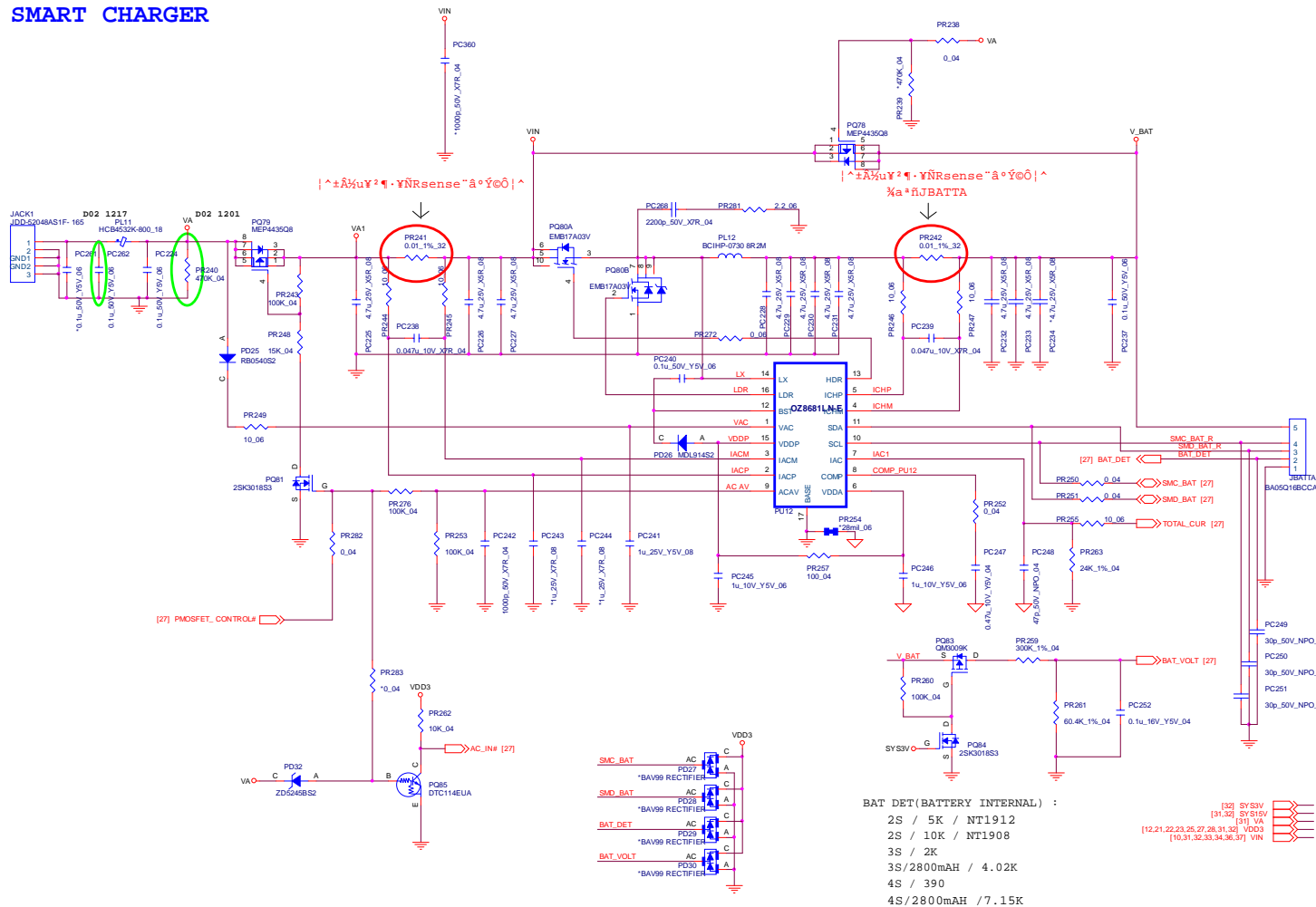
Sheet 37 of 42
POWER VCORE2



[5] VCORE1
[6] VGFX_CORE1
[8] VCORE
[9] VGFX_CORE
[10,31,32,33,34,36,38] VIN
[11,12,19,24,29,30,31,36] SVS

Power AC In, Smart Charger

SMART CHARGER

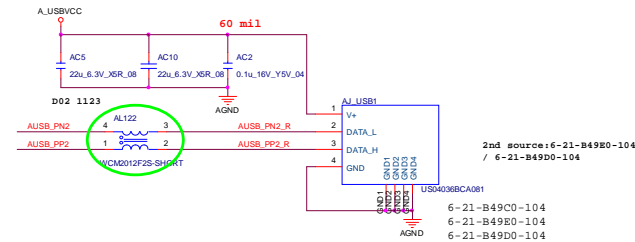


Sheet 38 of 42
Power AC In,
SmArt Charger

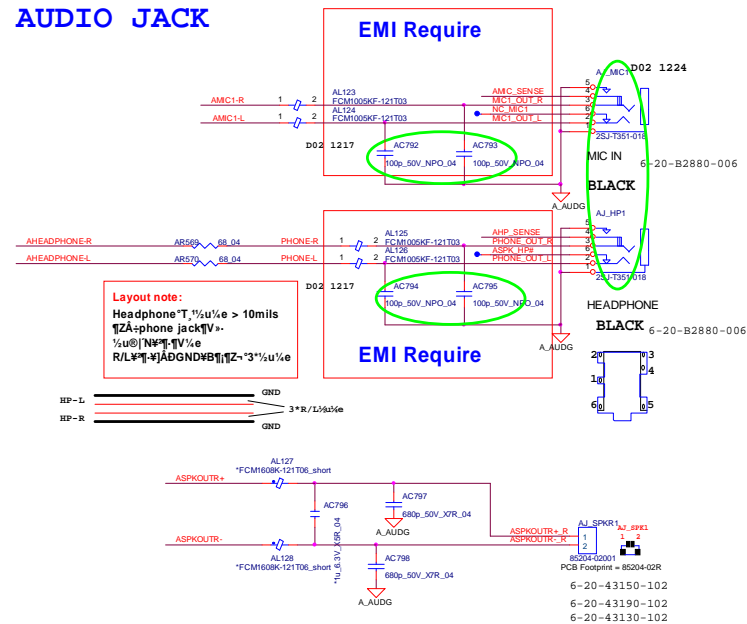
CLICK BOARD

16R *0_04
2CR *0_04

USB PORT



AUDIO JACK



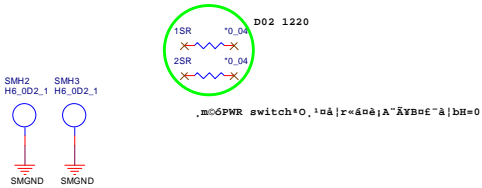
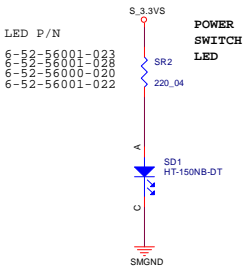
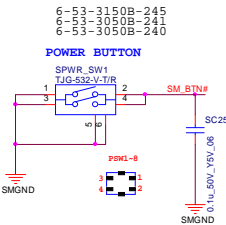
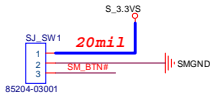
Audio Board B - 41

Schematic Diagrams

Power Switch & LED Board

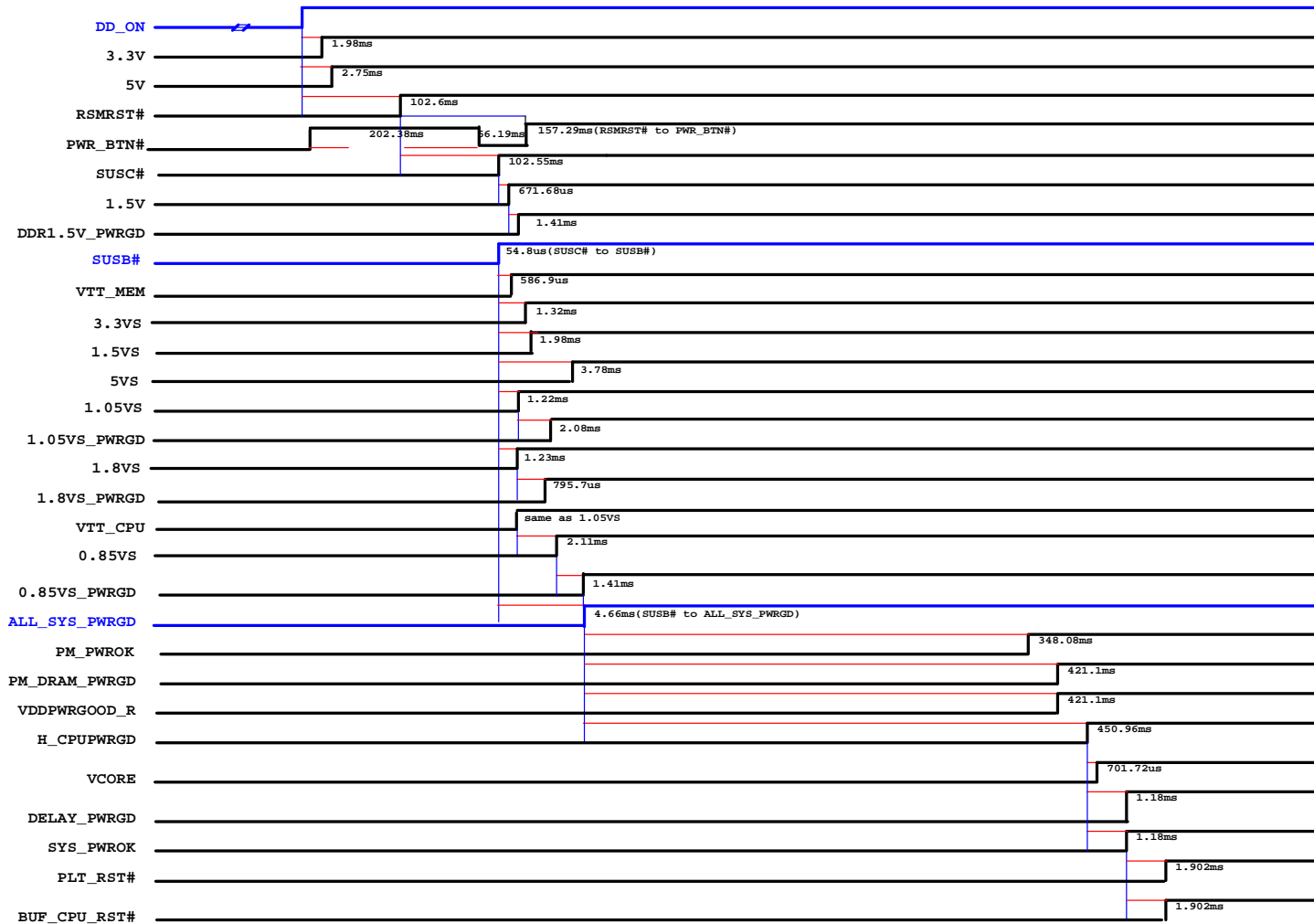
POWER SW & LED

Sheet 41 of 42
Power Switch &
LED Board



Power On SEQ

W310CZ-D02 POWER ON SEQUENCE



Sheet 42 of 42
Power On SEQ

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.